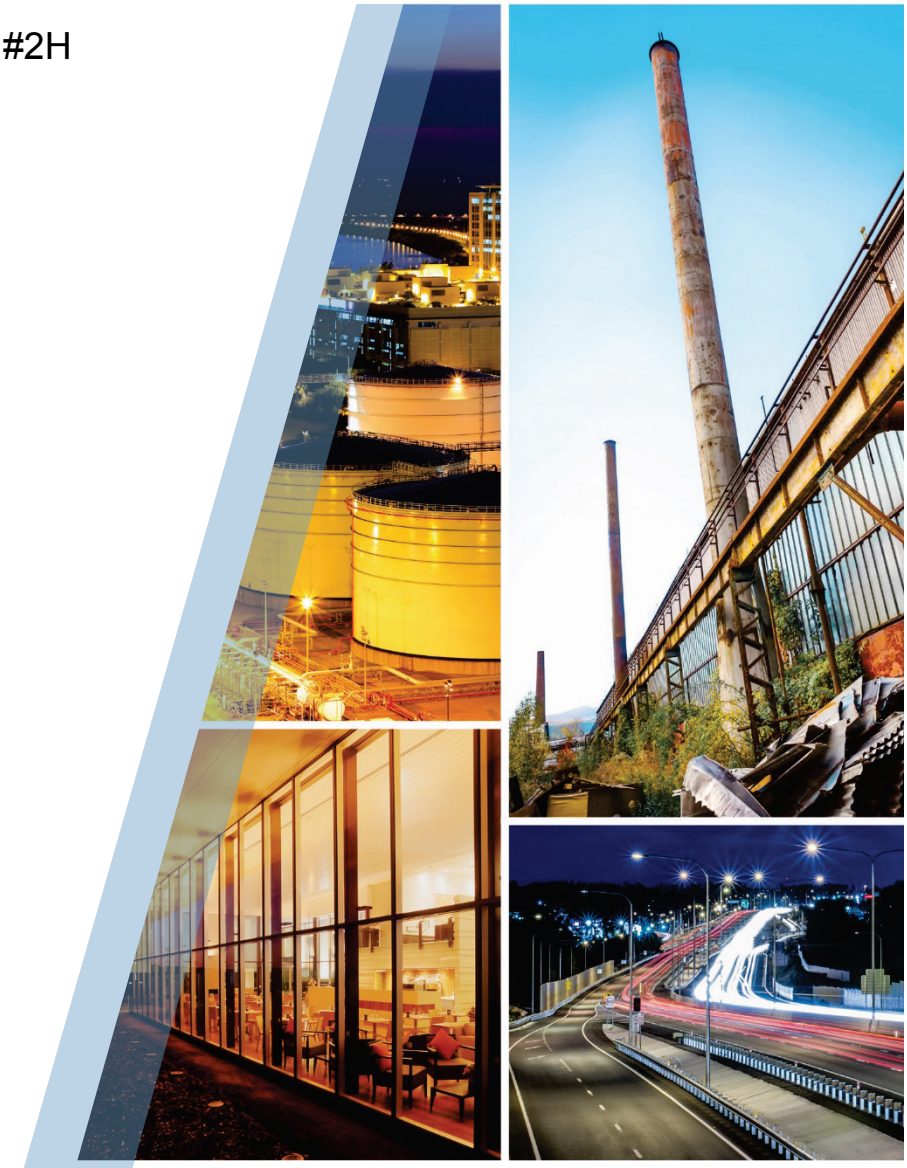
APPROVED
By CHernandez at 10:03 am, Oct 02, 2018

NMOCD approves 1RP-5035 for closure.

Soil Remediation Closure Report

COG Fascinator Fee Com #2H
Lea County, New Mexico
NMOCD 1RP-5035

Plains All American Pipeline, L.P.



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1. Introduction

This Soil Remediation Closure Report provides documentation associated with corrective actions at the COG Fascinator Fee Com #2H Lease Automated Custody Transfer (LACT) Unit (the "Site"). Corrective actions were managed and documented via written field notes and photographs by GHD Services, Inc. (GHD) under the direction of Plains All American Pipeline, L.P. (Plains). A remediation permit number (1RP-5035) was assigned to this project by the New Mexico Oil Conservation Division (NMOCD) District 1, Hobbs, New Mexico office. This report is an attachment to the Final C-141 Form submittal for 1RP-5035.

2. Project Information and Background

GHD was contracted by Plains to oversee, prepare, and provide written documentation to the New Mexico Oil Conversation Division (NMOCD) on the nature, extent, and remediation of soils impacted with crude oil from a release within the firewall berm at the subject location. The initial C-141 Form and associated details are attached as Appendix A. The Site is on privately owned land located in Section 30 (Unit O), Township 24S, Range 35E in Lea County, NM. The GPS coordinates for the Site are 32.1811° N and -103.4040° W. The Site location is depicted on Figure 1.

On April 25, 2018, a release of 25 barrels of crude oil occurred due to a packing nut backing out which allowed oil to be 'gravity fed' onto the ground surface inside the LACT Unit firewall berm. The COG Fascinator Fee Com #2H LACT Unit release occurred within a containment area on a lease operated by COG Operating LLC (COG). Plains agreed to perform assessment and remediation activities in association with this release incident. According to the initial NMOCD Form C-141, 6 barrels of crude oil were recovered and 19 barrels were unrecovered. Plains reported this release to the NMOCD District 1office in Hobbs, NM on April 25, 2018.

Correspondence detailing soil assessment and remediation activities as provided in this report, along with a backfilling request, were submitted to the NMOCD District 1 office in Hobbs on August 2, 2018. The agency approved of the backfilling request in an email correspondence dated August 3, 2018.

3. Recommended Remediation Action Levels

According to the Petroleum Recovery Research Center (PRRC) database and the New Mexico Office of the State Engineer (NMOSE), the depth to groundwater in the immediate area of the Site ranges from 219.2 to 107.8 feet below ground surface (bgs). There do not appear to be any wellhead protection areas and no surface water bodies within 200 to 1000 ft. of the Site. Therefore, the preliminary total ranking score for the Site is zero (0) as shown on the table below:

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria[1]	**Score**
Depth to Ground Water (> 100 ft. bgs)	0
Wellhead Protection Area (> 1000 ft. from water source, > 200 ft. from domestic source)	0
Distance to Surface Body Water (200 - 1000 ft.)	0
Ranking Criteria Total Score	**0***
*Because the ranking criteria total score is 0, NMOCD established Recommended Remediation Action Levels (RRALs) are 10 mg/kg for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, xylenes (BTEX), and 5,000 mg/kg for total petroleum hydrocarbons (TPH), and 1000 mg/kg for chlorides.	

[1]NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993

4. Soil Assessment and Remediation Activities

Soil assessment and remediation activities at the Site consisted of multiple excavating events, accompanied by soil sample collection and analysis. GHD was responsible for the overall coordination of field operations, project management tasks, soil sample collection, and assisted in managing safe work operations of all field personnel working on-Site. Gandy Corporation (Gandy), Plain's contractor, provided labor, heavy equipment and haul trucks required for field operations.

4.1 Initial Site Assessment and Soil Sampling Activities

On May 3, 2018, GHD mobilized to the Site to advance hand auger borings collect delineation soil samples for laboratory analysis. Hand auger activities for this initial sampling event targeted accessible areas within the LACT Unit containment. Selected areas exhibited the greatest volumes of visual staining. The objective of the sampling were to assess the nature and vertical extent of BTEX, TPH, and Chloride concentrations in the subsurface soils. GHD field personnel collected six delineation soil samples from six borings at a depth of 6 to12 inches bgs. Collected samples (DS-1 through DS-6) were placed into containers supplied by the laboratory, packed on ice, and delivered to Xenco Laboratories in Midland, TX under proper chain-of-custody. Each soil sample was analyzed for BTEX by EPA Method 8021, TPH by Method SW8015 Modified, and Chloride by EPA Method 300/300.1. All six analyzed samples exhibited concentrations above the determined RRALS for either Benzene, Total BTEX, or TPH. No analyzed sample exhibited a Chloride concentration above the determined RRAL. Analytical results are summarized in Table 1 and the sample locations with analytical results are depicted on Figure 2.

4.2 Site Remediation and Confirmation Sampling

Initial Site soil remediation activities were overseen by GHD and performed by Superior Hydrovac Solutions, LLC (SHS) between May 3 and 11 of 2018. Activities included the removal of impacted soils using a hydrovac down to approximately 1-foot bgs. All impacted soil removed was directly placed within a constructed area lined with polyvinyl, bermed with caliche, and located on the well pad near the LACT Unit.

On May 22, 2018, seventeen additional delineation soil samples were collected from 1-foot (bottom of excavation), 2-feet, and 3-feet bgs. These samples were collected in the immediate areas of the previous six delineations samples (DS-1, DS-2, DS-3, DS-4, DS-5, and DS-6) collected on May 3, 2018. Analytical results indicated, the sample collected at 1-foot bgs, at DS-4, as having a TPH concentration above the determined RRAL and being below the RRAL for the samples collected at 2-feet and 3-feet bgs. For DS-5, analytical results indicated the sample collected at 1-foot bgs as having a TPH concentration above the RRAL, the 2-feet bgs sample as having Total BTEX and TPH concentrations above the RRALs, and the 3-feet bgs sample as having BTEX and TPH concentrations below the RRALs. For DS-6, analytical results indicated the samples collected at 1-foot, 2-feet, and 3-feet bgs as having Total BTEX and TPH concentrations above the RRALs. Analytical results of the additional delineation sampling are summarized in Table 1 and depicted on Figure 2.

On June 27, 2018, Gandy field personnel performed subsequent soil removal operations using hand tools in impacted areas surrounding DS-4, DS-5, and DS-6. Visibly stained soil was hand dug to approximately 2.0-feet bgs within the area of DS-4, to approximately 3.0-feet bgs in the area of DS-5, and to approximately 3.5-feet in the area of DS-6. All soil dug by hand was shoveled into the bucket of a backhoe and transferred to the nearby stockpile containment area. Subsequent to the additional impacted soil removal, a confirmation soil sample, CS-1, was collected at 3.5-feet bgs in the same area as DS-6. Furthermore, six wall samples (WS-SWW, WS-WW, WS-NWW, WS-NEW, WS-EW, and WS-SEW) were collected. The objective of the wall sampling were to assess the nature and horizontal extent of the Benzene, Total BTEX, TPH, and Chloride concentrations. Analytical results depict the Benzene, Total BTEX, TPH, and Chloride concentrations as being below the determined RRALs for all existing and deepest collected confirmation and wall samples. Analytical results of the confirmation sampling are summarized in Table 1 and depicted on Figure 2.

All collected soil samples were placed in laboratory provided containers, labeled, placed on ice inside an insulated cooler and submitted under chain of custody control to Xenco Laboratories, Midland, Texas for analysis of BTEX by EPA Method 8021B; total TPH (C6-C35) by Method SW8015B Modified and Chlorides by EPA Method 300.0. All soil confirmation samples collected from the Site for laboratory analysis were below the NMOCD established RRALs for BTEX (50 mg/kg) and total TPH (5,000 mg/kg). Soil laboratory analytical results are summarized in Table 1 and are presented on Figure 2. Certified laboratory reports and chain of custody documentation are provided in Appendix C.

4.3 Waste Management

A waste characterization sample, WC-1, was collected from impacted soils removed from inside the containment and staged adjacent to the LACT unit. The sample was analyzed for TCLP benzene, TCLP metals, NORM, chlorides, reactivity, corrosivity, ignitability and paint filter tests. The analytical results supported a non-hazardous classification and were provided to Lazy Ace Landfarm (Permit #41) as part of the NMOCD C-138 Request for Approval to Accept Solid Waste process. The NMOCD-permitted Lazy Ace facility in Eunice, New Mexico was utilized for management of the excavated soils associated with this project. Impacted soils were loaded into haul trucks provided by Gandy. A total of six truckloads of twelve cubic yards (cy) each (72 cy total) were hauled to Lazy Ace for treatment. Documentation of the waste management activities, including the C-138 approval and analytical reports, are attached to this report as Appendix D.

4.4 Backfilling Activities

Once laboratory analysis of soil samples indicated that impacted soils had been removed in order to comply with NMOCD RRALs for the Site, a request for approval to backfill and reclaim the impacted areas was submitted to the NMOCD. Approval to backfill and reclaim the excavated area was granted by the NMOCD in a reply email dated August 3, 2018.

Backfilling activities at the Site began on August 11, 2018, with the transportation of clean soil materials from an off-Site source; which was provided by Gandy. Approximately 52-cy of clean screened caliche material was emplaced into the remedial excavation. Gandy utilized heavy equipment and hand tools to backfill the construction affected areas within the bermed containment. Remedial activities were concluded on August 12, 2018. Site photographs documenting work activities are presented in Appendix B.

5. Site Closure Request: 1RP-5035

This Site Closure Report provides documentation of the COG Fascinator Fee Com #2H LACT Unit Release assessment, remedial corrective actions, and restoration activities performed in accordance to 1RP-5035. Correspondence of soil assessment and remediation activities, along with a backfilling request were approved by the NMOCD District 1 office in association with this project. This report is an attachment to the Final C-141 Form submittal for 1RP-5035. Based on NMOCD and Plains communications and corrective actions performed, GHD respectfully requests the NMOCD to rule that no further action of the remediated and restored area be granted. Please feel free to contact the GHD Midland office if there are any questions or additional information is required.

All of Which is Respectfully Submitted,

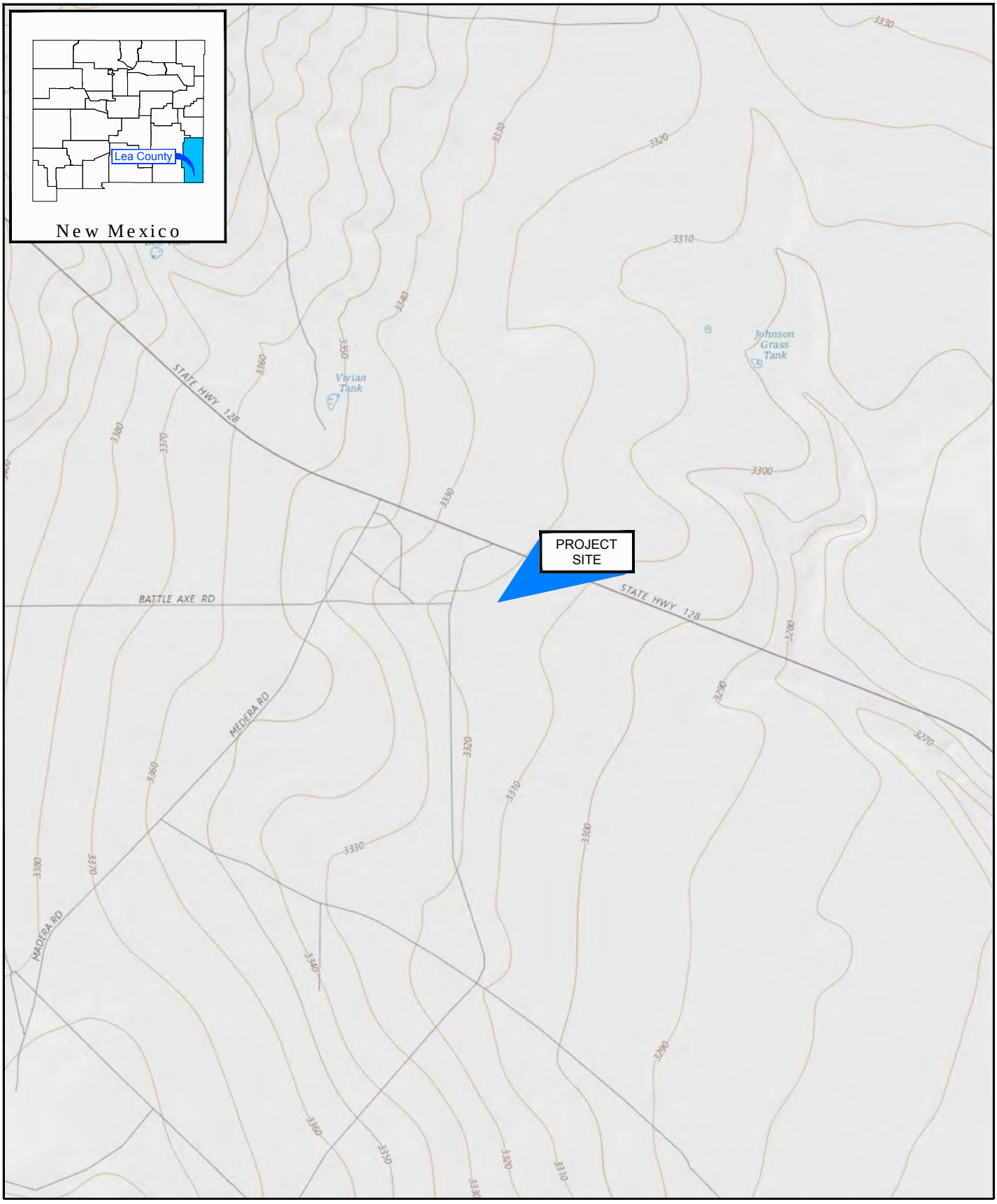
GHD

Jacob Ferenz

Thomas C. Larson
GHD Midland Operations Manager

This report is submitted as an attachment to the C-141 Final Report to 1RP-5035

Figures



Source: USGS 7.5 Minute Quad "Woodley Flat and Custer Mountain, New Mexico"

Lat/Long: 32.181210° North, 103.404034° West

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

PLAINS ALL AMERICAN PIPELINE, LP
LEA COUNTY, NEW MEXICO
COG FASCINATOR FEE COM #2H LACT UNIT RELEASE

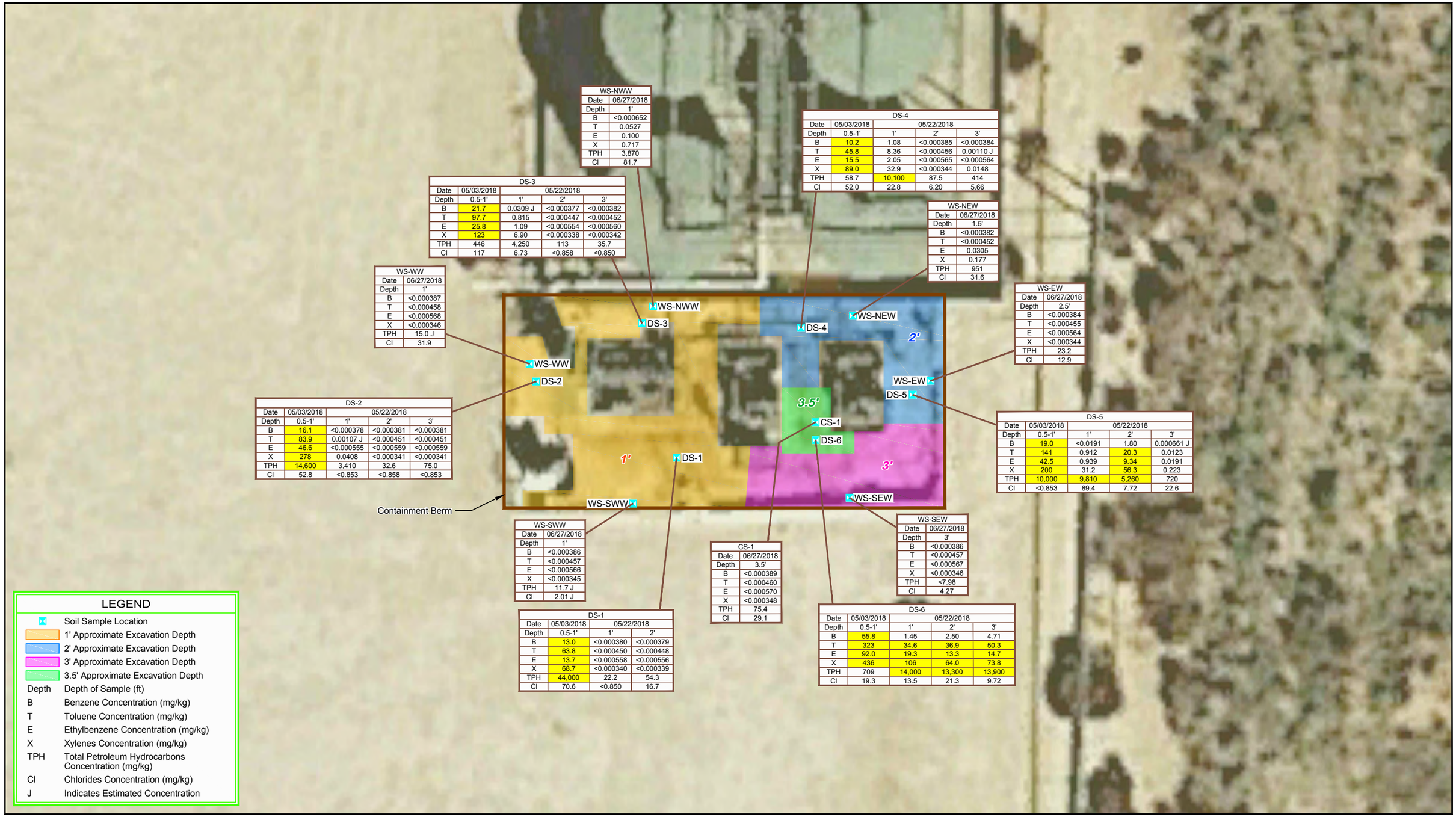
11157457-00

Jul 20, 2018

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1115----\11157457-Plains-COG Fascinator Release\11157457-00(000)GN-DL001.dwg



Source: Image © 2018 Google - Imagery Date: November 2, 2017

Lat/Long: 32.181210° North, 103.404034° West

0 5 10ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

NOTES:

1. Soil concentrations presented in milligrams per kilogram (mg/kg).
2. Yellow shaded cells indicate exceedance.
3. Soils excavated using hand tools.
4. Depth of excavation reported in feet below ground surface.
5. Excavations backfilled with screened caliche subsequent to NMOCD approval.

PLAINS ALL AMERICAN PIPELINE, LP
LEA COUNTY, NEW MEXICO
COG FASCINATOR FEE COM #2H LACT UNIT RELEASE

11157457-00
Sep 13, 2018

SITE DETAIL AND ANALYTICAL RESULTS MAP

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1115----\11157457-Plains-COG Fascinator Release\11157457-00(001)GN-DL001.dwg

Table

Table 1

Soil Analytical Summary
COG Fascinator Fee Com #2H LACT Unit Release
Plains All American Pipeline, LP
Lea County, New Mexico

Sample ID	Sample Date	Depth (inches & feet bgs)	Benzene	Toluene	Ethyl- Benzene	Xylenes	BTEX	TPH				Chloride
								GRO(C6-C10)	DRO(C10-C28)	ORO (C28-C35)	Total (GRO/DRO/ORO)	
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
			1993 NMOCD Soil Delineation & Recommended Remediation Action Levels (RRAL) Ranking Score = 0									
			10 mg/Kg	---	---	---	50 mg/Kg	---	---	---	5,000 mg/Kg	1,000 mg/Kg
DELINEATION SAMPLE RESULTS												
DS-1	05/3/18	6-12"	**13.0**	**63.8**	**13.7**	**68.7**	**159**	**201 J**	**42,300**	**1,490**	**44,000**	**70.6**
	5/22/18	1.0'	<0.000380	<0.000450	<0.000558	<0.000340	<0.000340	<7.99	**22.2**	<8.11	**22.2**	<0.850
	5/22/18	2.0'	<0.000379	<0.000448	<0.000556	<0.000339	<0.000339	<7.99	**45.3**	**9.02**	**54.3**	**16.7**
DS-2	5/3/18	6-12"	**16.1**	**83.9**	**46.6**	**278**	**424**	**<4,000**	**14,600**	**<4,060**	**14,600**	**52.8**
	5/22/18	1.0'	<0.000378	**0.00107 J**	<0.000555	**0.0408**	**0.0419**	**134**	**3,190**	**84.0**	**3,410**	<0.853
	5/22/18	2.0'	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	<7.98	**32.6**	<8.10	**32.6**	<0.858
	5/22/18	3.0'	<0.000381	<0.000451	<0.000559	<0.000341	<0.000341	<7.99	**64.8**	**10.2 J**	**75.0**	<0.853
DS-3	5/3/18	6-12"	**21.7**	**97.7**	**25.8**	**123**	**268**	<8.00	**397**	**48.6**	**446**	**117**
	5/22/18	1.0'	**0.0309 J**	**0.815**	**1.09**	**6.90**	**8.84**	**484**	**3,690**	**77.0**	**4,250**	**6.73**
	5/22/18	2.0'	<0.000377	<0.000447	<0.000554	<0.000338	<0.000338	**9.08 J**	**91.1**	**13.2 J**	**113**	<0.858
	5/22/18	3.0'	<0.000382	<0.000452	<0.000560	<0.000342	<0.000342	<7.99	**35.7**	<8.11	**35.7**	<0.850
DS-4	5/3/18	6-12"	**10.2**	**45.8**	**15.5**	**89.0**	**161**	<7.98	**47.6**	**11.1 J**	**58.7**	**52.0**
	5/22/18	1.0'	**1.08**	**8.36**	**2.05**	**32.9**	**44.4**	**1,620**	**8,090**	**384**	**10,100**	**22.8**
	5/22/18	2.0'	<0.000385	<0.000456	<0.000565	<0.000344	<0.000344	**11.7 J**	**75.8**	<8.10	**87.5**	**6.20**
	5/22/18	3.0'	<0.000384	**0.00110 J**	<0.000564	**0.0148**	**0.0159**	**23.4**	**353**	**37.4**	**414**	**5.66**
DS-5	5/3/18	6-12"	**19.0**	**141**	**42.5**	**200**	**403**	**87.9**	**9,640**	**283**	**10,000**	<0.853
	5/22/18	1.0'	<0.0191	**0.912**	**0.939**	**31.2**	**33.0**	**1,340**	**7,950**	**520**	**9,810**	**89.4**
	5/22/18	2.0'	**1.80**	**20.3**	**9.34**	**56.3**	**87.7**	**1,490**	**3,720**	**51.2**	**5,260**	**7.72**
	5/22/18	3.0'	**0.000661 J**	**0.0123**	**0.0191**	**0.223**	**0.255**	**47.5**	**608**	**64.9**	**720**	**22.6**
DS-6	5/3/18	6-12"	**55.8**	**323**	**92.0**	**436**	**907**	**40.3**	**608**	**60.2**	**709**	**19.3**
	5/22/18	1.0'	**1.45**	**34.6**	**19.3**	**106**	**161**	**3,390**	**10,300**	**273**	**14,000**	**13.5**
	5/22/18	2.0'	**2.50**	**36.9**	**13.3**	**64.0**	**117**	**2,360**	**10,700**	**195**	**13,300**	**21.3**
	5/22/18	3.0'	**4.71**	**50.3**	**14.7**	**73.8**	**144**	**2,910**	**10,700**	**288**	**13,900**	**9.72**
CONFIRMATION SAMPLE RESULTS												
CS-1	06/27/18	3.5'	<0.000389	<0.000460	<0.000570	<0.000348	<0.000348	**10.4 J**	**65.0**	<8.10	**75.4**	**29.1**
CONFIRMATION SIDEWALL SAMPLE RESULTS												
WS-SWW	6/27/18	1.0'	<0.000386	<0.000457	<0.000566	<0.000345	<0.000345	<7.99	**11.7 J**	<8.11	**11.7 J**	**2.01**
WS-WW	6/27/18	1.0'	<0.000387	<0.000458	<0.000568	<0.000346	<0.000346	<7.99	**15.0 J**	<8.11	**15.0 J**	**31.9**
WS-NWW	6/27/18	1.0'	<0.000652	**0.0527**	**0.100**	**0.717**	**0.870**	**281**	**3,560**	**30.0**	**3,870**	**81.7**
WS-NEW	6/27/18	1.5'	<0.000382	<0.000452	**0.0305**	**0.117**	**0.147**	**45.5**	**870**	**35.8**	**951**	**31.6**
WS-EW	6/27/18	2.5'	<0.000384	<0.000455	<0.000564	<0.000344	<0.000344	**9.82 J**	**13.4 J**	<8.12	**23.2**	**12.9**
WS-SEW	6/27/18	3.0'	<0.000386	<0.000457	<0.000567	<0.000346	<0.000346	<7.98	<8.10	<8.10	<7.98	**4.27**

1. Values reported in mg/Kg.
2. < = Value Less than Reporting Limit (RL)
3. Bold Indicates Analyte Detected
4. **Bold & Highlighted Excedes the 1993 NMOCD Guidance Document Recommended Remediation Action Level (RRAL)**
5. "J" indicates the target analyte was positively identified below the quantitation limit and above the detection limit
6. BTEX analyses by EPA Method SW 8021B.
7. TPH analyses by EPA Method SW 8015 Mod.
8. GRO/DRO/ORO = Gasoline/Diesel/Oil
9. Chloride anlaysis by EPA Method 300/300.1

Appendices

Appendix A
Initial C-141 Form

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Plains Pipeline	Contact Amber Groves
Address 1911 Connie Rd, Carlsbad NM 88220	Telephone No. (575)200-5517
Facility Name COG Fascinator Fee Com #2H	Facility Type Tank Battery

Surface Owner Bert Madera	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	30	24S	35E					Lea

location verified based on survey info

Latitude 32.1811 **Longitude** -103.4040 NAD83

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 25 bbls	Volume Recovered 6 bbls
Source of Release Packing nut	Date and Hour of Occurrence 4/25/2018 @ 9:45 AM	Date and Hour of Discovery 4/25/2018 @ 9:45 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Voicemail to Olivia Yu	
By Whom? Amber Groves	Date and Hour 4/25/2018 @ 2:50 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

REVISED
3:24 pm, May 04, 2018

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 3:32 pm, Apr 27, 2018

Describe Cause of Problem and Remedial Action Taken.*
Packing failure due to the packing nut backing out.

Describe Area Affected and Cleanup Action Taken.*
Release is confined to the containment area of the lact unit. All areas will be remediated as per current NMOCD guidelines.

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

Signature: Amber Groves	OIL CONSERVATION DIVISION
Printed Name: Amber Groves	Approved by Environmental Specialist: BY
Title: Remediation Coordinator	Approval Date: 4/27/2018 Expiration Date:
E-mail Address: algroves@paalp.com	Conditions of Approval: see attached directive Attached ☑
Date: 4/25/2018 Phone: 575-200-5517	

* Attach Additional Sheets If Necessary

1RP-5035 nOY1811757152

pOY1812147105 fOY1811756997

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _4/25/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5035__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _6/1/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

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

Appendix B
Photograph Log

Photo 1 – View of facility sign facing east

Photo 2 – View of LACT Unit facing north

Site Photographs

Photo 3 – View of impacted soil along northern edge of LACT Unit facing west

Photo 4 – View of impacted soil along eastern edge of LACT Unit facing east

Site Photographs

Photo 5 – View of impacted soil along southern edge of LACT Unit facing west

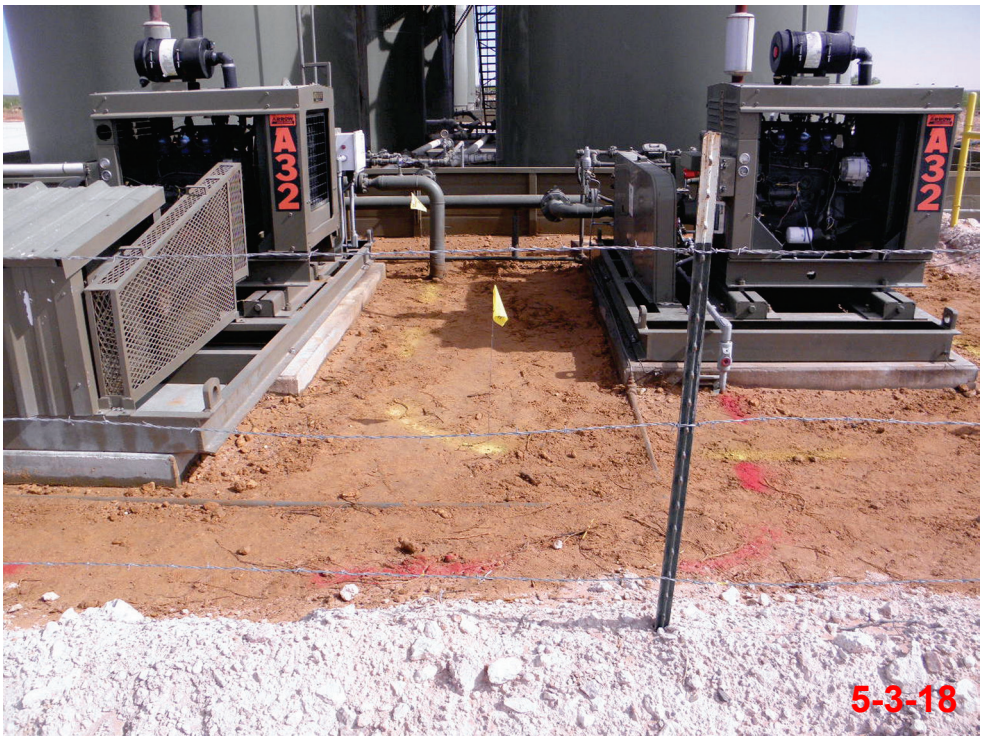


Photo 6 – View of impacted soil around LACT Unit equipment facing north

Site Photographs

Photo 7 – View of impacted soil around LACT Unit equipment facing north

Photo 8 – View of impacted soil along western edge of LACT Unit facing north-northeast

Site Photographs

Photo 9 – View of hydrovac activity along northern edge of LACT Unit facing east

Photo 10 – View of hydrovac activity along western edge of LACT Unit facing south

Site Photographs

Photo 11 - View of hydrovac activity along southern edge of LACT Unit facing east

Photo 12 – View of hydrovac activity around LACT Unit equipment facing north

Site Photographs

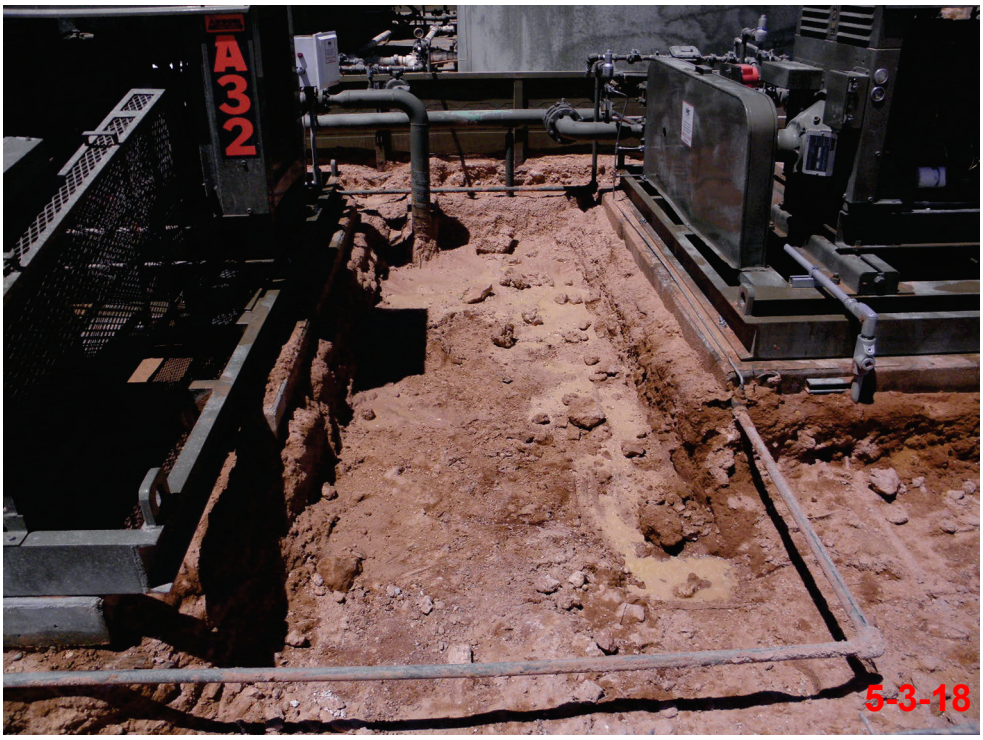


Photo 13 – View of hydrovac activity around LACT unit equipment facing north

Photo 14 – View of hydrovac activity around eastern edge of LACT Unit facing north

Site Photographs

Photo 15 – View of hand digging activity around LACT Unit equipment facing north

Photo 16 – View of hand digging activity along eastern edge facing north

Site Photographs

Photo 17 – View of hand digging activity along northern edge facing west

Photo 18 – View of backfilled and restored LACT Unit area

Site Photographs

Appendix C
Certified Laboratory Reports

Appendix D
Waste Management Documentation

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
Plains All American, 1911 Connie Road, Carlsbad, NM 88220

2. **Originating Site:**
COG FASCINATOR FEE COM #2H

3. **Location of Material (Street Address, City, State or ULSTR):**
Lea County, NM 32.18145083, -103.4041066

4. **Source and Description of Waste:**
Petroleum contact soil from cleanup

Estimated Volume 60 (yd³) / bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Amber Groves, representative or authorized agent for Plains All American do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☐ *Per Load*

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Amber Groves, representative for Plains All American do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:**
Gandy

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Lazy Ace Landfarm, permit #41

Address of Facility: E27 Berry Ranch Road, Eunice, NM 88231

Method of Treatment and/or Disposal: D.F/DS
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status: D.F/DS
☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Daniel C. Berry TITLE: owner DATE: 6-22-18
SIGNATURE: Daniel C Berry TELEPHONE NO.: 575 369-5266
Surface Waste Management Facility Authorized Agent

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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