Soil Type	Est. Pore Space
Clay	15%
Sandy Clay	12%
Silt	16%
Loess	25%
Fine Sand	16%
Med. Sand	25%
Coarse Sand	26%
Gravelly Sand	26%
Fine Gravel	26%
Med. Gravel	25%
Coarse Gravel	18%
Compacted Caliche Pad	16%
Loosely Compacted Caliche Pad	20%

Location:

Rule of Thumb

42.7 = Total Estimated Barrels of Oil in Soil

To Calculate The Oil Content of Saturated Soil

Average Pore Space Between Soil Grains Ranges From A **Low of 15%** To A **High of 26%**. Pure Sand Being 26%.

20% = Estimated Pore Space

Width Times Length Times Depth = Cubic Feet

4 = Width in **Feet**
100 = Length in **Feet**
= Depth in **Inches**
3 = Depth in Feet

There Are 7.48 Gallons Of Oil Per Cubic Foot

1795.20 = Gallons of Oil In Soil

42.7 = Barrels of Oil In Soil

*****If different soil types are impacted (I.E. Caliche Pad and Sandy Clay Pasture Area), additional calculation boxes are provided below. If not, please make sure the dimensions are zeroed out before finalizing.*****

20% = Estimated Pore Space

Width Times Length Times Depth = Cubic Feet

= Width in **Feet**
= Length in **Feet**
= Depth in **Inches**
0 = Depth in Feet

There Are 7.48 Gallons Of Oil Per Cubic Foot

0.00 = Gallons of Oil In Soil

0.0 = Barrels of Oil In Soil

20% = Estimated Pore Space

Width Times Length Times Depth = Cubic Feet

= Width in **Feet**
= Length in **Feet**
= Depth in **Inches**
0 = Depth in Feet

There Are 7.48 Gallons Of Oil Per Cubic Foot

0.00 = Gallons of Oil In Soil

0.0 = Barrels of Oil In Soil

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan M. Fuge
Deputy Secretary

Dylan Fuge, Division Director (Acting)
Oil Conservation Division

BY ELECTRONIC MAIL

May 10, 2024

Karolanne Hudgens – HSE Remediation Specialist II
Plains Marketing L.P.
333 Clay Street Suite 1900
Houston, TX 77002

RE: Conditional Approval of Soil Vapor Extraction (SVE) Remediation Method for Plains Endurance 6" Upstream Jacinto Tie In; Incident #: nAPP2129935504; Application ID: 337637)

Ms. Hudgens,

The Oil Conservation Division (OCD) has reviewed and approved the subject work plan with the following conditions;

1. Plains Marketing's (Plains) SVE system must be designed to have a minimum of 90% operational runtime, 24/7, start to finish. Operation & maintenance (O&M) or any matter that requires a temporary downtime should be excluded within the applicable runtime.
2. On-site analog or digital runtime counter must be installed and viewable to OCD personnel. Any alternative method must be explained and pre-approved by OCD.
3. The following field data measurement parameters will be required and reported (prior to reaching vacuum pump);
    a. Total Extracted Flow Rate via a Flow Meter
    b. Flow Rates from each vapor extraction point/well (VEP)
    c. Volatile Organic Compound (VOC) Concentrations for each VEP and/or VEP cluster being implemented via Handheld Gas Analyzer (e.g. – Photo Ionization Detector (PID)
    d. Record vacuum pressure at each VEP and/or VEP cluster being implemented
    e. Oxygen (O_2) and carbon di-oxide (CO_2) levels via hand-held analyzers from each VEP and/or VEP cluster being implemented, prior to reaching vacuum pump and at discharge orifice or vent stack
4. The following minimum timeline will be required for the above data recordings;
    a. Daily for the first week
    b. Weekly for the next three (3) months
    c. Monthly thereafter for the first calendar year
    d. Then contingent upon the recorded data output
5. Any water condensation will be categorized as oil field waste and must be disposed of accordingly. System modifications to address increased water collection and disposal must be pre-approved by OCD.
6. Extracted vapor sampling (prior to reaching vacuum pump) for laboratory testing will be required as follows;
    a. Approximately 15-30 minutes and approximately 8-10 hours after startup (or at the end of the same day if initial sample collected in early morning), one full round of sampling for constituents noted in b, c, & d below
    b. BTEX per US EPA Method 8021B or 8260B
    c. TPH per US EPA Method 8015M
    d. O_2 and CO_2

RE: Conditional Approval of Soil Vapor Extraction (SVE) Remediation Method for Plains Endurance 6" Upstream Jacinto Tie In; Incident #: nAPP2129935504; Application ID: 337637)

7. The following timeline will be required for the above laboratory sampling elements;
    a. Weekly - next three (3) weeks (first month)
    b. Bi-weekly (twice a month) – next two (2) months (first quarter)
    c. Bi-Monthly (every other month) - next nine (9) months (first year)
    d. Quarterly – Year #2 until diminishing returns has been consistently documented
8. Plains must submit to OCD quarterly reports for the first 2 years of operation. Reports are due no later than the 15th in the months of April (first quarter), July (second quarter), October (third quarter), and January (fourth quarter), then bi-annual thereafter (1st & 3rd or 2nd & 4th quarters), detailing the following;
    a. Summary of remediation activity
    b. Chart of O_2 & CO_2 levels over time
    c. SVE runtime
    d. SVE mass removal
    e. Product recovery, if applicable
    f. Laboratory air sample analysis, if applicable
9. Plains must notify OCD of its initial system startup which is required within 90 days of this approval. If this cannot be achieved, Plains must verify the delay within its request for a time extension.
10. Plains must submit to OCD a closure plan prior to initiating confirmation sampling for final remediation termination.

These conditions by the OCD does not relieve Plains of responsibility for compliance with any federal, state, or local law.

If you have any questions, please contact Nelson Velez of the Environmental Incident Group at (505) 469-6146 or by email at *nelson.velez@emnrd.nm.gov.*

Respectfully,

Michael Bratcher
Incident Group Supervisor
(575) 626-0857

Nelson Velez
Environmental Specialist – Adv
(505) 469-6146

2135 S. Loop 250 W,
Midland, Texas 79703
United States
ghd.com

Your ref: Incident ID: nAPP2129935504
Our ref: 12632476-NMOCD-1

April 25, 2024

Nelson Velez
New Mexico Oil Conservation District
District I
1000 Rio Brazos Road
Aztec, New Mexico 87410

SVE Pilot Test Activities and Results
Endurance 6" Upstream Jacinto Tie-In Release Site
Plains All American Pipeline, L.P.
Incident ID: nAPP2129935504
Lea County, New Mexico

To Whom It May Concern:

1. Introduction

GHD Services, Inc. (GHD), on behalf of Plains All American Pipeline, L.P. (Plains), submits this Response Letter to the New Mexico Oil Conservation Division (NMOCD) District I Office. This Response Letter provides documentation of soil vapor extraction (SVE) and observation well installation activities, sampling, analyses, and SVE pilot test results conducted at the Plains Endurance 6" Upstream Jacinto Tie-In Release Site (Site). The Site is located in Unit Letter O Section 25 of Township 24 South and Range 34 East in Lea County, New Mexico (Figure 1). The GPS coordinates for the Site are 32.181559 N and 103.421514 W. The release occurred on October 25, 2021, on private land owned by Quail Ranch.

2. Well Installation Summary and Findings

From March 7 to March 13, 2024, GHD and Talon LPE (Talon) installed two observation wells (OW-1 and OW-2) and two soil vapor extraction wells (SVE-1 and SVE-2) at the Site. The wells were installed to conduct an SVE pilot test to evaluate if SVE would be a viable in-situ approach to remediate the soils between approximately 20 to 40 feet below ground surface (bgs). The two observation wells were set to a total depth (TD) of 45 feet bgs with 20 feet of well screen from 25 to 45 feet bgs. SVE-1 was set to a TD of 45 feet bgs with ten feet of well screen from 35 to 45 feet bgs. SVE-2 was set to a TD of 33 feet bgs with ten feet of well screen from 23 to 33 feet bgs. Soil samples were collected from each boring at approximate 5-foot intervals from approximately 5 ft bgs to TD and field screened for volatile organic compounds (VOCs) utilizing a photoionization detector (PID). Three select soil samples were submitted for analysis based on PID results.

The following is a summary of soil samples collected and submitted for laboratory analysis.

- OW-1 – 35 to 40 feet bgs (OW135), 40 to 45 feet bgs (OW140), and 45 to 50 feet bgs (OW145).
- OW-2 – 25 to 30 feet bgs (OW225), 30 to 35 feet bgs (OW230), and 40 to 45 feet bgs (OW240).
- SVE-1 – 35 feet bgs (SVE135), 40 feet bgs (SVE140), and 45 feet bgs (SVE145).
- SVE-2 – 20 to 25 feet bgs (SVE220), 25 to 30 feet bgs (SVE225), and 30 to 33 feet bgs (SVE230).

Samples were placed in laboratory-provided containers, which were immediately labelled, sealed, and stored/transported in a cooler containing ice to Pace Analytical in Mount Juliet, Tennessee, a laboratory certified by the National Environmental Laboratory Program (NELAP), for analysis. Samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (US EPA) SW-846 Method 8021B and total petroleum hydrocarbons (TPH) by US EPA SW-846 Method 8015B Modified.

Analytical results indicated nine of the samples (OW145, OW225, OW230, SVE135, SVE140, SVE145, SVE220, SVE225, and SVE230) exhibited BTEX, and/or TPH (gasoline range organics and diesel range organics [GRO+DRO]), and/or total TPH concentrations above New Mexico Administrative Code (NMAC) Table I Closure Criteria. Well locations and other Site details are shown on Figure 2. Analytical results are presented in Table 1 and in the laboratory analytical report included as Attachment A. The boring logs are included as Attachment B.

3. SVE Pilot Test Summary and Results

On March 21, 2024, GHD and Fremont Environmental (Fremont) conducted SVE pilot testing on the four wells (OW-1, OW-2, SVE-1, and SVE-2,) at the Site. The pilot test procedure is covered in more detail in Fremont's *SVE Pilot Test Results* report included as Attachment C.

Based on results obtained from the SVE pilot test, SVE shows to be a feasible in-situ remediation approach for the remaining soil impacts in the sand unit (approximately 20 to 33 feet bgs) and the sandstone unit (approximately 35 to 45 feet bgs) at the Site; however, the sandstone unit will have a limited radius of influence (ROI) due to its tighter porosity. Based on pilot test results, applying a vacuum of approximately 50 inches of water will produce an ROI of approximately 25 feet in the sand unit and approximately 15 feet in the sandstone unit. The estimated design flow rate is approximately 15 cubic feet per minute (cfm) per SVE well. An estimated 22 shallow SVE wells (including pilot test wells OW-1, OW-2, and SVE-2) and 6 deep SVE wells (including pilot test well SVE-1) will be needed to address the remaining subsurface soil impacts at the Site. Although OW-1 and OW-2 are screened across both the sand and sandstone units, GHD and Fremont predict the vapors will be recovered from the preferential pathway, the sand unit, due to its looser porosity. The proposed SVE well locations are shown on Figures 3, 4, and 5 in the *SVE Pilot Test Results* report included as Attachment C.

If you have any questions or comments concerning this information presented above, please do not hesitate to contact Nate Reece at (281) 386-7158 or **nate.reece@ghd.com**.

Regards,

Nate Reece
Scientist

+1 281 386-7158
nate.reece@ghd.com

Blair Owen
Project Director

+1 561 339-3572
blair.owen@ghd.com

NR/mss/1

Encl. Table 1 – Summary of Soil Analytical Data
Figure 1 – Site Location Map
Figure 2 – Site Details Map
Attachment 1 – Laboratory Analytical Reports and Chain-of-Custody Documentation
Attachment 2 – Soil Boring Logs
Attachment 3 – Freemont's SVE Pilot Test Results – Includes Proposed SVE Well Locations Maps

Copy to: Karolanne Hudgens – Plains Pipeline, L.P.

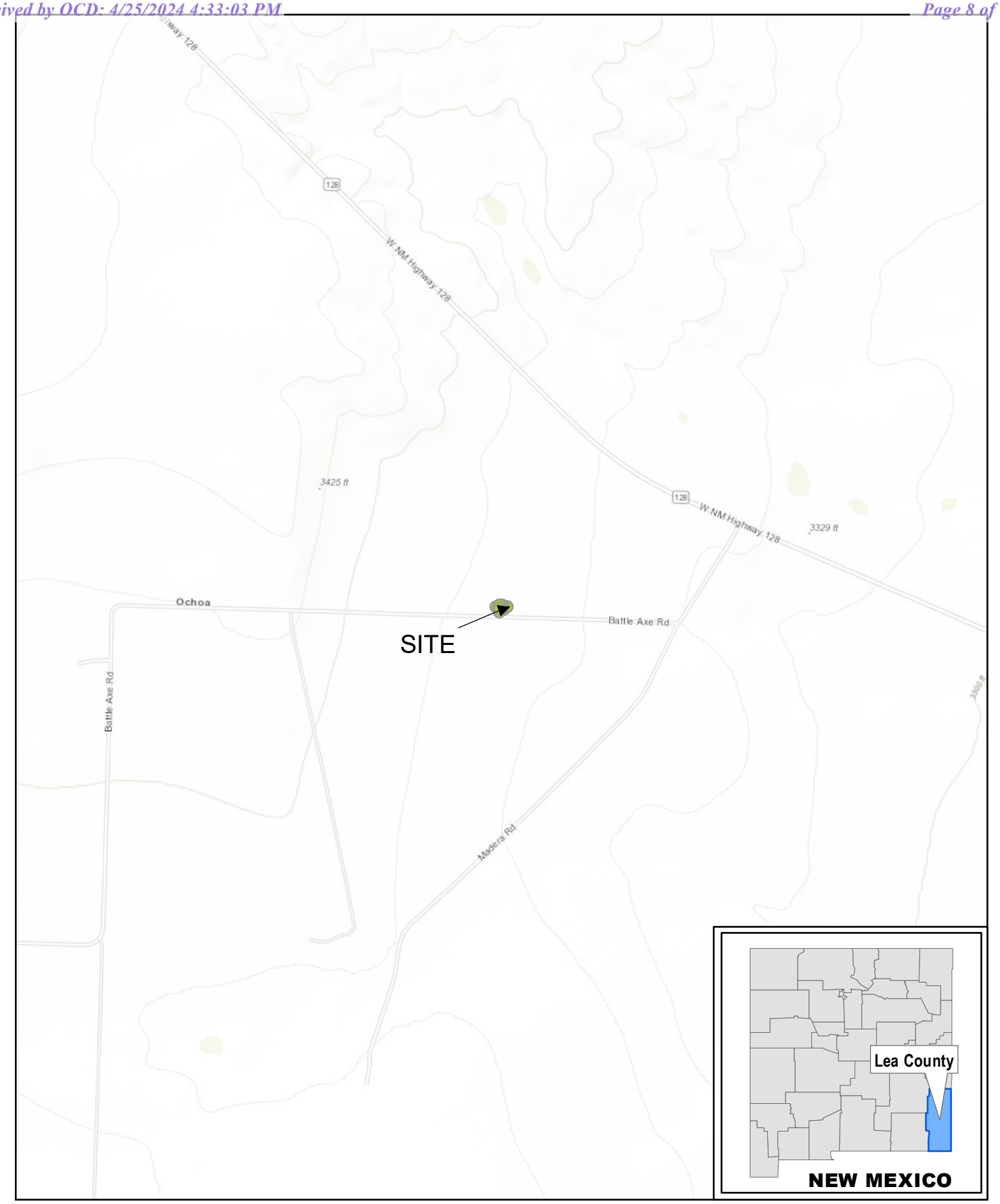
Table 1

Summary of Soil Analytical Results
Plains All American Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SRS #2021-089
nAPP2129935504
Lea County, New Mexico

Sample Location	Sample ID	Sample Date	Sample Depth	Volatile Organic Compounds					Total Petroleum Hydrocarbons (TPH)					Chloride
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO (C6-C10)	DRO (C10-C28)	DRO Extended (MRO, C28-C36)	GRO + DRO	Total TPH (GRO + DRO + MRO)	Chloride
NMAC 19.15.29.12 Table 1 Closure Criteria				10	ne	ne	ne	50	ne	ne	ne	1,000	2,500	20,000
Soil Boring Samples														
SB-1	SB-1 (35)	06/13/2022	35 ft BGS	0.0402	2.34	2.87	16.82	22.0702	955	2,810	383	**3,765**	**4,148**	30.4
SB-1	SB-1 (40)	06/13/2022	40 ft BGS	0.149	6.27	4.06	22.29	32.769	1480	8,330	886	**9,810**	**10,696**	27.5
SB-1	SB-1 (45)	06/13/2022	45 ft BGS	0.0065	0.118	0.0854	0.531	0.7409	102	1,140	128	**1,242**	1,370	28.3
SB-1	SB-1 (50)	06/13/2022	50 ft BGS	<0.00103	0.0449	0.0618	0.424	0.5307	92.1	788	93.9	880	974	33.5
SB-1	SB-1 (60)	06/13/2022	60 ft BGS	<0.00101	0.00524	0.00504	0.03505	0.04533	28.1	540	70	568	638.1	21.1
SB-1	SB-1 (70)	06/13/2022	70 ft BGS	0.00648	0.142	0.0693	0.412	0.6233	44.5	449	67.5	494	561	8.72
SB-1	SB-1 (80)	06/13/2022	80 ft BGS	<0.00104	<0.00104	<0.00104	<0.00208	<0.00312	<26.0	<26.0	<26.0	<26.0	<26.0	8.97
SB-2	SB-2(30-35)	04/24/2023	30-35 ft BGS	1.05	6.33	15.3	37.2	**59.88**	508	1340	636	**1,848**	2484	25.4
SB-2	SB-2(45-50)	04/24/2023	45-50 ft BGS	0.0647	0.768	1.45	4.62	6.9027	73.4	324	151	397.4	548.4	21.1
SB-3	SB-3(45-50)	04/24/2023	45-50 ft BGS	0.000332	0.000517	0.000336	0.00155	0.002735	0.103	2.27	3.38	2.373	5.753	27.9
SB-4	SB-4(18-20)	04/24/2023	18-20 ft BGS	0.000622	0.000285	0.000628	0.00161	0.003145	0.107	16.2	33.4	16.307	49.707	34.3
SB-4	SB-4(45-50)	04/24/2023	45-50 ft BGS	0.000238	---	0.000196	0.00153	0.001964	0.102	5.21	9.05	5.312	14.362	13.6 J
SB-5	SB-5(35-40)	04/25/2023	35-40 ft BGS	0.00753	---	0.00497	0.291	0.3035	9.21	343	203	352.21	555.21	13.9 J
SB-5	SB-5(45-50)	04/25/2023	45-50 ft BGS	0.000227	0.000118	0.000401	0.00154	0.002286	0.102	20.1	23.4	20.202	43.602	29.0
SB-6	SB-6(20-28)	04/25/2023	20-28 ft BGS	**114**	108	491	525	**1,238**	5620	12100	4700	**17,720**	**22,420**	51.1
SB-6	SB-6(45-50)	04/25/2023	45-50 ft BGS	0.000409	0.000204	0.000446	0.00156	0.002619	0.516	223	146	223.516	369.516	33.0
SB-7	SB-7(28-30)	04/25/2023	28-30 ft BGS	0.672	6.36	10.7	37.8	**55.532**	449	1640	804	**2,089**	**2,893**	54.9
SB-7	SB-7(45-50)	04/25/2023	45-50 ft BGS	0.000578	0.000129	0.000481	0.00154	0.002728	0.103	127	98.8	127.103	225.903	47.6
SB-8	SB-8(20-21)	04/26/2023	20-21 ft BGS	0.216	13	18.2	78.4	**109.816**	1030	22100	9360	**23,130**	**32,490**	402
SB-8	SB-8(45-50)	04/26/2023	45-50 ft BGS	0.031	0.529	0.924	3.21	4.694	61.6	421	241	482.6	723.6	59.1
SB-9	SB-9(45-50)	04/26/2023	45-50 ft BGS	0.000259	0.000514	0.000233	0.00154	0.002546	0.103	13.2	14.6	13.303	27.903	33.0
SB-10	SB-10(33-35)	04/26/2023	33-35 ft BGS	0.722	5.94	13.7	34.7	**55.062**	692	1,140	525	**1,832**	2,357	215
SB-10	SB-10(45-50)	04/26/2023	45-50 ft BGS	0.0167	1.52	1.39	10	12.9267	197	1020	490	**1,217**	1,707	74.4
SB-11	SB-11(23-25)	04/26/2023	23-25 ft BGS	**19.9**	18.1	72.9	89.5	**200.4**	1,740	1060	468	**2,800**	**3,268**	496
SB-11	SB-11(45-50)	04/26/2023	45-50 ft BGS	0.000249	0.000514	0.000247	0.000478	0.001488	0.103	58.6	41.0	58.703	99.703	59.8
Observation and Soil Vapor Extraction Well Samples														
OW-1	OW135	3/13/2024	35-40 ft BGS	0.723	9.95	5.2	30.2	46.073	432	544	243	976	1,219	NS
OW-1	OW140	3/13/2024	40-45 ft BGS	0.245	4.75	3.13	19.5	27.625	307	474	233	781	1,014	NS
OW-1	OW145	3/13/2024	45-50 ft BGS	0.159	1.42	0.696	4.25	6.525	87.5	1,400	913	**1,487.5**	2,400.5	NS
OW-2	OW225	3/12/2024	25-30 ft BGS	0.587	5.99	2.7	15.1	24.377	294	2,280	1,430	**2,574**	**4,004**	NS
OW-2	OW230	3/12/2024	30-35 ft BGS	0.808	7.44	3.07	17.9	29.218	312	3,460	2,010	**3,772**	**5,782**	NS
OW-2	OW240	3/12/2024	40-45 ft BGS	0.262	5.76	3.69	22.1	31.812	308	417	206	725	931	NS
SVE-1	SVE135	3/7/2024	35-35 ft BGS	1.53	34.2	13.1	65.8	**114.63**	1,020	2,610	1,210	**3,630**	**4,840**	NS
SVE-1	SVE140	3/7/2024	40-40 ft BGS	0.13	4.82	3.48	19.7	28.13	289	2,210	1,040	**2,499**	**3,539**	NS
SVE-1	SVE145	3/7/2024	45-45 ft BGS	0.221	9.27	5.34	30.2	45.031	440	2,320	1,020	**2,760**	**3,780**	NS
SVE-2	SVE220	3/13/2024	20-25 ft BGS	2.26	19.2	6.73	36	**64.19**	606	7,170	4,050	**7,776**	**11,826**	NS
SVE-2	SVE225	3/13/2024	25-30 ft BGS	1.01	10	4.1	23.4	38.51	368	5,110	2,890	**5,478**	**8,368**	NS
SVE-2	SVE230	3/13/2024	30-35 ft BGS	2.19	11.7	3.95	22.1	39.94	448	3,680	1,810	**4,128**	**5,938**	NS

Notes:

1. Concentrations reported in milligrams per kilogram (mg/kg).
2. NMAC = New Mexico Administrative Code
3. ne = closure criteria not established by NMAC
4. Benzene, toluene, ethylbenzene, total xylenes (BTEX) analyses by EPA Method SW-846 8021B.
5. TPH analyses by EPA Method SW-846 8015 Mod.
6. GRO/DRO/MRO = Gasoline Range Organics/Diesel Range Organics/Motor Oil Range Organics
7. Highlighted/bolded values indicate concentration exceeds the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.
8. NS = Not Sampled
9. BGS = below ground surface



Paper Size ANSI A

0 1,000 2,000

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Texas Central FIPS 4203 Feet

N

GHD

PLAINS ALL AMERICAN PIPELINE, L.P.
ENDURANCE 6" UPSTREAM JACINTO TIE IN
SRS #2021-089
nAPP2129935504
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

Project No. 12632476
Revision No. -
Date Mar 25, 2024

FIGURE 1

Q:\GIS\PROJECTS\12632000s\12632476\GIS\Maps\Deliverables\RPT001\12632476_GIS001_Topo.mxd
Print date: 25 Mar 2024 - 17:05

Data source: ESRI Topographic Basemap, Accessed 2024; ESRI Data & Maps 2008 Data Distribution Application (DDA); GHD.
USGS 7.5-minute Quadrangle "Woodley Flat, New Mexico"
Lat/Long: 32.1815° North, -103.4213° West

Paper Size ANSI A

0 20 40

Feet

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

N

GHD

PLAINS ALL AMERICAN PIPELINE, L.P.
ENDURANCE 6" UPSTREAM JACINTO TIE IN
SRS #2021-089
nAPP2129935504
LEA COUNTY, NEW MEXICO

SITE DETAILS MAP

Project No. 12632476
Revision No. -
Date Apr 16, 2024

FIGURE 2

Q:\GIS\PROJECTS\12632000s\12632476\GIS\Maps\Deliverables\RPT001\12632476_GIS002_ExcavSamp.mxd
Print date: 16 Apr 2024 - 15:10

Data source: Aerial Image - Google 2024© Airbus, CNES/Airbus, Maxar Technologies, NMRGIS, USDA/FPAC/GEO
Lat/Long: 32.1815° North, -103.4213° West

Attachments

Attachment 1

Laboratory Analytical Reports and Chain-of-Custody Documentation

Pace Analytical®

ANALYTICAL REPORT

April 03, 2024

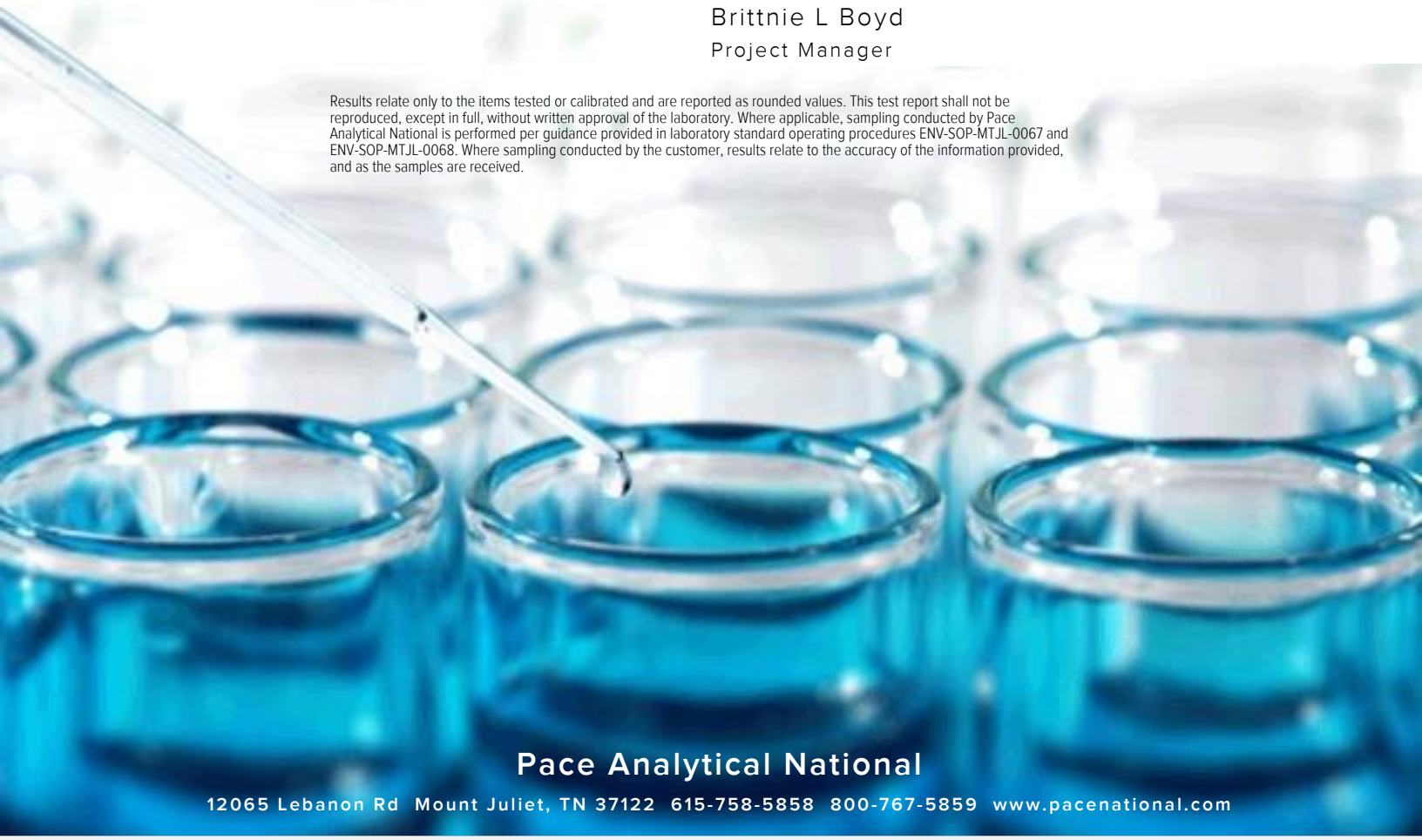
Plains All American, LP - GHD

Sample Delivery Group:	L1716147
Samples Received:	03/16/2024
Project Number:	12632476
Description:	Plains Endurance 6" Upstream Jacinto Tie In
Site:	ENDURANCE 6"
Report To:	Blair Owen 2135 S Loop 250 W Midland, TX 79703

Entire Report Reviewed By:

Brittnie L Boyd
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

12632476-030724-CG-SVE135 L1716147-01 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/07/24 11:50 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 20:29	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249186	50	03/20/24 08:45	03/20/24 18:34	JAS	Mt. Juliet, TN

12632476-030724-CG-SVE140 L1716147-02 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/07/24 12:05 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	100	03/18/24 14:29	03/19/24 20:52	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249186	25	03/20/24 08:45	03/20/24 18:22	JAS	Mt. Juliet, TN

12632476-030724-CG-SVE145 L1716147-03 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/07/24 13:00 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 21:15	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249186	50	03/20/24 08:45	03/20/24 18:34	JAS	Mt. Juliet, TN

12632476-031224-CG-OW225 L1716147-04 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/12/24 09:52 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 22:00	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249970	25	03/20/24 06:28	03/20/24 17:53	JAS	Mt. Juliet, TN

12632476-031224-CG-OW230 L1716147-05 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/12/24 10:00 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 22:23	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249970	20	03/20/24 06:28	03/20/24 17:40	JAS	Mt. Juliet, TN

12632476-031224-CG-OW240 L1716147-06 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/12/24 10:23 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	100	03/18/24 14:29	03/19/24 23:09	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2249970	10	03/20/24 06:28	03/21/24 09:08	JAS	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

12632476-031324-CG-OW135 L1716147-07 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 09:52 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 23:32	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2252153	5	03/22/24 16:25	03/23/24 04:03	JAS	Mt. Juliet, TN

12632476-031324-CG-OW140 L1716147-08 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 10:00 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/19/24 23:55	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2250872	5	03/21/24 09:48	03/21/24 17:05	JAS	Mt. Juliet, TN

12632476-031324-CG-OW145 L1716147-09 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 10:19 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	100	03/18/24 14:29	03/20/24 00:18	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2250872	20	03/21/24 09:48	03/21/24 17:18	JAS	Mt. Juliet, TN

12632476-031324-CG-SVE220 L1716147-10 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 16:50 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248769	1	03/18/24 13:52	03/18/24 13:58	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	500	03/18/24 14:29	03/20/24 00:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2250872	50	03/21/24 09:48	03/21/24 17:43	JAS	Mt. Juliet, TN

12632476-031324-CG-SVE225 L1716147-11 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 16:58 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248772	1	03/18/24 12:59	03/18/24 13:06	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/20/24 01:04	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2250872	50	03/21/24 09:48	03/21/24 17:31	JAS	Mt. Juliet, TN

12632476-031324-CG-SVE230 L1716147-12 Solid

Collected by: Liam Giersdorf | Collected date/time: 03/13/24 17:05 | Received date/time: 03/16/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2248772	1	03/18/24 12:59	03/18/24 13:06	CMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG2249627	200	03/18/24 14:29	03/20/24 01:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2251689	50	03/22/24 08:15	03/22/24 18:18	KKS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brittnie L Boyd
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.2		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	1.53		0.100	200	03/19/2024 20:29	WG2249627
Toluene	34.2		1.00	200	03/19/2024 20:29	WG2249627
Ethylbenzene	13.1		0.100	200	03/19/2024 20:29	WG2249627
Total Xylene	65.8		0.300	200	03/19/2024 20:29	WG2249627
TPH (GC/FID) Low Fraction	1020		20.0	200	03/19/2024 20:29	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*82.0*		*77.0-120*		*03/19/2024 20:29*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*94.9*		*72.0-128*		*03/19/2024 20:29*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	2610		200	50	03/20/2024 18:34	WG2249186
C28-C36 Motor Oil Range	1210		200	50	03/20/2024 18:34	WG2249186
(S) o-Terphenyl	*150*	J7	*18.0-148*		*03/20/2024 18:34*	WG2249186

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.130		0.0500	100	03/19/2024 20:52	WG2249627
Toluene	4.82		0.500	100	03/19/2024 20:52	WG2249627
Ethylbenzene	3.48		0.0500	100	03/19/2024 20:52	WG2249627
Total Xylene	19.7		0.150	100	03/19/2024 20:52	WG2249627
TPH (GC/FID) Low Fraction	289		10.0	100	03/19/2024 20:52	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*79.7*		*77.0-120*		*03/19/2024 20:52*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*95.7*		*72.0-128*		*03/19/2024 20:52*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	2210		100	25	03/20/2024 18:22	WG2249186
C28-C36 Motor Oil Range	1040		100	25	03/20/2024 18:22	WG2249186
(S) o-Terphenyl	*148*	J7	*18.0-148*		*03/20/2024 18:22*	WG2249186

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.2		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.221		0.100	200	03/19/2024 21:15	WG2249627
Toluene	9.27		1.00	200	03/19/2024 21:15	WG2249627
Ethylbenzene	5.34		0.100	200	03/19/2024 21:15	WG2249627
Total Xylene	30.2		0.300	200	03/19/2024 21:15	WG2249627
TPH (GC/FID) Low Fraction	440		20.0	200	03/19/2024 21:15	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*81.8*		*77.0-120*		*03/19/2024 21:15*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.9*		*72.0-128*		*03/19/2024 21:15*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	2320		200	50	03/20/2024 18:34	WG2249186
C28-C36 Motor Oil Range	1020		200	50	03/20/2024 18:34	WG2249186
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*03/20/2024 18:34*	WG2249186

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.587		0.100	200	03/19/2024 22:00	WG2249627
Toluene	5.99		1.00	200	03/19/2024 22:00	WG2249627
Ethylbenzene	2.70		0.100	200	03/19/2024 22:00	WG2249627
Total Xylene	15.1		0.300	200	03/19/2024 22:00	WG2249627
TPH (GC/FID) Low Fraction	294		20.0	200	03/19/2024 22:00	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*81.7*		*77.0-120*		*03/19/2024 22:00*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.4*		*72.0-128*		*03/19/2024 22:00*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	2280		100	25	03/20/2024 17:53	WG2249970
C28-C36 Motor Oil Range	1430		100	25	03/20/2024 17:53	WG2249970
(S) o-Terphenyl	*208*	J7	*18.0-148*		*03/20/2024 17:53*	WG2249970

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.0		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.808		0.100	200	03/19/2024 22:23	WG2249627
Toluene	7.44		1.00	200	03/19/2024 22:23	WG2249627
Ethylbenzene	3.07		0.100	200	03/19/2024 22:23	WG2249627
Total Xylene	17.9		0.300	200	03/19/2024 22:23	WG2249627
TPH (GC/FID) Low Fraction	312		20.0	200	03/19/2024 22:23	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*81.8*		*77.0-120*		*03/19/2024 22:23*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.9*		*72.0-128*		*03/19/2024 22:23*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	3460		80.0	20	03/20/2024 17:40	WG2249970
C28-C36 Motor Oil Range	2010		80.0	20	03/20/2024 17:40	WG2249970
(S) o-Terphenyl	*291*	J7	*18.0-148*		*03/20/2024 17:40*	WG2249970

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.3		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.262		0.0500	100	03/19/2024 23:09	WG2249627
Toluene	5.76		0.500	100	03/19/2024 23:09	WG2249627
Ethylbenzene	3.69		0.0500	100	03/19/2024 23:09	WG2249627
Total Xylene	22.1		0.150	100	03/19/2024 23:09	WG2249627
TPH (GC/FID) Low Fraction	308		10.0	100	03/19/2024 23:09	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*81.0*		*77.0-120*		*03/19/2024 23:09*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.4*		*72.0-128*		*03/19/2024 23:09*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	417		40.0	10	03/21/2024 09:08	WG2249970
C28-C36 Motor Oil Range	206		40.0	10	03/21/2024 09:08	WG2249970
(S) o-Terphenyl	*20.5*		*18.0-148*		*03/21/2024 09:08*	WG2249970

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	74.8		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.723		0.100	200	03/19/2024 23:32	WG2249627
Toluene	9.95		1.00	200	03/19/2024 23:32	WG2249627
Ethylbenzene	5.20		0.100	200	03/19/2024 23:32	WG2249627
Total Xylene	30.2		0.300	200	03/19/2024 23:32	WG2249627
TPH (GC/FID) Low Fraction	432		20.0	200	03/19/2024 23:32	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*80.7*		*77.0-120*		*03/19/2024 23:32*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.0*		*72.0-128*		*03/19/2024 23:32*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	544		20.0	5	03/23/2024 04:03	WG2252153
C28-C36 Motor Oil Range	243		20.0	5	03/23/2024 04:03	WG2252153
(S) o-Terphenyl	*20.6*		*18.0-148*		*03/23/2024 04:03*	WG2252153

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	71.6		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.245		0.100	200	03/19/2024 23:55	WG2249627
Toluene	4.75		1.00	200	03/19/2024 23:55	WG2249627
Ethylbenzene	3.13		0.100	200	03/19/2024 23:55	WG2249627
Total Xylene	19.5		0.300	200	03/19/2024 23:55	WG2249627
TPH (GC/FID) Low Fraction	307		20.0	200	03/19/2024 23:55	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*85.3*		*77.0-120*		*03/19/2024 23:55*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*97.5*		*72.0-128*		*03/19/2024 23:55*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	474		20.0	5	03/21/2024 17:05	WG2250872
C28-C36 Motor Oil Range	233		20.0	5	03/21/2024 17:05	WG2250872
(S) o-Terphenyl	*92.4*		*18.0-148*		*03/21/2024 17:05*	WG2250872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.8		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.159		0.0500	100	03/20/2024 00:18	WG2249627
Toluene	1.42		0.500	100	03/20/2024 00:18	WG2249627
Ethylbenzene	0.696		0.0500	100	03/20/2024 00:18	WG2249627
Total Xylene	4.25		0.150	100	03/20/2024 00:18	WG2249627
TPH (GC/FID) Low Fraction	87.5		10.0	100	03/20/2024 00:18	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*84.6*		*77.0-120*		*03/20/2024 00:18*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.3*		*72.0-128*		*03/20/2024 00:18*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	1400		80.0	20	03/21/2024 17:18	WG2250872
C28-C36 Motor Oil Range	913		80.0	20	03/21/2024 17:18	WG2250872
(S) o-Terphenyl	*169*	J7	*18.0-148*		*03/21/2024 17:18*	WG2250872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	03/18/2024 13:58	WG2248769

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	2.26		0.250	500	03/20/2024 00:41	WG2249627
Toluene	19.2		2.50	500	03/20/2024 00:41	WG2249627
Ethylbenzene	6.73		0.250	500	03/20/2024 00:41	WG2249627
Total Xylene	36.0		0.750	500	03/20/2024 00:41	WG2249627
TPH (GC/FID) Low Fraction	606		50.0	500	03/20/2024 00:41	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*86.5*		*77.0-120*		*03/20/2024 00:41*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*96.8*		*72.0-128*		*03/20/2024 00:41*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	7170		200	50	03/21/2024 17:43	WG2250872
C28-C36 Motor Oil Range	4050		200	50	03/21/2024 17:43	WG2250872
(S) o-Terphenyl	*541*	J7	*18.0-148*		*03/21/2024 17:43*	WG2250872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	03/18/2024 13:06	WG2248772

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	1.01		0.100	200	03/20/2024 01:04	WG2249627
Toluene	10.0		1.00	200	03/20/2024 01:04	WG2249627
Ethylbenzene	4.10		0.100	200	03/20/2024 01:04	WG2249627
Total Xylene	23.4		0.300	200	03/20/2024 01:04	WG2249627
TPH (GC/FID) Low Fraction	368		20.0	200	03/20/2024 01:04	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*81.3*		*77.0-120*		*03/20/2024 01:04*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*97.9*		*72.0-128*		*03/20/2024 01:04*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	5110		200	50	03/21/2024 17:31	WG2250872
C28-C36 Motor Oil Range	2890		200	50	03/21/2024 17:31	WG2250872
(S) o-Terphenyl	*417*	J7	*18.0-148*		*03/21/2024 17:31*	WG2250872

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.9		1	03/18/2024 13:06	WG2248772

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	2.19		0.100	200	03/20/2024 01:28	WG2249627
Toluene	11.7		1.00	200	03/20/2024 01:28	WG2249627
Ethylbenzene	3.95		0.100	200	03/20/2024 01:28	WG2249627
Total Xylene	22.1		0.300	200	03/20/2024 01:28	WG2249627
TPH (GC/FID) Low Fraction	448		20.0	200	03/20/2024 01:28	WG2249627
(S) a,a,a-Trifluorotoluene(FID)	*85.5*		*77.0-120*		*03/20/2024 01:28*	WG2249627
(S) a,a,a-Trifluorotoluene(PID)	*95.2*		*72.0-128*		*03/20/2024 01:28*	WG2249627

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	3680		200	50	03/22/2024 18:18	WG2251689
C28-C36 Motor Oil Range	1810		200	50	03/22/2024 18:18	WG2251689
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*03/22/2024 18:18*	WG2251689

Method Blank (MB)

(MB) R4047160-1 03/18/24 13:58

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00400			

L1716147-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1716147-03 03/18/24 13:58 • (DUP) R4047160-3 03/18/24 13:58

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	95.2	95.2	1	0.0374		10

Laboratory Control Sample (LCS)

(LCS) R4047160-2 03/18/24 13:58

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.8	90.0-110	

Method Blank (MB)

(MB) R4047148-1 03/18/24 13:06

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00400			

L1716092-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1716092-02 03/18/24 13:06 • (DUP) R4047148-3 03/18/24 13:06

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.5	93.3	1	0.853		10

Laboratory Control Sample (LCS)

(LCS) R4047148-2 03/18/24 13:06

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.9	90.0-110	

Method Blank (MB)

(MB) R4047817-4 03/19/24 17:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.00300	0.0125
Toluene	0.00386	J	0.00375	0.125
Ethylbenzene	U		0.00275	0.0125
Total Xylene	U		0.0115	0.0375
TPH (GC/FID) Low Fraction	1.78	J	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	*87.1*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*97.2*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R4047817-1 03/19/24 15:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0453	90.6	76.0-121	
Toluene	0.0500	0.0433	86.6	80.0-120	
Ethylbenzene	0.0500	0.0448	89.6	80.0-124	
Total Xylene	0.150	0.133	88.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*88.6*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*97.8*	*72.0-128*	

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4047817-2 03/19/24 16:06 • (LCSD) R4047817-3 03/19/24 16:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.74	5.04	94.8	101	72.0-127			6.13	20
(S) a,a,a-Trifluorotoluene(FID)				*93.2*	*96.5*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*105*	*106*	*72.0-128*				

Method Blank (MB)

(MB) R4048157-1 03/20/24 16:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*77.3*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4048157-2 03/20/24 16:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	34.3	68.6	50.0-150	
(S) o-Terphenyl			*76.1*	*18.0-148*	

L1716092-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1716092-07 03/20/24 17:20 • (MS) R4048157-3 03/20/24 17:33 • (MSD) R4048157-4 03/20/24 17:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	47.1	ND	31.7	28.9	67.3	61.0	1	50.0-150			9.24	20
(S) o-Terphenyl					*48.6*	*47.3*		*18.0-148*				

Method Blank (MB)

(MB) R4047949-1 03/20/24 12:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*50.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4047949-2 03/20/24 12:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	33.6	67.2	50.0-150	
(S) o-Terphenyl			*61.0*	*18.0-148*	

L1716631-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1716631-10 03/20/24 14:16 • (MS) R4047949-3 03/20/24 14:29 • (MSD) R4047949-4 03/20/24 14:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	28.7	52.4	53.5	48.4	49.9	1	50.0-150	J6	J6	2.08	20
(S) o-Terphenyl					*44.0*	*56.6*		*18.0-148*				

Sample Narrative:

OS: Sample resembles laboratory standard for Diesel.

Method Blank (MB)

(MB) R4048504-1 03/21/24 15:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*58.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4048504-2 03/21/24 15:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	44.1	88.2	50.0-150	
(S) o-Terphenyl			*70.0*	*18.0-148*	

L1717155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1717155-01 03/21/24 15:36 • (MS) R4048504-3 03/21/24 15:49 • (MSD) R4048504-4 03/21/24 16:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.0	ND	38.9	41.5	76.1	81.2	1	50.0-150			6.47	20
(S) o-Terphenyl					*54.8*	*56.7*		*18.0-148*				

Method Blank (MB)

(MB) R4049027-1 03/22/24 16:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*91.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4049027-2 03/22/24 16:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	40.8	81.6	50.0-150	
(S) o-Terphenyl			*89.9*	*18.0-148*	

Method Blank (MB)

(MB) R4049098-1 03/22/24 23:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*43.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4049098-2 03/23/24 00:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	26.3	52.6	50.0-150	
(S) o-Terphenyl			*43.7*	*18.0-148*	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Plain All American, LP - GHD
2135 S Loop 250 W
Midland, TX 79703

Billing Information:
Karolanne Hudgens
1106 Griffith Drive
Midland, TX 79706

Report to: **Blair Owen**

Email To: **blair.owen@ghd.com**

Project Description: **Plains Endurance 6" Upsream Jacinto Tie In**

City/State Collected: **Lea County, NM**

Phone: **432-686-0086**
Fax:

Client Project # **12632476**

Lab Project # **PLAINSGHD-ENDURANCE**

Collected by (print): **Liam Giersdorf**

Site/Facility ID # **Endurance 6"**

P.O. # **W190072853**

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8021B	TPH 8015B
12632476-030724-LG-SW6135	Grab	SS	35'	030724	1150	2	X	x
12632476-030724-LG-SW6140	↓	↓	40'	↓	1205		↓	↓
12632476-030724-LG-SW6145	↓	↓	45'	↓	1300		↓	↓
12632476-031224-LG-OW225	Grab	SS	25'-30'	031224	0952		↓	↓
12632476-031224-LG-OW230	↓	↓	30-35'	↓	1000		↓	↓
12632476-031224-LG-OW240	↓	↓	40-45'	↓	1023		↓	↓
12632476-031324-LG-OW135	↓	↓	35-40'	031324	0952		↓	↓
12632476-031324-LG-OW140	↓	↓	40-45'	↓	1000		↓	↓
12632476-031324-LG-OW145	↓	↓	45-50'	↓	1019		↓	↓
12632476-031324-LG-SW6120	↓	↓	20-25'	↓	1650	↓	↓	↓

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 171647
A221
Acctnum: **PLAINSGHD**
Template: **T229093**
Prelogin: **P1060002**
TSR:
PB:
Shipped Via:

Remarks	Sample # (lab only)
	-01
	-02
	-03
	-04
	-05
	-06
	-07
	-08
	-09
	-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 6643 4308 9139

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	03/15/24	1245		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: TLA9 .4+0=.4
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3-16-24 Time: 9:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Plain All American, LP - GHD
2135 S Loop 250 W
Midland, TX 79703

Billing Information:
Karolanne Hudgens
1106 Griffith Drive
Midland, TX 79706

Report to: **Blair Owen**

Email To: **blair.owen@ghd.com**

Project Description: **Plains Endurance 6" Upsream Jacinto Tie In**

City/State Collected: **Lea County, NM**

Phone: **432-686-0086**
Fax:

Client Project # **12632476**

Lab Project # **PLAINSGHD-ENDURANCE**

Collected by (print): **Liam Giersdorf**

Site/Facility ID # **Endurance 6"**

P.O. # **W190072853**

Collected by (signature):

Immediately Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
____ Same Day X Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8021B	TPH 8015B
12632476-031324-LG-SVE225	Grab	SS	25-30	031324	1658	2	X	X
12632476-031324-LG-SVE230	Grab	SS	30-35	031324	1705	2	X	X

Chain of Custody Page 2 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 1716147

Table #

Acctnum: **PLAINSGHD**

Template: **T229093**

Prelogin: **P1060002**

TSR:

PB:

Shipped Via:

Remarks	Sample # (lab only)
	-11
	-12

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 6643 4308 9139

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	03/15/24	1245		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: TLA9 .470 .4
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3-16-24 Time: 9:30
				Hold: / Condition: NCF / OK

Attachment 2

Soil Boring Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: OW1
PROJECT NUMBER: 12632476
DATE COMPLETED: 13 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	OVERBURDEN							
20	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist	20.00						794.5
34								930.3

Grout
2" PVC Pipe
Bentonite
10 screen
#2 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: OW1
PROJECT NUMBER: 12632476
DATE COMPLETED: 13 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
36								
38				OW135				434
40	very loose, brown, dry	40.00	# 10 screen					
42				OW140				639.9
44								
46								
48			#2 Sand	OW145				422.3
50	END OF BOREHOLE @ 50.00ft BGS	50.00						
52								
54								
56								
58								
60								
62								
64								
66								
68								

WELL DETAILS
Screened interval:
25.00 to 45.00ft BGS
Length: 20ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
21.00 to 23.00ft BGS
Material: Bentonite
Sand Pack:
23.00 to 45.00ft BGS
Material: 10/20 sand

Seal:
1.00 to 21.00ft BGS
Material: Grout

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: OW2
PROJECT NUMBER: 12632476
DATE COMPLETED: 12 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	OVERBURDEN		2" PVC Pipe; Grout					
20	SC, Well graded clayey sands with caliche gravel, very loose, reddish brown, slightly moist	20.00	bentonite					951
24	pinkish brown	25.00		OW225				1051
30	dark reddish brown	30.00	# 10 screen; #2 Sand	OW230				935
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: OW2
PROJECT NUMBER: 12632476
DATE COMPLETED: 12 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
36	SP, poorly graded sands, very loose, reddish brown, slightly moist							
38			# 10 screen					569
40	brown, dry	40.00	#2 Sand					
42				OW240				321
44								
46	END OF BOREHOLE @ 45.00ft BGS	45.00						
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

WELL DETAILS
Screened interval:
25.00 to 45.00ft BGS
Length: 20ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
21.00 to 23.00ft BGS
Material: Bentonite
Sand Pack:
23.00 to 45.00ft BGS
Material: 10/20 sand

Seal:
1.00 to 21.00ft BGS
Material: Grout

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (OW240)

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: SVE01
PROJECT NUMBER: 12632476
DATE COMPLETED: 7 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	OVERBURDEN							
2								
4								
6								
8								
10			2" PVC Pipe					
12								
14								
16			Grout					
18								
20								
22								
24								
26								
28								
30								
32			bentonite					
34	SC, Well-graded clayey sands with fine caliche gravel, moist and firm with slight plasticity, reddish brown in coloration	33.00		SVE135				1780

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval) GRAIN SIZE ANALYSIS (rectangle)

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: SVE01
PROJECT NUMBER: 12632476
DATE COMPLETED: 7 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	REC (ft)	'N' Value	PID (ppm)
36	SP, Poorly-graded fine sands, dry, soft, no plasticity, reddish brown in coloration							
38	- Very fine sandstone, poorly sorted/well graded, poss. Lithic Arkose with calcareous matrix, ranges from gray to light pink in coloration with minor presence of dark lithics, friable from 38.00 to 38.50ft BGS			SVE140				3598
40		40.00	#2 Sand # 10 screen					
42	SP, Medium-graded fine sands with fine caliche gravel, dry, little plasticity, pinkish brown			SVE145				4210
44								
46	END OF BOREHOLE @ 45.00ft BGS	45.00						
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

WELL DETAILS
Screened interval:
35.00 to 45.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Seal:
31.00 to 33.00ft BGS
Material: Bentonite
Sand Pack:
33.00 to 45.00ft BGS
Material: 10/20 sand

Seal:
1.00 to 33.00ft BGS
Material: Grout

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ⬭ GRAIN SIZE ANALYSIS ▭

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56\12632476\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
HOLE DESIGNATION: SVE02
PROJECT NUMBER: 12632476
DATE COMPLETED: 13 March 2024
CLIENT: Plains All American
DRILLING METHOD: Hollow Stem Auger
LOCATION: Rural Jal, NM
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLING CONTRACTOR: Talon LPE
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	OVERBURDEN		2" PVC Pipe					
20	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist	20.00	Grout, bentonite, #2 Sand, # 10 screen	SVE220				847.8
				SVE225				573.9
				SVE230				548.9
33	END OF BOREHOLE @ 33.00ft BGS	33.00						

WELL DETAILS
Screened interval:
23.00 to 33.00ft BGS

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Plains Endurance 6" Release
PROJECT NUMBER: 12632476
CLIENT: Plains All American
LOCATION: Rural Jal, NM
DRILLING CONTRACTOR: Talon LPE

HOLE DESIGNATION: SVE02
DATE COMPLETED: 13 March 2024
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: Liam Giersdorf/Rebeccca Pons
DRILLER: Jesse Tausch

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	flushmount	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' Value	SAMPLE PID (ppm)
36			Length: 10ft Diameter: 2in Slot Size: 10 Material: PVC Seal: 19.00 to 21.00ft BGS Material: Bentonite Sand Pack: 21.00 to 33.00ft BGS Material: 10/20 sand ---------- Seal: 1.00 to 19.00ft BGS Material: Grout					
38								
40								
42								
44								
46								
48								
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

File: \\GHDNET\GHD\US\HOUSTON\PROJECTS\56211263247 6\TECH\GINT\LOG DATABASE\12632476-PLAINS ENDURANCE .GPJ Library File: GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 24/4/24

Attachment 3

Freemont's SVE Pilot Test Results

PLAINS PIPELINE, L.P.

ENDURANCE 6-INCH UPSTREAM JACINTO TIE-IN

LEA COUNTY, NEW MEXICO

NMOCD INCIDENT NO. nAPP2129935504

SVE PILOT TEST RESULTS

1.0 Introduction

On October 25, 2021, a release of crude oil occurred on the Plains Pipeline, L.P. (Plains) Endurance 6" Upstream Jacinto Tie-In (site). The site is located in Unit Letter O, Section 25 of Township 24 South and Range 34 East in Lea County, New Mexico. The GPS coordinates associated with the release are 31.181559, -103.421514. The release was reported at 42.7 barrels (bbls) with no recovery during initial response actions. The New Mexico Oil Conservation Division (NMOCD) District I office in Hobbs, New Mexico assigned the release with the Incident Number nAPP2129935504.

From October 25 to November 19, 2021, excavation activities were conducted at the site to remove contaminated soil from the affected area. An excavation to a depth of approximately 19 feet below ground surface (bgs) was completed, but soil sampling indicated that additional soil impacts were present at a greater depth. From June 2022 to April 2023, eleven soil borings (SB-1 to SB-11) were advanced at the site to further evaluate the vertical and horizontal extent of impact. The maximum depth of the soil borings was 106 feet bgs (SB-2); groundwater was not encountered in any boring.

Based on laboratory data, soil impacts greater than the applicable NMAC Closure Criteria are present to a depth of approximately 40 feet bgs. Since the contaminated soil shallower than 20 feet bgs was removed via excavation, an in-situ approach to the remediation of soil between depths of approximately 20 and 40 feet bgs is proposed. Plains has conducted a pilot test using soil vapor extraction (SVE) to evaluate whether this is a feasible technique for remediation. The results of the pilot test are described below.

2.0 Installation of Pilot Test Wells

Plains installed two SVE wells (SVE1 and SVE2) and two observation wells (OW1 and OW2) to determine if SVE is an effective remedial approach for this site. These four wells were constructed in March 2024 with the following characteristics:

- Borings were advanced using a hollow stem auger (HSA) rig and an air rotary rig due to difficult drilling conditions;
- Soil samples were collected on 5 ft intervals from 20 feet to total depth (TD) via either split spoons (hollow stem) or via cuttings (air rotary);
- Samples were logged using the Unified Soil Classification System (USCS);
- Field observations, including photoionization detector (PID) readings, were documented;
- Three soil samples per boring were collected and submitted for laboratory analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH); these samples were collected at a depth greater than 20 feet bgs;

- Borings were completed as 2-inch diameter PVC wells;
- One SVE well (SVE2) was screened with 10 feet of well screen from 23 to 33 feet (TD=33Ft);
- One SVE well (SVE1) was screened with 10 feet of well screen from 35 to 45 feet (TD=45 feet);
- Both observation wells (OW1 and OW2) were screened with 20 feet of well screen from 25 to 45 feet (see attached GHD boring logs);
- All four wells were completed at the surface with flush-mount vaults.

3.0 SVE Pilot Test Procedure

A self-contained SVE pilot test trailer was mobilized to the site to conduct a step-wise SVE test. This trailer has a gasoline engine powered SVE vacuum blower (see attached photos). SVE pilot tests were conducted on SVE1, SVE2 and OW1. Tables showing the pilot test data are included.

The SVE pilot test included the following steps:

- Attach a 2-inch vacuum hose to the SVE pilot test well;
- Connect magnehelic gauges to the two observation wells and the other SVE well;
- Initiate the test by activating the SVE blower and applying a vacuum to the SVE test well;
- Adjust the applied vacuum to approximately 50 inches of water (“H2O);
- Record the time, applied vacuum at the well (“H2O), flowrate (cfm) and exhaust vapor PID reading;
- Increase the applied vacuum to approximately 70” H2O and record data for 20 to 30 minutes;
- Increase the applied vacuum to approximately 100” H2O and record data for 20 to 30 minutes;
- Confirm adequacy of pilot test data and stop test;
- Repeat these steps as appropriate for the second SVE well;
- Repeat these steps as appropriate for the observation well OW1;

4.0 SVE Pilot Test Results/Discussion

The pilot test data indicate that SVE is a feasible remediation approach for impacted soil at this site, particularly in the sand unit (depth of 20 feet to ~ 33 feet). SVE is also feasible in the sandstone unit (depth of ~35 feet to ~45 feet) but the radius of influence will be limited. The site investigation data indicate that the mass of contamination is primarily in the shallower sand unit.

Specific comments about the pilot test and proposed full scale SVE system include:

- Landowner permission will be required to install a full scale SVE system.
- An applied vacuum of approximately 50” H2O will be adequate for SVE remediation. Pipe and fitting friction losses will be considered during SVE blower sizing.
- A vacuum of 50” H2O will likely yield an ROI of approximately 25 feet in the sand unit and approximately 15 feet in the sandstone unit.
- Design flow rate should be approximately 15 cfm per SVE well.
- Based on the site investigation data, a proposed SVE layout that includes 22 shallow SVE wells (including one pilot test well SVE2 and two observation wells OW-1 and OW-2) and six deep SVE wells (including one pilot test well SVE1) is shown on Figure 3. The effective ROI from each shallow SVE well will overlap with the other shallow SVE wells to ensure coverage of the affected

area. The deep SVE wells are located where previously impacted soil had been observed, not across the entire site. Further, the shallow SVE only are shown on Figure 4 and the deep SVE wells only are shown on Figure 5.

- Each individual SVE well will be piped to a remediation building and will have a control valve and flow meter on it to allow for centralized control of the entire SVE system.
- Three phase overhead power is available immediately south of the site. A power service drop will be required from the local power company (Xcel).
- The anticipated time to closure is unknown; however, it will likely be from two to five years of SVE operation.
- Confirmation soil borings may be advanced at several times during the SVE operation to determine the effectiveness of the SVE system and to facilitate targeting of air flows from specific affected areas. When the soil concentrations achieve the appropriate regulatory cleanup levels, the SVE system will be deactivated and a request for site closure will be submitted.

TABLE 1
SVE PILOT TEST DATA
PLAINS PIPELINE - ENDURANCE 6-INCH PIPELINE
JAL, NEW MEXICO
FREMONT PROJECT NUMBER C024-065
March 21, 2024

SVE Test on SVE-1 (Northwestern Well, Screened from 35' to 45' in Sandstone unit)

Time	Vacuum " H2O	Flow CFM	PID	SVE-2 24 ft ("H2O)	OBS-SW 11 ft ("H2O)	OBS-NE 17 ft ("H2O)	Comments
10:28	50	14	75	0.85	0.6	0.10	Bleed 50+ cfm (100% open)
10:35	50	14	75				
11:43	50	14	100	0.45	0.32	0.10	
11:54	49	14	98	0.15	0.2	0.10	flow needle is jumpy
11:56	72	15	150	0.15	0.2	0.15	flow needle is jumpy
12:10	72	15	160	0.1	0.15	0.10	flow needle is jumpy
12:20	74	16	160	0.1	0.1	0.05	flow needle is jumpy
12:25	74	16	160	0.1	0.15	0.05	flow needle is jumpy
12:26	102	20	198	0.05	0.15	0.05	Bleed 37 cfm
12:39	106	20	195	0.05	0.2	0.05	flow needle is jumpy
12:45	106	20	195				flow needle is jumpy
12:55	106	20	196	0.05	0.2	0.05	flow needle is jumpy
Stop Test							

* may have been some initial residual vacuum in subsurface due to prior test at SVE-2
* no apparent residual vacuum in subsurface after SVE test was complete
DTW is >100 Ft
Anticipate ROI of ~15 ft

SVE Test on SVE-2 (Southeastern Well, Screened from 23' to 33' in Sand unit)

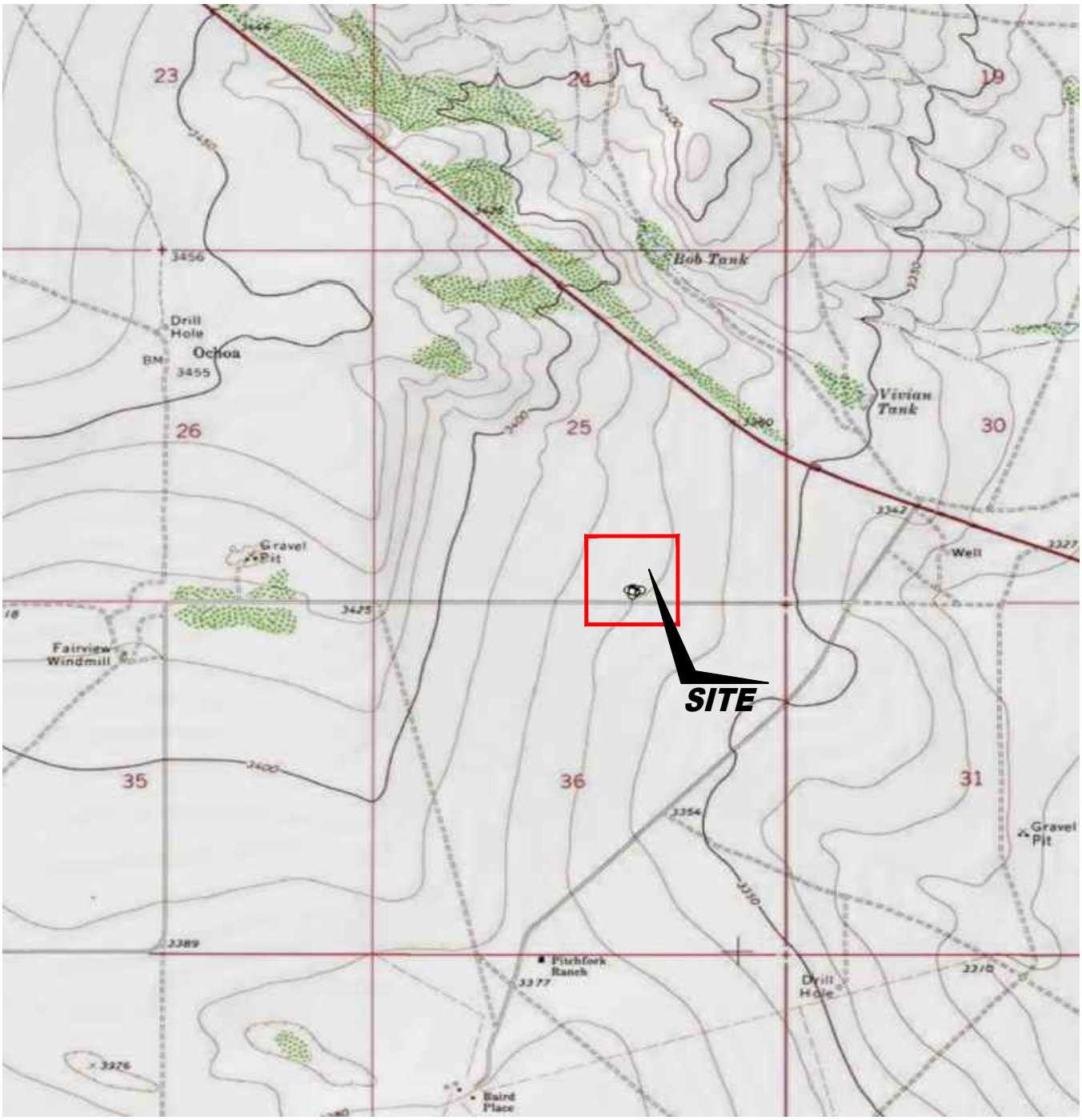
Time	Vacuum " H2O	Flow CFM	PID PPM	SVE-1 24 ft ("H2O)	OBS-SW 19 ft ("H2O)	OBS-NE 14 ft ("H2O)	Comments
10:19	46	20	441	1.1	1.7	3.4	Bleed 50+ cfm
10:24	46	19	330	1.75	2.2	4.0	
10:32	48	20	310	1.75	2.5	4.4	
10:38	46	20	310	2.4	2.8	4.6	
10:40	46	20	310				
10:41	68	30	276				Bleed 50+ cfm still
10:54	71	29	259	3.6	4.2	7.0	
11:02	70	28	262	3.8	4.2	7.2	
11:03	100	37	239	3.9	4.6	8.2	Bleed 37 cfm
11:09	95	37	237				flow needle is jumpy
11:15	95	36	227	4.7	5.1	9.1	flow needle is jumpy
Stop Test							

After SVE system deactivated, vacuum still present in subsurface for >15 minutes. (4.5" H2O at SVE-2 manifold)
Anticipate ROI of 25 ft, use ~50 "H2O vacuum for full scale system

SVE Test on OBS-1 (Southwestern Observation Well, Screened from 25' to 45' in Sand and Sandstone unit)

Time	Vacuum " H2O	Flow CFM	PID PPM	SVE-1 11 ft ("H2O)	SVE-2 19 ft ("H2O)	OBS-NE 19 ft ("H2O)	Comments
1:01	44	17	353	1.85	0.55	0.4	
1:10	45	16	350	2.5	1.3	1.3	
1:15	45	16	349	3.3	1.5	1.5	
Stop Test							

Since this well is screened across sand and sandstone units, preferential pathway is through sand (<35 ft bgs)



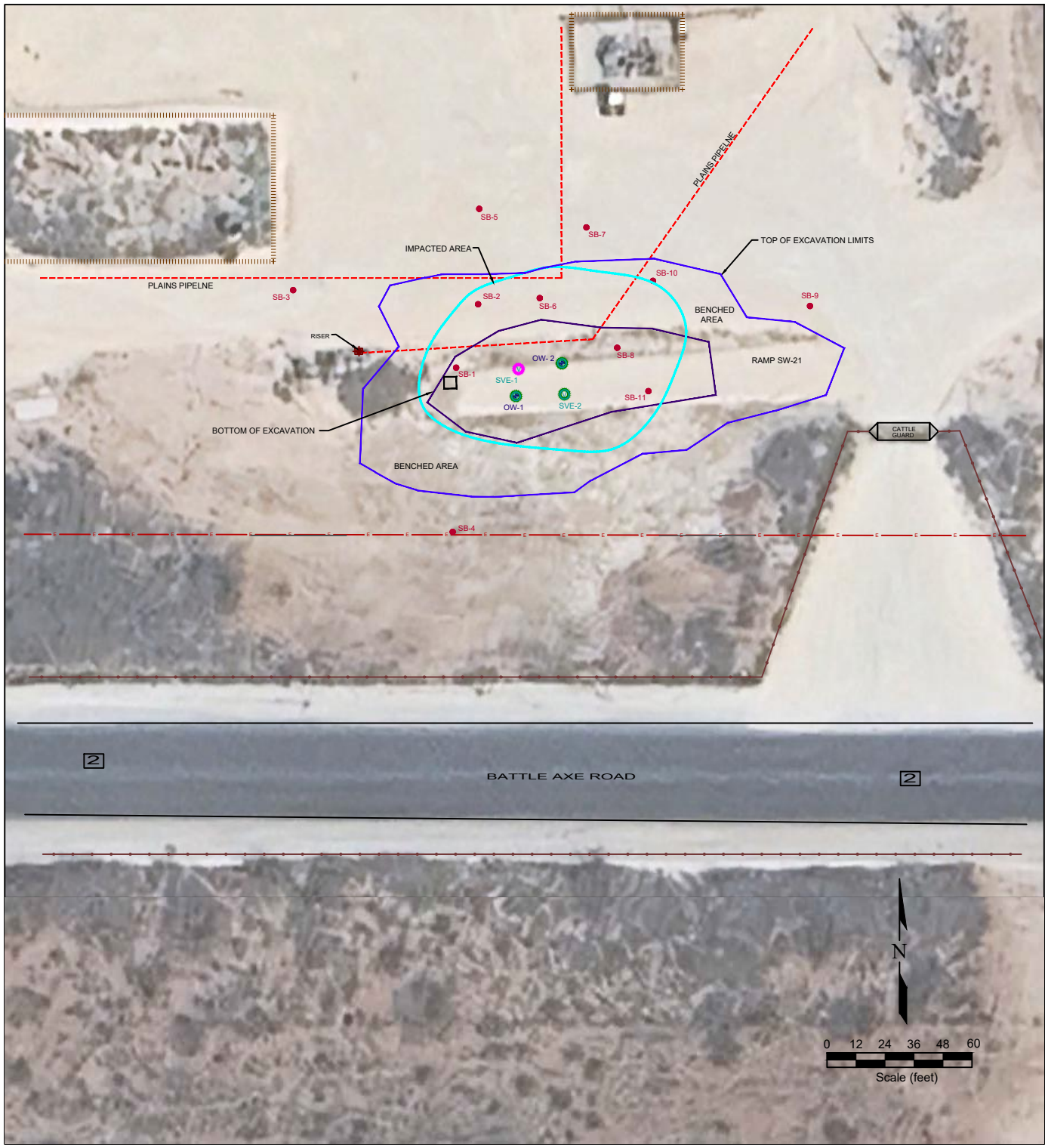
N

Scale (miles)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
0 1000 2000 3000 4000 5000
Scale (feet)

USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP
Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SWSE Sec. 25, T24N, R34W, 6th PM
Lea County, New Mexico
32.181585°, --103.421406°

Project #	API #	Facility #	
C024-065			FREMONT ENVIRONMENTAL
Date	Remediation #	Filename	
4/22/24		**24065T**	



LEGEND

- RISER LOCATION
- SOIL BORING LOCATION
- SHALLOW SVE OBSERVATION WELL
- DEEP SOIL VAPOR EXTRACTION WELL
- SHALLOW SOIL VAPOR EXTRACTION WELL
- TEST PIT LOCATION
- IMPACTED AREA
- CONTAINMENT BERM
- OVER HEAD POWER LINE
- TOP OF EXCAVATION LIMITS
- BOTTOM OF EXCAVATION LIMITS
- PLAINS PIPELNE
- FENCE LINE

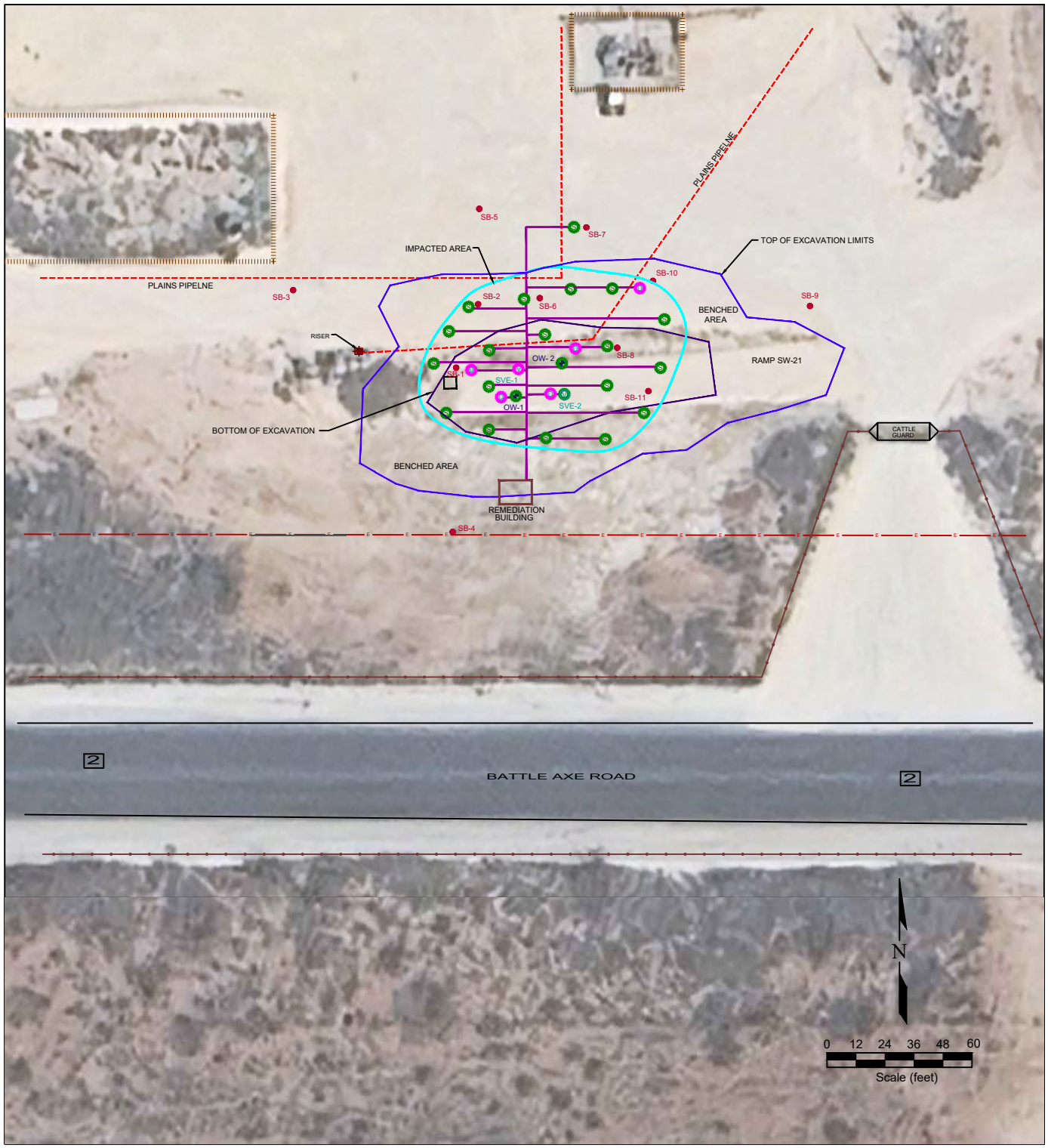
Figure 2

SITE MAP

Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SWSE Sec. 25, T24N, R34W, 6th PM
Lea County, New Mexico
32.181585°, -103.421406°

Project No.	API #	Facility #	
CO24-065			
Date	Remediation #	Filename	
4/22/24		**24065Q**	

FREMONT ENVIRONMENTAL



LEGEND

- RISER LOCATION
- SOIL BORING LOCATION
- SHALLOW SVE OBSERVATION WELL
- DEEP SOIL VAPOR EXTRACTION WELL
- SHALLOW SOIL VAPOR EXTRACTION WELL
- PROPOSED SHALLOW SOIL VAPOR EXTRACTION WELL SCREEN 25' - 35'
- PROPOSED DEEP SOIL VAPOR EXTRACTION WELL SCREEN 35' - 45'
- TEST PIT LOCATION
- IMPACTED AREA
- BUILDING
- BUILDING
- PROPOSED REMEDIATION SYSTEM TRENCH
- CONTAINMENT BERM
- OVER HEAD POWER LINE
- TOP OF EXCAVATION LIMITS
- BOTTOM OF EXCAVATION LIMITS
- PLAINS PIPELNE
- FENCE LINE

Figure 3

PROPOSED SHALLOW AND DEEP SOIL VAPOR EXTRACTION WELLS MAP

Plains Pipeline, L.P.

Endurance 6" Upstream Jacinto Tie-In

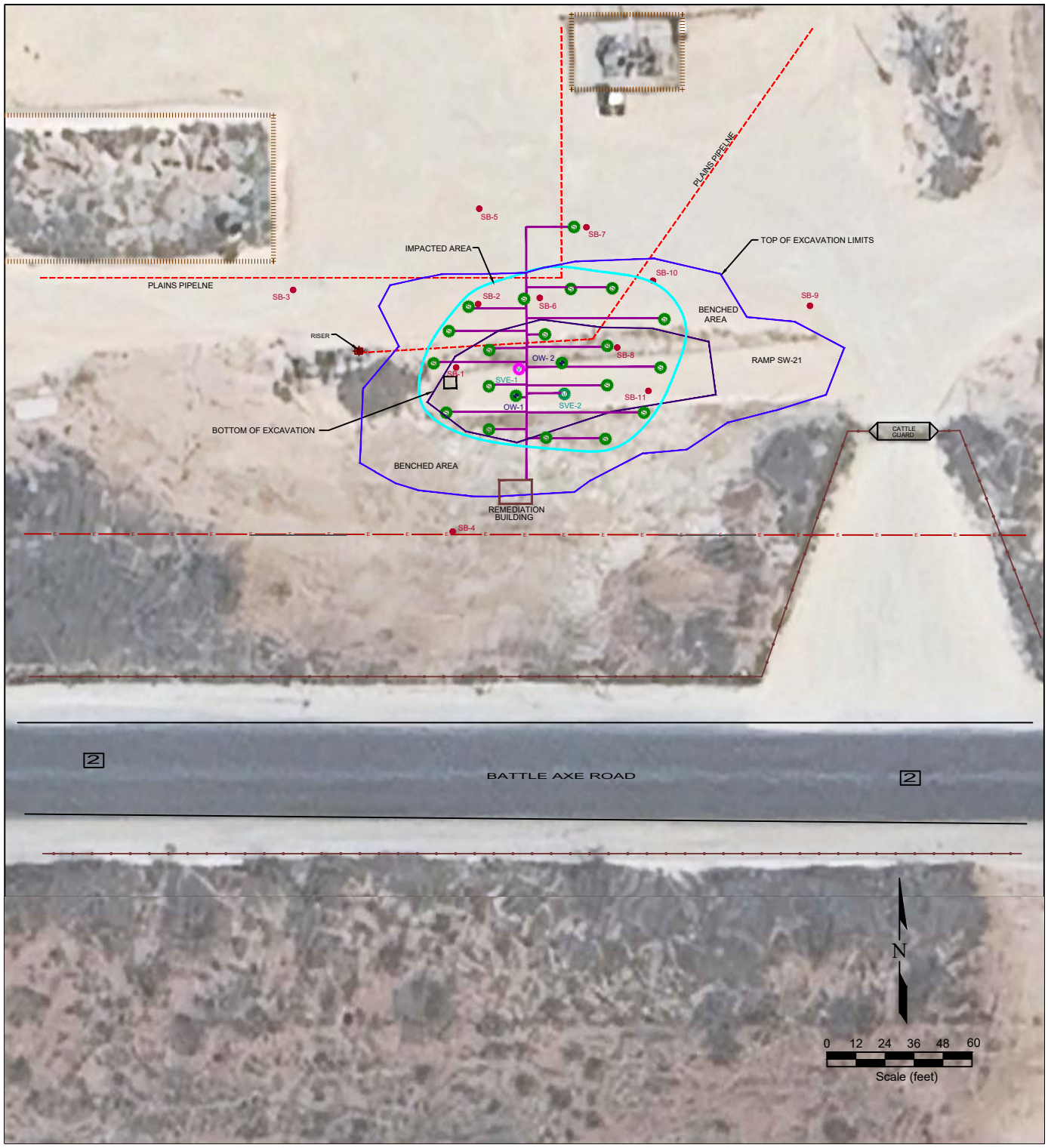
SWSE Sec. 25, T24N, R34W, 6th PM

Lea County, New Mexico

32.181585°, -103.421406°

Project No.	API #	Facility #
CO24-065		
Date	Remediation #	Filename
4/23/24		**24065Q2**

FREMONT ENVIRONMENTAL



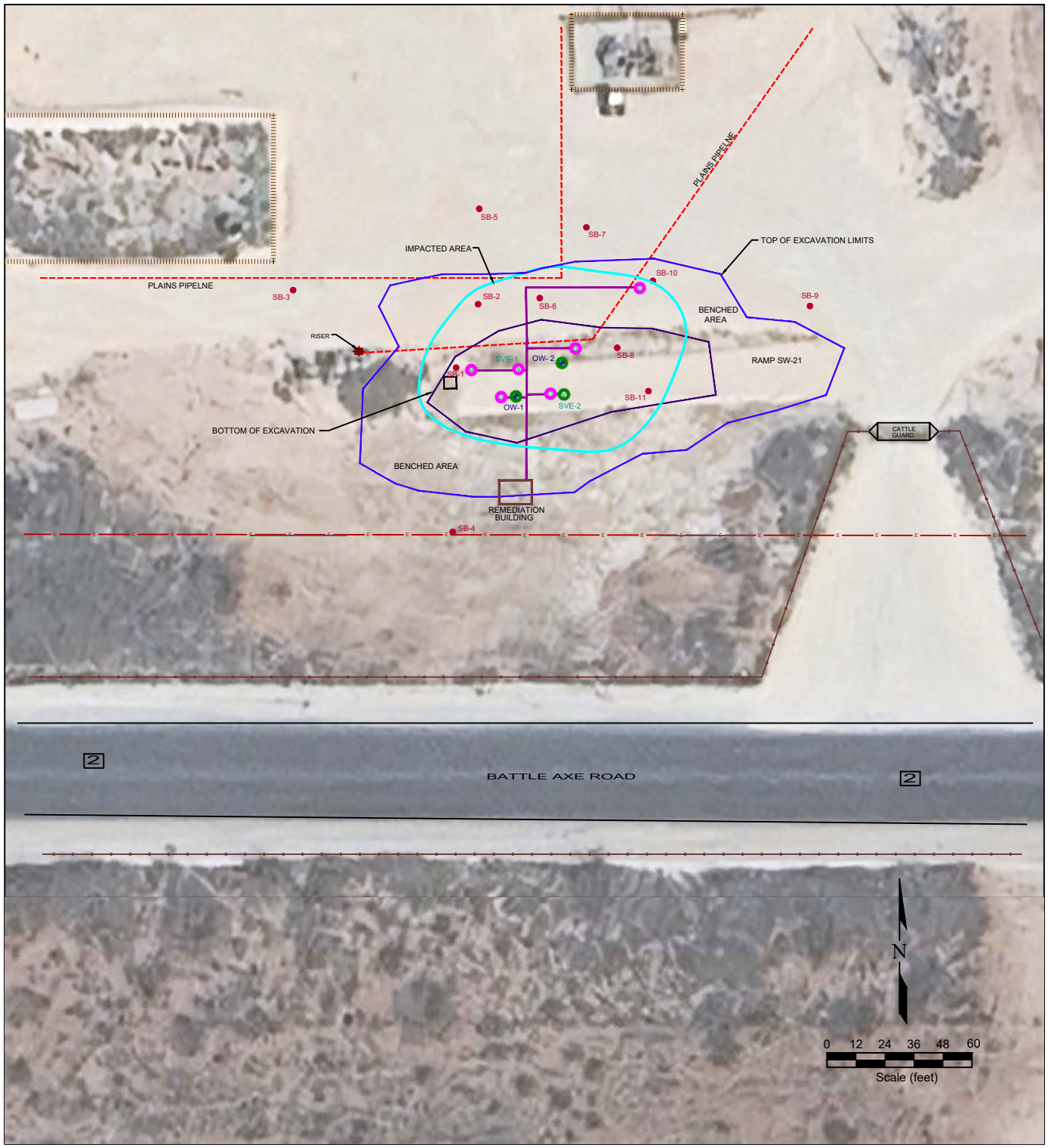
LEGEND

- RISER LOCATION
- SOIL BORING LOCATION
- SHALLOW SVE OBSERVATION WELL
- DEEP SOIL VAPOR EXTRACTION WELL
- SHALLOW SOIL VAPOR EXTRACTION WELL
- PROPOSED SHALLOW SOIL VAPOR EXTRACTION WELL (SCREEN 25' - 35')
- TEST PIT LOCATION
- IMPACTED AREA
- BUILDING (BUILDING)
- PROPOSED REMEDIATION SYSTEM TRENCH
- CONTAINMENT BERM
- OVER HEAD POWER LINE
- TOP OF EXCAVATION LIMITS
- BOTTOM OF EXCAVATION LIMITS
- PLAINS PIPELNE
- FENCE LINE

Figure 4
PROPOSED SHALLOW SOIL VAPOR EXTRACTION WELLS MAP
Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SWSE Sec. 25, T24N, R34W, 6th PM
Lea County, New Mexico
32.181585°, -103.421406°

Project No.	API #	Facility #	
CO24-065			
Date	Remediation #	Filename	
4/22/24		**24065Q1**	

FREMONT ENVIRONMENTAL



LEGEND

- RISER LOCATION
- SOIL BORING LOCATION
- SHALLOW SVE OBSERVATION WELL
- SHALLOW SOIL VAPOR EXTRACTION WELL
- DEEP SOIL VAPOR EXTRACTION WELL
- PROPOSED DEEP SOIL VAPOR EXTRACTION WELL (SCREEN 35' - 45')
- TEST PIT LOCATION
- IMPACTED AREA
- BUILDING
- BUILDING
- PROPOSED REMEDIATION SYSTEM TRENCH
- CONTAINMENT BERM
- OVER HEAD POWER LINE
- TOP OF EXCAVATION LIMITS
- BOTTOM OF EXCAVATION LIMITS
- PLAINS PIPELNE
- FENCE LINE

Figure 5
PROPOSED DEEP SOIL VAPOR EXTRACTION WELLS
Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SWSE Sec. 25, T24N, R34W, 6th PM
Lea County, New Mexico
32.181585°, -103.421406°

Project No.	API #	Facility #	
CO24-065			
Date	Remediation #	Filename	
4/23/24		**24065Q3**	

FREMONT ENVIRONMENTAL

Photo Log

Description:

#1- Looking South at SVE pilot test being performed on SVE2

Photo Log

Description:

#2 - Magnehilic gauges are used to monitor vacuum in observation wells

COST ESTIMATE - SVE INSTALLATION/FIRST YEAR OPERATION

Item	Unit Cost ($)	Units	No. of Units	Total
Power Drop	20000	each	1	20000
Well Installation	3000	each	24	72000
SVE Building Placement	3000	each	1	3000
SVE pipe and fittings	4000	lot	1	4000
PM, Design, Permits,etc.	12000	lot	1	12000
SVE System Rental	2000	mo	12	24000
Monthly system check (GHD)	1500	mo	12	18000
Electrical Cost	350	mo	12	4200
Emissions samples/lab	87	each	18	1566
Total				$ 158,766

Table 1
Summary of Soil Analytical Results
Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SRS #2021-089
nAPP2129935504
Lea County, New Mexico

Location ID:		SB-2	SB-2	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-7	SB-8
Sample Name:		SB-2(30-35)	SB-2(45-50)	SB-3(45-50)	SB-4(18-20)	SB-4(45-50)	SB-5(35-40)	SB-5(45-50)	SB-6(20-28)	SB-6(45-50)	SB-7(28-30)	SB-7(45-50)	SB-8(20-21)
Sample Date:		04/24/2023	04/24/2023	04/24/2023	04/24/2023	04/24/2023	04/25/2023	04/25/2023	04/25/2023	04/25/2023	04/25/2023	04/25/2023	04/26/2023
Depth:		30-35 ft BGS	45-50 ft BGS	45-50 ft BGS	18-20 ft BGS	45-50 ft BGS	35-40 ft BGS	45-50 ft BGS	20-28 ft BGS	45-50 ft BGS	28-30 ft BGS	45-50 ft BGS	20-21 ft BGS
Parameters	**Closure Criteria: DTW >100 feet bgs**												
Volatile Organic Compounds													
Benzene	10	**1.05**	**0.0647**	**0.000332**	**0.000622**	**0.000238**	**0.00753**	**0.000227**	**114**	**0.000409**	**0.672**	**0.000578**	**0.216**
Toluene	--	**15.3**	**1.45**	**0.000336**	**0.000628**	**0.000196**	**0.00497**	**0.000401**	**491**	**0.000446**	**10.7**	**0.000481**	**18.2**
Ethylbenzene	--	**6.33**	**0.768**	<0.000114	**0.000285**	<0.000113	<0.000130	**0.000118**	**108**	**0.000204**	**6.36**	**0.000129**	**13.0**
Xylenes (total)	--	**37.2**	**4.62**	<0.000476	<0.000492	<0.000470	**0.291**	<0.000471	**525**	**0.00156**	**37.8**	<0.000472	**78.4**
BTEX	50	**59.88**	**6.9027**	**0.00148**	**0.002027**	**0.001017**	**0.30363**	**0.001217**	**1238**	**0.002619**	**55.532**	**0.00166**	**109.816**
Total Petroleum Hydrocarbons													
TPH - GRO	--	**508**	**73.4**	**0.0308**	**0.0243**	**0.0254**	**9.21**	**0.0279**	**5620**	**0.516**	**449**	**0.0334**	**1030**
TPH - DRO	--	**1340**	**324**	**2.27**	**16.2**	**5.21**	**343**	**20.1**	**12100**	**223**	**1640**	**127**	**22100**
TPH - MRO	--	**636**	**151**	**3.38**	**33.4**	**9.05**	**203**	**23.4**	**4700**	**146**	**804**	**98.8**	**9360**
TPH - DRO+GRO	1000	**1848**	**397.4**	**2.3008**	**16.2243**	**5.2354**	**352.21**	**20.1279**	**17720**	**223.516**	**2089**	**127.0334**	**23130**
Total TPH	2500	**2484**	**548.4**	**5.6808**	**49.6243**	**14.2854**	**555.21**	**43.5279**	**22420**	**369.516**	**2893**	**225.8334**	**32490**
General Chemistry													
Chloride	20000	**25.4**	**21.1**	**27.9**	**34.3**	**13.6**	**13.9**	**29.0**	**51.1**	**33.0**	**54.9**	**47.6**	**402**

Notes:
1. Values reported in mg/kg
2. < = Value Less than Method Detection Limit
3. Bold Indicates Analyte Detected
4. BTEX analyses by EPA Method SW 8021B.
5. TPH analyses by EPA Method SW 8015 Mod.
6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil
7. Yellow shaded cells indicate analytical samples that exceed the NMOC 19.15.29.12 Table 1 Closure Criteria for the site.

Table 1
Summary of Soil Analytical Results
Plains Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SRS #2021-089
nAPP2129935504
Lea County, New Mexico

Location ID:		SB-8	SB-9	SB-10	SB-10	SB-11	SB-11
Sample Name:		SB-8(45-50)	SB-9(45-50)	SB-10(33-35)	SB-10(45-50)	SB-11(23-25)	SB-11(45-50)
Sample Date:		04/26/2023	04/26/2023	04/26/2023	04/26/2023	04/26/2023	04/26/2023
Depth:		45-50 ft BGS	45-50 ft BGS	33-35 ft BGS	45-50 ft BGS	23-25 ft BGS	45-50 ft BGS
Parameters	**Closure Criteria: DTW >100 feet bgs**						
Volatile Organic Compounds							
Benzene	10	**0.0310**	**0.000259**	**0.722**	**0.0167**	**19.9**	**0.000249**
Toluene	--	**0.924**	**0.000233**	**13.7**	**1.39**	**72.9**	**0.000247**
Ethylbenzene	--	**0.529**	<0.000113	**5.94**	**1.52**	**18.1**	<0.000113
Xylenes (total)	--	**3.21**	<0.000472	**34.7**	**10.0**	**89.5**	**0.000478**
BTEX	50	**4.694**	**0.001077**	**55.062**	**12.9267**	**200.4**	**0.001087**
Total Petroleum Hydrocarbons							
TPH - GRO	--	**61.6**	**0.0531**	**692**	**197**	**1740**	**0.101**
TPH - DRO	--	**421**	**13.2**	**1140**	**1020**	**1060**	**58.6**
TPH - MRO	--	**241**	**14.6**	**525**	**490**	**468**	**41.0**
TPH - DRO+GRO	1000	**482.6**	**13.2531**	**1832**	**1217**	**2800**	**58.701**
Total TPH	2500	**723.6**	**27.8531**	**2357**	**1707**	**3268**	**99.701**
General Chemistry							
Chloride	20000	**59.1**	**33.0**	**215**	**74.4**	**496**	**59.8**

Notes:
1. Values reported in mg/kg
2. < = Value Less than Method Detection Limit
3. Bold Indicates Analyte Detected
4. BTEX analyses by EPA Method SW 8021B.
5. TPH analyses by EPA Method SW 8015 Mod.
6. GRO/DRO/MRO = Gasoline/Diesel/Motor Oil
7. Yellow shaded cells indicate analytical samples that exceed the NMOC 19.15.29.12 Table 1 Closure Criteria for the site.

Table 1

Summary of Soil Analytical Results
Plains All American Pipeline, L.P.
Endurance 6" Upstream Jacinto Tie-In
SRS #2021-089
nAPP2129935504
Lea County, New Mexico

Sample Location	Sample Date	Sample Depth	Volatile Organic Compounds					Total Petroleum Hydrocarbons (TPH)				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO (C6-C10)	DRO (C10-C28)	DRO Extended (MRO, C28-C36)	GRO + DRO	Total TPH (GRO + DRO + MRO)
NMAC 19.15.29.12 Table 1 Closure Criteria			**10**	**ne**	**ne**	**ne**	**50**	**ne**	**ne**	**ne**	**1,000**	**2,500**
OW135	3/13/2024	35-40 ft BGS	0.723	9.95	5.2	30.2	46.073	432	544	243	976	1,219
OW140	3/13/2024	40-45 ft BGS	0.245	4.75	3.13	19.5	27.625	307	474	233	781	1,014
OW145	3/13/2024	45-50 ft BGS	0.159	1.42	0.696	4.25	6.525	87.5	1,400	913	**1,487.5**	2,400.5
OW225	3/12/2024	25-30 ft BGS	0.587	5.99	2.7	15.1	24.377	294	2,280	1,430	**2,574**	**4,004**
OW230	3/12/2024	30-35 ft BGS	0.808	7.44	3.07	17.9	29.218	312	3,460	2,010	**3,772**	**5,782**
OW240	3/12/2024	40-45 ft BGS	0.262	5.76	3.69	22.1	31.812	308	417	206	725	931
SVE135	3/7/2024	35-35 ft BGS	1.53	34.2	13.1	65.8	**114.63**	1,020	2,610	1,210	**3,630**	**4,840**
SVE140	3/7/2024	40-40 ft BGS	0.13	4.82	3.48	19.7	28.13	289	2,210	1,040	**2,499**	**3,539**
SVE145	3/7/2024	45-45 ft BGS	0.221	9.27	5.34	30.2	45.031	440	2,320	1,020	**2,760**	**3,780**
SVE220	3/13/2024	20-25 ft BGS	2.26	19.2	6.73	36	**64.19**	606	7,170	4,050	**7,776**	**11,826**
SVE225	3/13/2024	25-30 ft BGS	1.01	10	4.1	23.4	38.51	368	5,110	2,890	**5,478**	**8,368**
SVE230	3/13/2024	30-35 ft BGS	2.19	11.7	3.95	22.1	39.94	448	3,680	1,810	**4,128**	**5,938**

Notes:

1. Concentrations reported in milligrams per kilogram (mg/kg).
2. NMAC = New Mexico Administrative Code
3. ne = closure criteria not established by NMAC
4. Benzene, toluene, ethylbenzene, total xylenes (BTEX) analyses by EPA Method SW-846 8021B.
5. TPH analyses by EPA Method SW-846 8015 Mod.
6. GRO/DRO/MRO = Gasoline Range Organics/Diesel Range Organics/Motor Oil Range Organics
7. Shaded/bolded values indicate concentration exceeds the NMAC 19.15.29.12 Table 1 Closure Criteria for the site.

Stratigraphy Log (Overburden)
(Form SP-14)
Page 1 of 1

Project name:	Plains Endurance 6" Release	**Drilling contractor:**	**Talon LPE**	**Hole designation:**	SVE01
Project number:	12632476	**Driller:**	**Jesse Tausch**	**Date/Time started:**	0930 03-07-2024
Client:	Plains All American	**Surface elevation:**	**3363'**	**Date/Time completed:**	1345 03-07-2024
Location:	Rural Jal, NM	**Weather (A.M.):**	**Partly Cloudy, Low 46°**	**Drilling method:**	Hollow Stem Auger
		(P.M.):	**High Winds, Partly Cloudy, High 74°**	**GHD supervisor:**	Liam Giersdorf/Rebeccca Pons

Stratigraphic Intervals (Depths in ft/m BGS)			Sample Description	Sample Details											
			Order of descriptors: Soil type symbol(s) - primary component(s), (nature of deposit), secondary components, relative density/consistency, grain size/plasticity, gradation/structure, colour, moisture content, supplementary descriptors.			Penetration Record Split Spoon Blows (Record N-Values & Recoveries)									
From	At	To	Note: Plasticity determination requires the addition of moisture if the sample is too dry to roll (indicate if moisture was added or not).	Sample Number	Sampling Method	6"	6"	6"	6"	N	R	Sample Interval	PID/FID (ppm)	Chemical Analysis	Grain Size/ Other Analysis
33'		35'	SC, Well-graded clayey sands with fine caliche gravel, moist and firm with slight plasticity, reddish brown in coloration, minor effervescence	SVE0135	Split Spoon							33-35'	1780	8015B/8021B	
35'		40'	SC, Poorly-graded fine sands, dry, soft, no plasticity, reddish brown in coloration, minor effervescence	SVE0140	Auger							35-40'	3598	8015B/8021B	Cuttings
38'		38.5'	Very fine sandstone, poorly sorted/well graded, poss. Lithic Arkose with calcareous matrix, ranges from gray to light pink in coloration with minor presence of dark lithics, friable	-	Split Spoon							38-38.5'	-	-	
40'		45'	SP, Medium-graded fine sands with fine caliche gravel, dry, little plasticity, pinkish brown	SVE0145	Auger							40-45'	4210	8015B/8021B	Cuttings

Notes and Comments

Depth of borehole caving _____ Depth of first groundwater encounter _____ Topsoil thickness _____

Water level in open borehole on completion _____ After _____ Hours _____

Notes: 2" PVC Pipe installed with screen from 35'-45' in depth, packed with sand from TD to top of screen, plugged with 2' of Bentonite, grouted for remaining depth to surface

Stratigraphy Log (Overburden)
(Form SP-14)
Page 1 of 1

Project name:	Plains Endurance 6" Release	**Drilling contractor:**	**Talon LPE**	**Hole designation:**	SVE2
Project number:	12632476	**Driller:**	**Jesse Tausch**	**Date/Time started:**	1630 03-13-2024
Client:	Plains All American	**Surface elevation:**	**3363'**	**Date/Time completed:**	1715 03-13-2024
Location:	Rural Jal, NM	**Weather (A.M.):**	**Clear, Low 47°**	**Drilling method:**	Direct Push Geoprobe
		(P.M.):	**Windy, High 84°**	**GHD supervisor:**	Liam Giersdorf/Rebeccca Pons

Stratigraphic Intervals (Depths in ft/m BGS)			Sample Description	Sample Details												
			Order of descriptors: **Soil type symbol(s) - primary component(s), (nature of deposit), secondary components, relative density/consistency, grain size/plasticity, gradation/structure, colour, moisture content, supplementary descriptors.**			**Penetration Record Split Spoon Blows (Record N-Values & Recoveries)**									
From	**At**	**To**	**Note: Plasticity determination requires the addition of moisture if the sample is too dry to roll (indicate if moisture was added or not).**	**Sample Number**	**Sampling Method**	**6"**	**6"**	**6"**	**6"**	**N**	**R**	**Sample Interval**	**PID/FID (ppm)**	**Chemical Analysis**	**Grain Size/ Other Analysis**
20'		**25'**	**SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent**	**SVE220**	**Air Rotary**							**20-25'**	**847.8**	**8015B/8021B**	
25'		**30'**	**SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent**	**SVE225**	**Air Rotary**							**25-30'**	**573.9**	**8015B/8021B**	
30'		**33'**	**SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent**	**SVE230**	**Air Rotary**							**30-33'**	**548.9**	**8015B/8021B**	

Notes and Comments

Depth of borehole caving _____ Depth of first groundwater encounter _____ Topsoil thickness _____

Water level in open borehole on completion _____ After _____ Hours _____

Notes: 2" PVC Pipe installed with screen from 23'-33' in depth, packed with sand from TD to top of screen, plugged with 2' of Bentonite, grouted for remaining depth to surface

Stratigraphy Log (Overburden)
(Form SP-14)
Page 1 of 1

Project name:	Plains Endurance 6" Release	**Drilling contractor:**	**Talon LPE**	**Hole designation:**	OW1
Project number:	12632476	**Driller:**	**Jesse Tausch**	**Date/Time started:**	0930 03-13-2024
Client:	Plains All American	**Surface elevation:**	**3363'**	**Date/Time completed:**	1100 03-13-2024
Location:	Rural Jal, NM	**Weather (A.M.):**	**Clear, Low 47°**	**Drilling method:**	Hollow Stem Auger
		(P.M.):	**Windy, High 84°**	**GHD supervisor:**	Liam Giersdorf/Rebeccca Pons

Stratigraphic Intervals (Depths in ft/m BGS)			Sample Description	Sample Details												
			Order of descriptors: **Soil type symbol(s) - primary component(s), (nature of deposit), secondary components, relative density/consistency, grain size/plasticity, gradation/structure, colour, moisture content, supplementary descriptors.**			**Penetration Record Split Spoon Blows (Record N-Values & Recoveries)**									
From	**At**	**To**	**Note: Plasticity determination requires the addition of moisture if the sample is too dry to roll (indicate if moisture was added or not).**	**Sample Number**	**Sampling Method**	**6"**	**6"**	**6"**	**6"**	**N**	**R**	**Sample Interval**	**PID/FID (ppm)**	**Chemical Analysis**	**Grain Size/ Other Analysis**
20'		25'	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent	-	Air Rotary							20-25'	794.5	-	
25'		30'	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent	-	Air Rotary							25-30'	-	-	
30'		35'	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent	-	Air Rotary							30-35'	930.3	-	
35'		40'	SC/SW, Well graded sands with caliche gravel, loose, reddish brown, slightly moist, effervescent	OW135	Air Rotary							35-40'	434	8015B/8021B	
40'		45'	V, Well graded sands with caliche gravel, very loose, brown, dry, effervesce	OW140	Air Rotary							40-45'	639.9	8015B/8021B	
45'		50'	V, Well graded sands with caliche gravel, very loose, brown, dry, effervesce	OW145	Air Rotary							45-50'	422.3	8015B/8021B	

Notes and Comments

Depth of borehole caving _____ Depth of first groundwater encounter _____ Topsoil thickness _____

Water level in open borehole on completion _____ After _____ Hours _____

Notes: 2" PVC Pipe installed with screen from 25'-45' in depth, packed with sand from TD to top of screen, plugged with 2' of Bentonite, grouted for remaining depth to surface

Stratigraphy Log (Overburden)
(Form SP-14)
Page 1 of 1

Project name:	Plains Endurance 6" Release	**Drilling contractor:**	**Talon LPE**	**Hole designation:**	OW2
Project number:	12632476	**Driller:**	**Jesse Tausch**	**Date/Time started:**	0930 03-12-2024
Client:	Plains All American	**Surface elevation:**	**3363'**	**Date/Time completed:**	1430 03-12-2024
Location:	Rural Jal, NM	**Weather (A.M.):**	**Clear, Low 44°**	**Drilling method:**	Hollow Stem Auger
		(P.M.):	**Windy, High 83°**	**GHD supervisor:**	Liam Giersdorf/Rebeccca Pons

Stratigraphic Intervals (Depths in ft/m BGS)			Sample Description	Sample Details												
			Order of descriptors: **Soil type symbol(s) - primary component(s), (nature of deposit), secondary components, relative density/consistency, grain size/plasticity, gradation/structure, colour, moisture content, supplementary descriptors.**			**Penetration Record Split Spoon Blows (Record N-Values & Recoveries)**									
From	**At**	**To**	**Note: Plasticity determination requires the addition of moisture if the sample is too dry to roll (indicate if moisture was added or not).**	**Sample Number**	**Sampling Method**	**6"**	**6"**	**6"**	**6"**	**N**	**R**	**Sample Interval**	**PID/FID (ppm)**	**Chemical Analysis**	**Grain Size/ Other Analysis**
20'		25'	SC, Well graded clayey sands with caliche gravel, very loose, reddish brown, slightly moist	-	Air Rotary							20-25'	951	-	
25'		30'	SC, medium graded clayey sands with caliche gravel, very loose, pinkish brown, slightly most	OW225	Air Rotary							25-30'	1051	8015B/8021B	
30'		35'	SC, poorly graded clayey sands, very loose, dark reddish brown, slightly moist	OW230	Air Rotary							30-35'	935	8015B/8021B	
35'		40'	SP, poorly graded sands, very loose, reddish brown, slightly moist	-	Air Rotary							35-40'	569	-	
40'		45'	SP, poorly graded sands, very loose, brown, dry	OW240	Air Rotary							40-45'	321	8015B/8021B	

Notes and Comments

Depth of borehole caving _____ Depth of first groundwater encounter _____ Topsoil thickness _____

Water level in open borehole on completion _____ After _____ Hours _____

Notes: 2" PVC Pipe installed with screen from 25'-45' in depth, packed with sand from TD to top of screen, plugged with 2' of Bentonite, grouted for remaining depth to surface

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 337637

QUESTIONS

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2129935504**
Incident Name	**NAPP2129935504 PLAINS ENDURANCE 6" UPSTREAM JACINTO TIE IN @ 0**
Incident Type	**Oil Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLAINS ENDURANCE 6" UPSTREAM JACINTO TIE IN
Date Release Discovered	10/25/2021
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Corrosion | Pipeline (Any) | Crude Oil | Released: 43 BBL | Recovered: 0 BBL | Lost: 43 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

I hereby agree and sign off to the above statement	Name: Karolanne Hudgens Title: HSE Remediation Specialist II Email: karolanne.hudgens@plains.com Date: 04/25/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Estimate or Other
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	496
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	32490
GRO+DRO (EPA SW-846 Method 8015M)	23130
BTEX (EPA SW-846 Method 8021B or 8260B)	1238
Benzene (EPA SW-846 Method 8021B or 8260B)	114
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	10/26/2021
On what date will (or did) the final sampling or liner inspection occur	04/25/2025
On what date will (or was) the remediation complete(d)	04/25/2025
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	13858
What is the estimated volume (in cubic yards) that will be remediated	13858
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	Yes
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.	
I hereby agree and sign off to the above statement	Name: Karolanne Hudgens Title: HSE Remediation Specialist II Email: karolanne.hudgens@plains.com Date: 04/25/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS (continued)

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 337637

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	34053
	Action Number: 337637
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	SVE Remediation plan is approved with the following conditions listed at the beginning of the attached file.	5/10/2024