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March 11, 2019

New Mexico Energy, Minerals and Natural Resources Department  
 Oil Conservation Division, District 1  
 1625 French Drive  
 Hobbs, NM 88240

**Re: Remediation Summary and Closure Report**  
**Mewbourne Cabra Nino 11 B3NC ST Com #1H**  
**GPS: Latitude 32.39922                      Longitude -103.44323**  
**UL "N", Sec.11, T22S, R34E**  
**Lea County, NM**  
**NMOCD Ref. No.    1RP-5172**  
**Plains SRS No.     2018-121**

TRC Environmental Corporation (TRC), on behalf of Plains Pipeline, LP (Plains), has prepared this *Remediation Summary and Closure Report* for the historical crude oil Release Site known as the **Mewbourne Cabra Nino 11 B3NC State Com #1H**. Details of the release are summarized below:

RELEASE DETAILS			
<b>Type of Release:</b>	Crude Oil	<b>Volume of Release:</b>	35 bbls
		<b>Volume Recovered:</b>	11 bbls
<b>Source of Release:</b>	LACT Unit	<b>Date of Discovery:</b>	8/21/18
<b>Was Immediate Notice Given?</b>	Yes	<b>If, YES, to Whom?</b>	NMOCD District I
<b>Was a Watercourse Reached?</b>	No	<b>If YES, Volume Impacting the Watercourse:</b>	NA
<b>Surface Owner:</b>	State	<b>Mineral Owner:</b>	State
<b>Describe Cause of Problem and Remedial Action Taken:</b>			
Tubing on a back pressure valve failed resulting in the release of crude oil, affecting an area on the pad measuring approximately 2,950 SqFt and pasture measuring approximately 3,852 SqFt. A vacuum truck dispatched to the location to recover all free standing fluids.			

Topographical and Aerial Maps are provided as Attachments #1 and #2. General Site Photographs are provided as Attachment #8. A Copy of the Initial Release Notification and Corrective Action (NMODC Form C-141) is provided as Attachment #11.

## REGULATORY FRAMEWORK

Surface impacts from unauthorized releases of crude oil, gases, produced water, condensate or other oil field waste which occur during normal oilfield operations are generally regulated by the New Mexico Oil Conservation Division (NMOCD) in accordance with 19.15.29 of the New Mexico Administrative Code (NMAC). 19.15.29 NMAC establishes reporting, site assessment, remediation and closure procedures based on the type and volume of the release and site characterizations, including proximity to sensitive receptors and depth to groundwater, which may be used to determine a Total Ranking Score as follows:

Site Characteristics		
Approximate Depth to Groundwater		<b>~25 ft</b>
Within 300 ft. of any continuously flowing or significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within 200 ft. of any lakebed, sinkhole, or playa lake?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within 500 ft. of a spring or private, domestic fresh water well?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within 1,000 ft. of any fresh water well?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within the incorporated municipal boundaries or within a municipal well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within 300 ft. of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within the area overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within an unstable area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

A search of a groundwater database maintained by The Office of the State Engineer (OSE) was conducted to determine the average depth to groundwater within a 1 Mile radius of the Release Site and identify any registered water wells within a 1/2 Mile of the Release Site. If none were identified, the approximate depth to groundwater was extrapolated from a Depth to Groundwater Map utilized by the NMOCD. Depth to groundwater information is provided as Attachment #4.

Based on the approximate depth to groundwater and site characteristics, the NMOCD Closure Criteria are as follows:

Minimum depth below any point within the horizontal boundary of the release to ground	Constituent	Method*	Limit**
≤ 50 ft	Chloride***	EPA 300.0 or SM1800 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

## INITIAL SITE ASSESSMENT

On **August 24, 2018**, an initial site investigation was conducted at the Site. During the initial site investigation, **three (3)** hand-augured soil bores (**HA-1, HA-2, and HA-3**) were advanced within the affected area in an effort to determine the vertical extent of hydrocarbon impact. During the advancement of the soil bores, **seven (7)** soil samples (**HA-1 @ Surface, HA-1 @ 1', HA-1 @ 2', HA-2 @ Surface, HA-2 @ 1', HA-3 @ Surface, and HA-3 @ 1'**) were collected and submitted to an NMOCD-approved laboratory for analysis of TPH. Soil samples (HA-1 @ Surface, HA-2 @ Surface, and HA-3 @ Surface) were also analyzed for concentrations of BTEX and chloride. In addition, **eight (8)** soil samples (**North @ Surface, North 2 @ Surface, North 3 @ Surface, East @ Surface, South @ Surface, South 2 @ Surface, South 3 @ Surface, and West @ Surface**) were collected from the inferred edges of the affected area in an effort to determine the horizontal extent of hydrocarbon impact. The collected soil samples were submitted to an NMOCD-approved laboratory for analysis of BTEX, TPH, and chloride concentrations. Figure 3A depicts the locations of soil samples collected during the Initial Site Assessment. A table summarizing laboratory analytical results from soil samples collected during the initial site assessment is provided below:

Concentrations of Benzene, BTEX, TPH, and/or Chloride in Soil												
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 C-B	
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/kg)	Chloride (mg/kg)	
HA-1 @ Surface	8/24/2018	Surf.	Excavated	<0.050	<0.300	<10.0	676	<b>676</b>	169	<b>845</b>	16.0	
HA-1 @ 1'	8/24/2018	1'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
HA-1 @ 2'	8/24/2018	2'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
HA-2 @ Surface	8/24/2018	Surf.	Excavated	<0.050	<0.455	57.7	10,400	<b>10,457.7</b>	2,130	<b>12587.7</b>	16.0	
HA-2 @ 1'	8/24/2018	1'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
HA-3 @ Surface	8/24/2018	Surf.	Excavated	<0.050	<0.300	<10.0	1,190	<b>1,190</b>	303	<b>1,493</b>	32.0	
HA-3 @ 1'	8/24/2018	1'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
North @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	14.1	14.1	<10.0	14.1	192	
North 2 @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0	
North 3 @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0	
East @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0	
South @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208	
South 2 @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208	
South 3 @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0	
West @ Surface	8/24/2018	Surf.	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0	
<b>Closure Criteria</b>				<b>10</b>	<b>50</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>100</b>	<b>600</b>	

A "Site & Sample Location Map" is provided as Attachment #3A, Attachment #3B, and Attachment #3C. Field Data, if applicable, is provided as Attachment #5. Laboratory analytical reports are provided as Attachment #6.

## REMEDIATION PLAN

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Plains proposed the following remediation activities designed to advance the Release Site toward an NMOCD and New Mexico State Land Office (NMSLO) approved closure:

- Utilizing mechanical equipment, excavate impacted soil within the release margins in the areas characterized by sample points HA-1, HA-2, and HA-3 to a depth of one (1) ft. bgs, or until laboratory analytical results from excavation confirmation soil samples indicate concentrations of TPH are below the applicable NMOCD Closure Criteria.
- Advance the sidewalls of the excavation until laboratory analytical results from excavation confirmation soil samples indicate concentrations of TPH are below the applicable NMOCD Closure Criteria.
- Excavated soil will be temporarily stockpiled on-site, atop a poly liner, pending transportation under manifest to a NMOCD-approved disposal facility.
- Upon receiving favorable laboratory analytical results from confirmation soil samples (below the NMOCD Closure Criteria) excavated areas will be backfilled with locally sourced, non-impacted "like" material. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

## SAMPLING PLAN

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation floor and sidewalls, representing no more than 200 SqFt. Additional "discrete" confirmation soil samples will be collected from wet or visibly stained areas inferred to have been affected by the Release, if applicable.

## SUMMARY OF FIELD ACTIVITIES

Impacted soil within the release margins was excavated and temporarily stockpiled on-site, atop an impermeable liner, pending final disposition. The floor and sidewalls of the excavated area were advanced until visual and olfactory evidence suggested BTEX and/or TPH concentrations were below the NMOCD RRAL. Upon excavating impacted soil from within the release margins, thirty (30) confirmation soil samples were collected from the floor and sidewalls of the excavated area representing no more than 200 SqFt. The collected soil samples were submitted to the laboratory for analysis of BTEX and/or TPH concentration. Upon receiving laboratory analytical data, sample area exhibiting concentrations above NMOCD RRAL were advanced until visual and olfactory evidence suggested concentrations were below NMOCD RRAL. An additional ten (10) confirmation samples were collected from the floor and sidewall of the excavated area representing no more than 200 SqFt. The collected samples were submitted to the laboratory for analysis of BTEX and/or TPH concentrations. Upon receiving laboratory analytical results exhibiting concentrations below NMOCD RRAL the impacted soil was transported under manifest to a NMOCD-approved disposal facility and the excavated area was backfilled with locally sourced, non-impacted "like" material. Figures 3B and 3C depict the locations of confirmation soil samples collected on October 1, 2018 and October 23, 2018 respectively. A table summarizing laboratory analytical results from confirmation soil samples is provided below:

Concentrations of Benzene, BTEX, and/or TPH in Soil												
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 C-B	
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/kg)	Chloride (mg/kg)	
FL-1 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	62.0	62.0	<10.0	62.0	-	
FL-2 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	71.4	71.4	11.8	83.2	-	
FL-3 @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	109	<b>109</b>	23.0	<b>132</b>	-	
FL-3 @ 1.5'	10/23/2018	1.5'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-4 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	79.4	79.4	12.6	92.0	-	
FL-5 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-6 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-7 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	22.8	22.8	<10.0	22.8	-	
FL-8 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-9 @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	260	<b>260</b>	46.3	<b>306.3</b>	-	
FL-9 @ 1.5'	10/23/2018	1.5'	In-Situ	-	-	<10.0	<10.0	<10.0	11.0	11.0	-	
FL-10 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-11 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	83.2	83.2	<10.0	83.2	-	
FL-12 @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	195	<b>195</b>	30.3	<b>225.3</b>	-	
FL-12 @ 1.5'	10/23/2018	1.5'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-13 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	78.6	78.6	11.4	90.0	-	
FL-14 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-15 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	14.8	14.8	<10.0	14.8	-	
FL-16 @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	141	<b>141</b>	19.1	<b>160.1</b>	-	
FL-16 @ 2'	10/23/2018	2'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-17 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-18 @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	697	<b>697</b>	136	<b>833</b>	-	
FL-18 @ 2'	10/23/2018	2'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-19 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	35.8	35.8	<10.0	35.8	-	
FL-20 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	20.7	20.7	<10.0	20.7	-	
FL-21 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
FL-22 @ 1'	10/1/2018	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
LACT FL @ 1'	10/1/2018	1'	Excavated	<0.050	<0.300	<10.0	164	<b>164</b>	29.2	193.2	-	
LACT FL @ 1.5'	10/23/2018	1.5'	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
LACT Wall @ 6"	10/1/2018	6"	In-Situ	<0.050	<0.300	<10.0	20.5	20.5	<10.0	20.5	-	
Wall-1 @ 6"	10/1/2018	6"	In-Situ	<0.050	<0.300	<10.0	79.8	79.8	12.3	92.1	-	
Wall-2 @ 6"	10/1/2018	6"	Excavated	<0.050	<0.300	<10.0	113	<b>113</b>	15.1	<b>128.1</b>	-	
Wall-2b @ 6"	10/23/2018	6"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
Wall-3 @ 6"	10/1/2018	6"	Excavated	<0.050	<0.300	<10.0	455	<b>455</b>	71.5	<b>526.5</b>	-	
Wall-3b @ 6"	10/23/2018	6"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
Wall-4 @ 6"	10/1/2018	6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	-	
Wall-5 @ 6"	10/1/2018	6"	Excavated	<0.050	<0.300	<10.0	171	<b>171</b>	25.3	<b>196.3</b>	-	
Wall-5b @ 6"	10/23/2018	6"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
Wall-6 @ 6"	10/1/2018	6"	Excavated	<0.050	<0.300	<10.0	356	<b>356</b>	102	<b>458</b>	-	
Wall-6b @ 6"	10/23/2018	6"	In-Situ	-	-	<10.0	<10.0	<10.0	<10.0	<10.0	-	
<b>Closure Criteria</b>				<b>10</b>	<b>50</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>100</b>	<b>600</b>	

A Photographic Log is provided as Attachment #8.

## SITE CLOSURE REQUEST

Based on laboratory analytical results from soil samples collected during the Remediation Activities, impacted soil within the release margins has been determined to be remediated below the Table I of 19.15.29.12 NMAC Closure Criteria for Soils Impacted by a Release. TRC on behalf of Plains Pipeline, respectfully requests the NMOCD grant closure approval for the Mewbourne Cabra Nino 11 B3NC ST Com #1H which occurred on August 21, 2018.

### RESTORATION, RECLAMATION AND RE-VEGETATION

Areas affected by the Release and the associated remediation activities will be restored to the condition which existed prior to the Release, to the maximum extent practical. Excavated areas will be backfilled with locally sourced, non-impacted "like" material.

The Mewbourne Cabra Nino 11 B#NC ST Com #1H Release Site is located on a slope and good quality backfill material has been emplaced in the excavation to minimize erosion, provide stability, and preserve the natural surface water flow. The addition of soil amendments in the form of organic materials and/or chemical fertilizers does not appear to be warranted at this time.

A "Homesteaders mix" of seed will be utilized for revegetation of the Site. On NMSLO approval of the preferred seed mix, Plains will request a contractor broadcast the seed at a rate two (2) times the suggested rate to compensate for broadcasting the seed, during the next favorable growing season. Following the application of the seed mix, a screen dragged behind a tractor will be utilized to "set" the seed. The "Homesteaders mix" will be purchased from a reputable local source and "seed tags" will be retained as proof of the seed quality and quantity. The Site will be monitored on a quarterly basis to evaluate the revegetation progress. Noxious weeds growing in the seeded area will be minimized through mechanical or chemical treatment. A copy of the seed tag with seed mixture percentages is provided as Attachment #9.

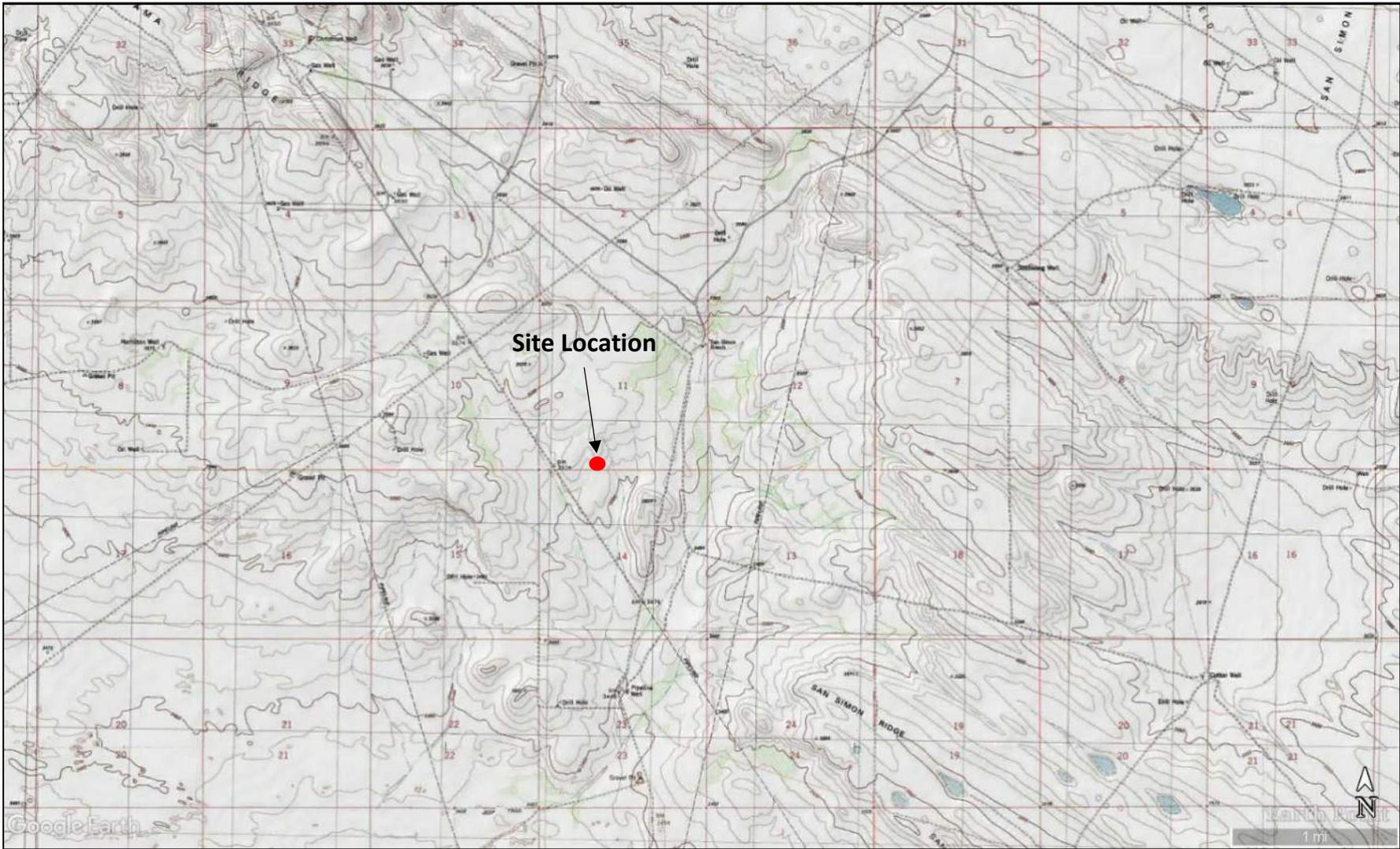
If you have any questions, or if additional information is required, please feel free to contact Amber Groves or either of the undersigned by phone or email.

Respectfully,

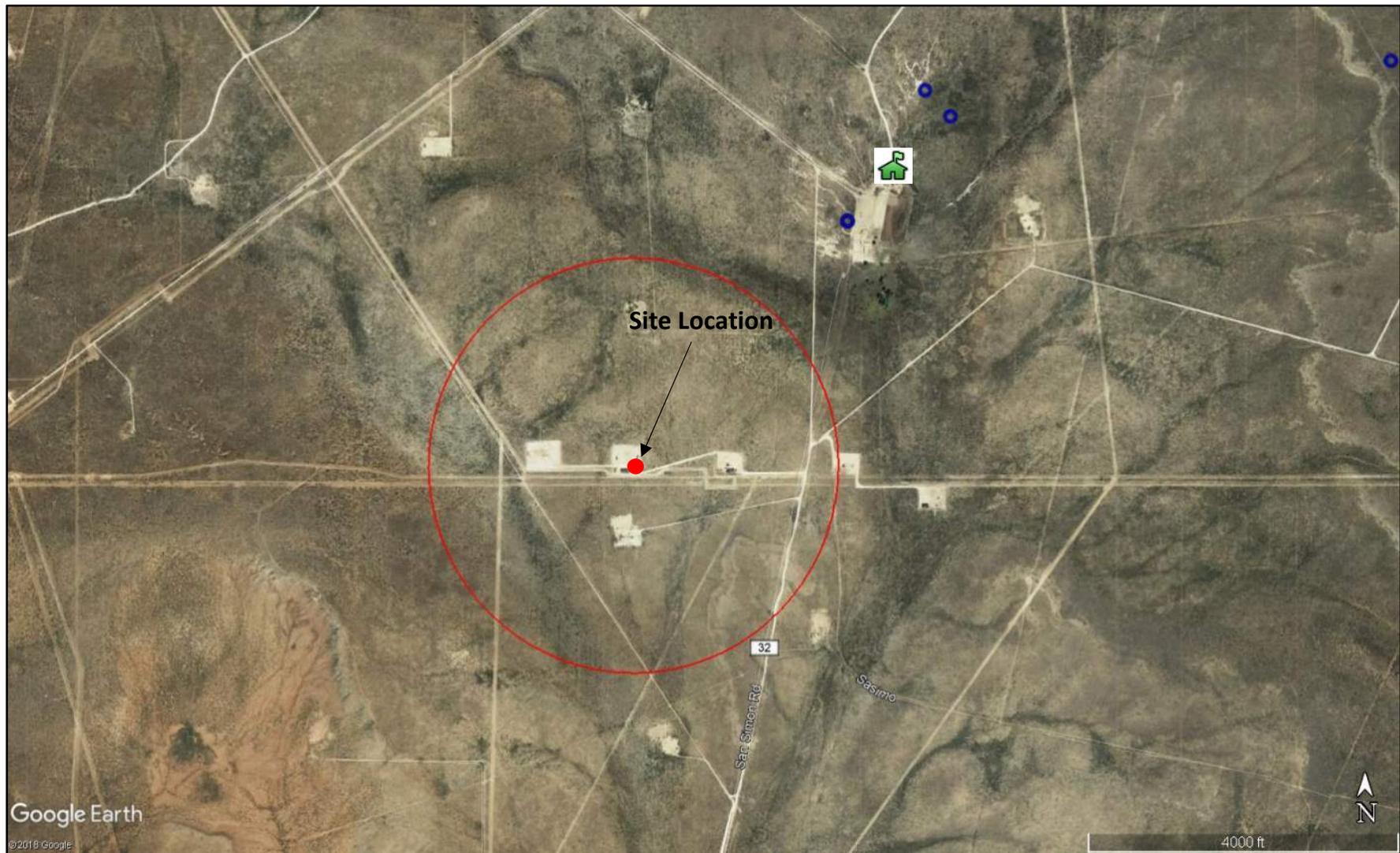
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<b>Attachments:</b>	Attachment #1-	Figure 1 - Topographical Map
	Attachment #2-	Figure 2 - Aerial Map
	Attachment #3A-	Figure 3A - Initial Site Assessment Soil Sample Locations
	Attachment #3B-	Figure 3B - Confirmation Soil Sample Location (10/01/2018)
	Attachment #3C-	Figure 3C - Confirmation Soil Sample Location (10/23/2018)
	Attachment #4-	Depth to Groundwater Information
	Attachment #5-	Field Data
	Attachment #6-	Laboratory Analytical Reports
	Attachment #7-	Soil Profile
	Attachment #8-	General Site Photographs
	Attachment #9-	Release Notification and Corrective Action (FORM C-141)
	Attachment #10-	C-138 (Signed)
	Attachment #11-	Seed Tag



<b>LEGEND:</b>  Site Location	<b>Figure 1</b> Topographical Map Plains Pipeline, LP Mewbourne Cabra Nino 11 B3NC ST Com #1H Lea County, NM		 <b>TRC</b> <i>Results you can rely on</i>
	Drafted by: BC   Checked by: ZC Draft: November 15, 2018 GPS: 32.39922 -103.44323 UL "N", Sec.11, T22S, R34E TRC Proj. No: 313670		



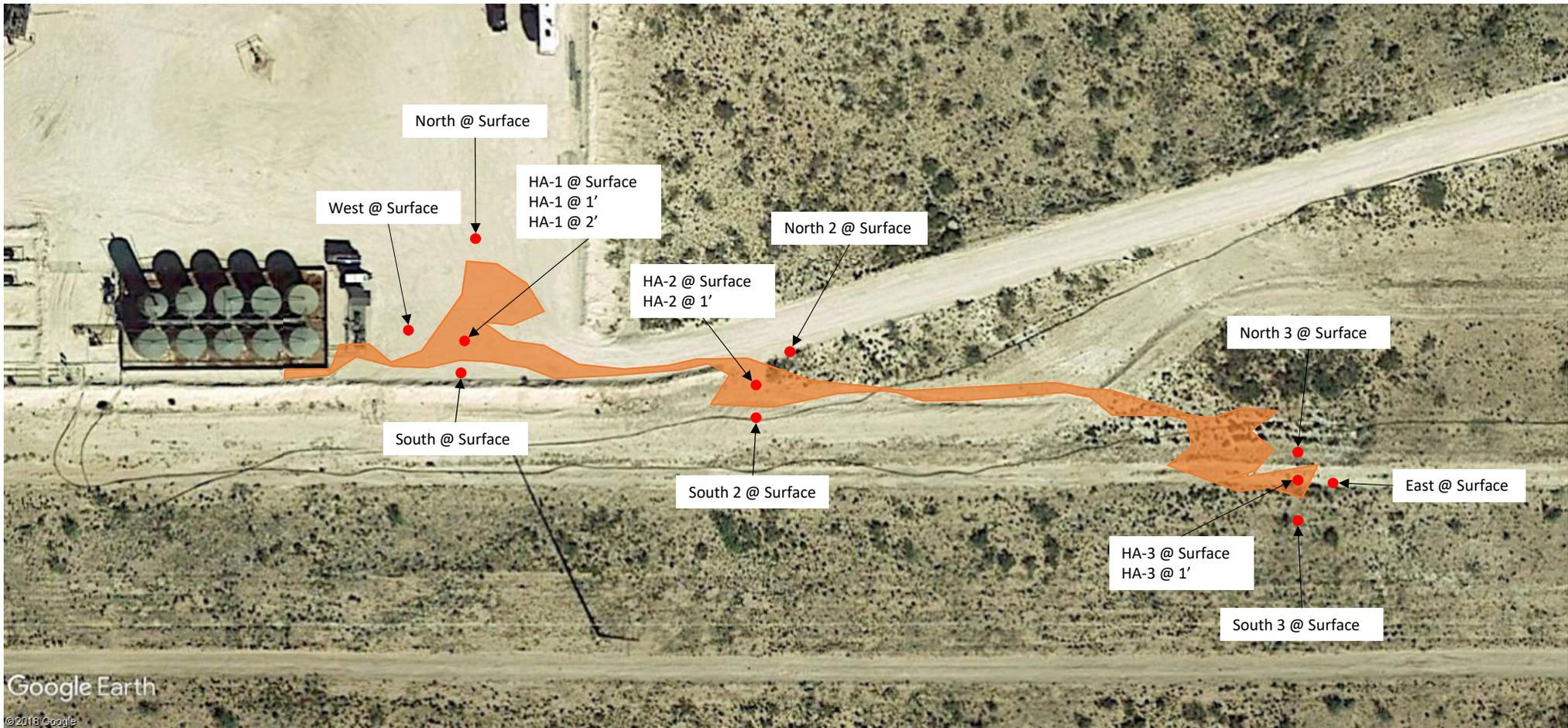
**LEGEND:**

- Site Location
- Fresh Water Well
- 100-Year Floodplain
- High/Critical Karst
- Non-Industrial Building
- Municipal Well Field
- Subsurface Mine
- 1/2 Mile Radius

**Figure 2**  
 Aerial Map  
 Plains Pipeline, LP  
 Mewbourne Cabra Nino 11 B3NC  
 ST Com #1H  
 Lea County, NM

Drafted by: BC   Checked by: ZC		
Draft: November 15, 2018		
GPS:	32.39922	-103.44323
UL "N", Sec.11, T22S, R34E		
TRC Proj. No:	313670	





Google Earth

©2018 Google

**LEGEND:**



Release Area



Sample Point Location

Figure 3A – Initial Site Assessment  
 Soil Sample Locations  
 Plains Pipeline, LP  
 Cabra Nino 11  
 B3NC St Com #1H  
 Lea County, New Mexico

Scale 1" = ~60'

Drafted by: BC

Checked by: JL

Draft: August 23 2018

Lat. N 32.39926 Long. W 103.44328

UL "N", Sec. 11, T22S, R34E

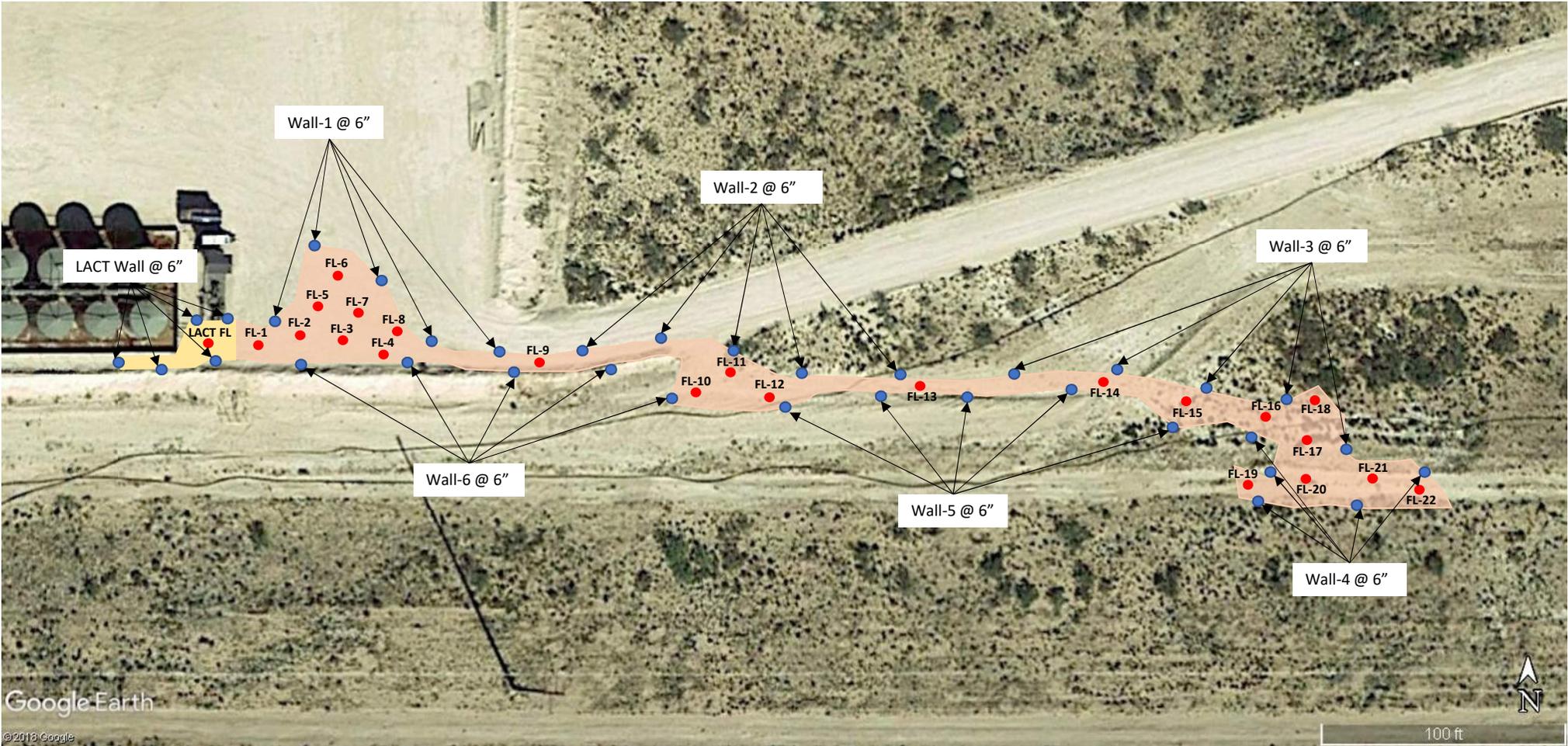
TRC Proj. No.: 313670



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Google Earth

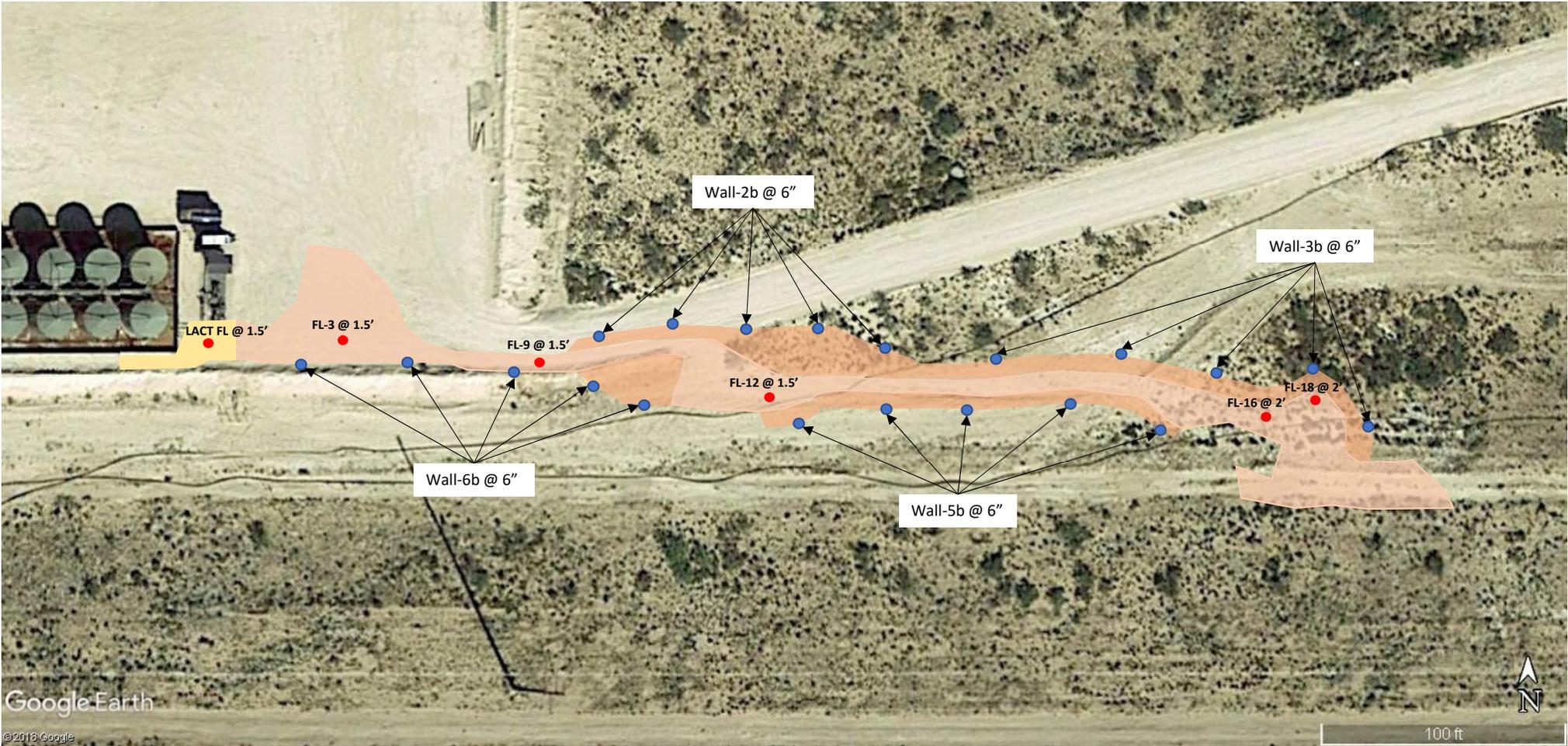
©2018 Google

LEGEND:	
<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span> Excavated LACT Area	<span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border-radius: 50%; border: 1px solid black;"></span> Wall Composite Confirmation Samples
<span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid black;"></span> Excavated Area	<span style="display: inline-block; width: 15px; height: 15px; background-color: red; border-radius: 50%; border: 1px solid black;"></span> Floor Composite Confirmation Samples (1')

Figure 3B – Confirmation Soil Sample Location (10/01/2018)  
 Plains Pipeline, LP  
 Cabra Nino 11  
 B3NC St Com #1H  
 Lea County, New Mexico

Drafted by: BC	Checked by: JL
Draft: October 08, 2018	
Lat. N 32.39926 Long. W 103.44328	
UL "N", Sec. 11, T22S, R34E	
TRC Proj. No.: 313670	

	<b>10 Desta Drive Suite 150E</b> Midland, TX 79705
	432.520.7720 PHONE 432.520.7701 FAX <a href="http://www.trcsolutions.com">www.trcsolutions.com</a>



**LEGEND:**

	Excavated LACT Area		Wall Composite Confirmation Samples
	Excavated Area		Floor Composite Confirmation Samples
	Additional Excavated Area		

Figure 3C – Confirmation Soil Sample Location (10/23/2018)  
 Plains Pipeline, LP  
 Cabra Nino 11  
 B3NC St Com #1H  
 Lea County, New Mexico

Drafted by: BC	Checked by: JL
Draft: November 15, 2018	
Lat. N 32.39926 Long. W 103.44328	
UL "N", Sec. 11, T22S, R34E	
TRC Proj. No.: 313670	



**TRC**  
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10 Desta Drive Suite 150E  
 Midland, TX 79705

432.520.7720 PHONE  
 432.520.7701 FAX

www.trcsolutions.com



September 27, 2018

JOEL LOWRY

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: MEWBOURNE CABRA NINO

Enclosed are the results of analyses for samples received by the laboratory on 08/28/18 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 1 @ SURFACE (H802421-01)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2018	ND	1.87	93.4	2.00	0.540		
Toluene*	<0.050	0.050	08/29/2018	ND	1.92	96.2	2.00	1.10		
Ethylbenzene*	<0.050	0.050	08/29/2018	ND	1.97	98.4	2.00	0.201		
Total Xylenes*	<0.150	0.150	08/29/2018	ND	5.69	94.8	6.00	0.554		
Total BTEX	<0.300	0.300	08/29/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16.0</b>	16.0	08/30/2018	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
<b>DRO &gt;C10-C28*</b>	<b>676</b>	10.0	08/30/2018	ND	213	107	200	4.74		
<b>EXT DRO &gt;C28-C36</b>	<b>169</b>	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 92.8 % 41-142

Surrogate: 1-Chlorooctadecane 123 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 1 @ 1' (H802421-02)**

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95	
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74	
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND					
<hr/>									
Surrogate: 1-Chlorooctane	91.0 %	41-142							
Surrogate: 1-Chlorooctadecane	84.8 %	37.6-147							

**Sample ID: HA - 1 @ 2' (H802421-03)**

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95	
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74	
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND					
<hr/>									
Surrogate: 1-Chlorooctane	94.0 %	41-142							
Surrogate: 1-Chlorooctadecane	88.8 %	37.6-147							

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 2 @ SURFACE (H802421-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2018	ND	1.87	93.4	2.00	0.540	
Toluene*	<0.050	0.050	08/29/2018	ND	1.92	96.2	2.00	1.10	
Ethylbenzene*	<0.050	0.050	08/29/2018	ND	1.97	98.4	2.00	0.201	
<b>Total Xylenes*</b>	<b>0.455</b>	0.150	08/29/2018	ND	5.69	94.8	6.00	0.554	
<b>Total BTEX</b>	<b>0.455</b>	0.300	08/29/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 128 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>16.0</b>	16.0	08/30/2018	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>57.7</b>	50.0	08/30/2018	ND	205	102	200	7.95		
<b>DRO &gt;C10-C28*</b>	<b>10400</b>	50.0	08/30/2018	ND	213	107	200	4.74		
<b>EXT DRO &gt;C28-C36</b>	<b>2130</b>	50.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 701 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 2 @ 1' (H802421-05)**

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95	
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74	
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND					
<i>Surrogate: 1-Chlorooctane</i>	<i>96.0 %</i>	<i>41-142</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>89.0 %</i>	<i>37.6-147</i>							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 3 @ SURFACE (H802421-06)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>32.0</b>	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95			
<b>DRO &gt;C10-C28*</b>	<b>1190</b>	10.0	08/30/2018	ND	213	107	200	4.74			
<b>EXT DRO &gt;C28-C36</b>	<b>303</b>	10.0	08/30/2018	ND							

Surrogate: 1-Chlorooctane 94.2 % 41-142

Surrogate: 1-Chlorooctadecane 170 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: HA - 3 @ 1' (H802421-07)**

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95	
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74	
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND					
<i>Surrogate: 1-Chlorooctane</i>	<i>95.4 %</i>	<i>41-142</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>89.4 %</i>	<i>37.6-147</i>							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: NORTH @ SURFACE (H802421-08)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
<b>DRO &gt;C10-C28*</b>	<b>14.1</b>	10.0	08/30/2018	ND	213	107	200	4.74		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 84.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: NORTH 2 @ SURFACE (H802421-09)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16.0</b>	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 89.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: NORTH 3 @ SURFACE (H802421-10)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: EAST @ SURFACE (H802421-11)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 96.4 % 41-142

Surrogate: 1-Chlorooctadecane 89.5 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: SOUTH @ SURFACE (H802421-12)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	205	102	200	7.95		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	213	107	200	4.74		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: SOUTH 2 @ SURFACE (H802421-13)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	199	99.6	200	0.859		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	202	101	200	0.660		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: SOUTH 3 @ SURFACE (H802421-14)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.7 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	199	99.6	200	0.859		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	202	101	200	0.660		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 98.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	08/28/2018	Sampling Date:	08/24/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	MEWBOURNE CABRA NINO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY CO NM		

**Sample ID: WEST @ SURFACE (H802421-15)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/30/2018	ND	1.79	89.7	2.00	1.81		
Toluene*	<0.050	0.050	08/30/2018	ND	1.73	86.7	2.00	2.37		
Ethylbenzene*	<0.050	0.050	08/30/2018	ND	1.74	87.2	2.00	1.64		
Total Xylenes*	<0.150	0.150	08/30/2018	ND	5.23	87.2	6.00	1.91		
Total BTEX	<0.300	0.300	08/30/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	08/30/2018	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/30/2018	ND	199	99.6	200	0.859		
DRO >C10-C28*	<10.0	10.0	08/30/2018	ND	202	101	200	0.660		
EXT DRO >C28-C36	<10.0	10.0	08/30/2018	ND						

Surrogate: 1-Chlorooctane 92.4 % 41-142

Surrogate: 1-Chlorooctadecane 85.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report



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Celey D. Keene, Lab Director/Quality Manager



# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

### BILL TO

### ANALYSIS REQUEST

Company Name: **JRC SOLUTIONS**  
 Project Manager: **JOEL LOUSTRY**  
 Address: **2057 Commerce Dr**  
 City: **MIDLAND** State: **TX** Zip: **79703**  
 Phone #: **432 466 4450** Fax #: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: **PLAINS**  
 Project Name: **MEUSBOURNE CORRE DIV#**  
 Project Location: **ENDY CO, NM** **CARRA**  
 Sampler Name: \_\_\_\_\_  
 P.O. #: \_\_\_\_\_  
 Company: **PLAINS MGT**  
 Attn: **ANGEL GROSS**  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX 8021B	TPH 8015 MEXT	CHLORIDE E 300 4500
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :								
H800421	HA-1@SURFACE		1	X								8-24-18	9:00	X			
1	HA-1@1'		1	X								8-24-18	9:10	X			
2	HA-1@2'		1	X								8-24-18	9:20	X			
3	HA-2@SURFACE		1	X								8-24-18	9:30	X			
4	HA-2@1'		1	X								8-24-18	9:40	X			
5	HA-3@SURFACE		1	X								8-24-18	10:00	X			
6	HA-3@1'		1	X								8-24-18	10:10	X			
7	HA-3@SURFACE		1	X								8-24-18	10:20	X			
8	HA-3@SURFACE		1	X								8-24-18	10:30	X			
9	HA-3@SURFACE		1	X								8-24-18	10:30	X			
10	HA-3@SURFACE		1	X								8-24-18	10:30	X			

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Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Delivered By: (Circle One) **UPS** - Bus - Other: **1.90c / #97**  
 Sample Condition:  Intact  Cool  Yes  No

Phone Result:  Yes  No  Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No  Add'l Fax #: \_\_\_\_\_  
 REMARKS: **\* Project name revised as per Brown. 9/12-118**



September 19, 2018

JOEL LOWRY

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: MEWBOURNE CABRA NINO

Enclosed are the results of analyses for samples received by the laboratory on 08/31/18 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701Project: MEWBOURNE CABRA NINO  
Project Number: NONE GIVEN  
Project Manager: JOEL LOWRY  
Fax To:Reported:  
19-Sep-18 16:00

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WC	H802483-01	Soil	31-Aug-18 12:00	31-Aug-18 15:35

Project Name changed from Mewbourne Cobre Nino to Mewbourne Cabra Nino as per Brian Cooper (via email) 09/19/18.

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**WC**  
**H802483-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	8090409	AC	05-Sep-18	4500-Cl-B	
Ignitability	>140		50.0	°F	1	8082817	AC	05-Sep-18	ASTM D 93-80	
Paint Filter Test	FAILED			N/A	1	8090405	AC	04-Sep-18	9095	A-01
<b>pH*</b>	<b>8.58</b>		0.100	pH Units	1	8090402	AC	04-Sep-18	9045	
Reactive Cyanide	<0.100		0.100	mg/kg	1	8090403	AC	05-Sep-18	9010	
<b>Reactive Sulfide</b>	<b>0.0600</b>		0.0100	mg/kg	1	8090403	AC	05-Sep-18	9030	

**Radionuclides**
**SUB-RS**

<b>Radium-226</b>	<b>0.54 ± 0.03</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	
<b>Radium-228</b>	<b>0.32 ± 0.02</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	
<b>Total Radium</b>	<b>0.86 ± 0.04</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	

**TCLP Volatile Organic Compounds by GCMS**

Benzene*	<0.0500	0.0500		mg/L	100	8090404	ms	10-Sep-18	1311/8260B	
Surrogate: Dibromofluoromethane		101 %	92.9-119			8090404	ms	10-Sep-18	1311/8260B	
Surrogate: Toluene-d8		102 %	86-108			8090404	ms	10-Sep-18	1311/8260B	
Surrogate: 4-Bromofluorobenzene		95.4 %	81.7-121			8090404	ms	10-Sep-18	1311/8260B	

**Petroleum Hydrocarbons by GC FID**
**S-04**

<b>GRO C6-C10*</b>	<b>13.8</b>	10.0		mg/kg	1	8090406	MS	04-Sep-18	8015B	
<b>DRO &gt;C10-C28*</b>	<b>723</b>	10.0		mg/kg	1	8090406	MS	04-Sep-18	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>112</b>	10.0		mg/kg	1	8090406	MS	04-Sep-18	8015B	
Surrogate: 1-Chlorooctane		119 %	41-142			8090406	MS	04-Sep-18	8015B	
Surrogate: 1-Chlorooctadecane		151 %	37.6-147			8090406	MS	04-Sep-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**WC**  
**H802483-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories**
**TCLP Metals by ICP (1311)**

Arsenic	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
<b>Barium</b>	<b>0.904</b>		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Cadmium	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Chromium	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Lead	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Selenium	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Silver	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	

**TCLP Mercury by CVAA**

Mercury	<0.0002		0.0002	mg/L	1	B809067	AES	12-Sep-18	EPA245.1	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 8082817 - General Prep - Wet Chem</b>										
<b>LCS (8082817-BS1)</b>										
					Prepared & Analyzed: 28-Aug-18					
Ignitability	80.0		°F	80.0		100	97.5-105			
<b>Duplicate (8082817-DUP1)</b>										
					Source: H802400-01 Prepared & Analyzed: 29-Aug-18					
Ignitability	>140	50.0	°F		ND				20	
<b>Batch 8090402 - General Prep - Wet Chem</b>										
<b>LCS (8090402-BS1)</b>										
					Prepared & Analyzed: 04-Sep-18					
pH	7.06		pH Units	7.00		101	90-110			
<b>Duplicate (8090402-DUP1)</b>										
					Source: H802478-01 Prepared & Analyzed: 04-Sep-18					
pH	8.91	0.100	pH Units		8.83			0.902	20	
<b>Batch 8090403 - General Prep - Wet Chem</b>										
<b>Blank (8090403-BLK1)</b>										
					Prepared: 04-Sep-18 Analyzed: 05-Sep-18					
Reactive Cyanide	ND	0.100	mg/kg							
Reactive Sulfide	ND	0.0100	mg/kg							
<b>Duplicate (8090403-DUP1)</b>										
					Source: H802478-01 Prepared: 04-Sep-18 Analyzed: 05-Sep-18					
Reactive Cyanide	ND	0.100	mg/kg		ND				20	
Reactive Sulfide	0.0500	0.0100	mg/kg		0.0500			0.00	20	
<b>Batch 8090409 - General Prep - Wet Chem</b>										
<b>Blank (8090409-BLK1)</b>										
					Prepared & Analyzed: 04-Sep-18					
Chloride	ND	16.0	mg/kg							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090409 - General Prep - Wet Chem**
**LCS (8090409-BS1)**

Prepared &amp; Analyzed: 04-Sep-18

Chloride	432	16.0	mg/kg	400		108	80-120			
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**LCS Dup (8090409-BSD1)**

Prepared &amp; Analyzed: 04-Sep-18

Chloride	448	16.0	mg/kg	400		112	80-120	3.64	20	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Volatile Organic Compounds by GCMS - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090404 - Volatiles**
**Blank (8090404-BLK1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	ND	0.000500	mg/L							
Surrogate: Dibromofluoromethane	0.0101		mg/L	0.0100		101	92.9-119			
Surrogate: Toluene-d8	0.0102		mg/L	0.0100		102	86-108			
Surrogate: 4-Bromofluorobenzene	0.00976		mg/L	0.0100		97.6	81.7-121			

**LCS (8090404-BS1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	0.0181	0.000500	mg/L	0.0200		90.7	80.5-129			
Surrogate: Dibromofluoromethane	0.00995		mg/L	0.0100		99.5	92.9-119			
Surrogate: Toluene-d8	0.00991		mg/L	0.0100		99.1	86-108			
Surrogate: 4-Bromofluorobenzene	0.0101		mg/L	0.0100		101	81.7-121			

**LCS Dup (8090404-BSD1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	0.0190	0.000500	mg/L	0.0200		94.8	80.5-129	4.37	6.66	
Surrogate: Dibromofluoromethane	0.00990		mg/L	0.0100		99.0	92.9-119			
Surrogate: Toluene-d8	0.00991		mg/L	0.0100		99.1	86-108			
Surrogate: 4-Bromofluorobenzene	0.00989		mg/L	0.0100		98.9	81.7-121			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090406 - General Prep - Organics**
**Blank (8090406-BLK1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
<i>Surrogate: 1-Chlorooctane</i>	54.8		mg/kg	50.0		110	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	54.3		mg/kg	50.0		109	37.6-147			

**LCS (8090406-BS1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	194	10.0	mg/kg	200		96.9	76.5-133			
DRO >C10-C28	188	10.0	mg/kg	200		94.2	72.9-138			
Total TPH C6-C28	382	10.0	mg/kg	400		95.5	78-132			
<i>Surrogate: 1-Chlorooctane</i>	59.0		mg/kg	50.0		118	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	59.1		mg/kg	50.0		118	37.6-147			

**LCS Dup (8090406-BSD1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	194	10.0	mg/kg	200		97.0	76.5-133	0.137	20.6	
DRO >C10-C28	169	10.0	mg/kg	200		84.5	72.9-138	10.8	20.6	
Total TPH C6-C28	363	10.0	mg/kg	400		90.8	78-132	5.09	18	
<i>Surrogate: 1-Chlorooctane</i>	58.3		mg/kg	50.0		117	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	56.9		mg/kg	50.0		114	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Metals by ICP (1311) - Quality Control**  
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B809060 - EPA 1311**
**Blank (B809060-BLK1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Cadmium	ND	0.250	mg/L							
Selenium	ND	0.500	mg/L							
Arsenic	ND	0.500	mg/L							
Lead	ND	0.500	mg/L							
Barium	ND	0.250	mg/L							
Silver	ND	0.250	mg/L							
Chromium	ND	0.250	mg/L							

**LCS (B809060-BS1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Selenium	41.2	0.500	mg/L	40.0		103	85-115			
Silver	0.495	0.250	mg/L	0.500		99.0	85-115			
Lead	10.1	0.500	mg/L	10.0		101	85-115			
Chromium	10.4	0.250	mg/L	10.0		104	85-115			
Cadmium	10.1	0.250	mg/L	10.0		101	85-115			
Barium	10.1	0.250	mg/L	10.0		101	85-115			
Arsenic	20.7	0.500	mg/L	20.0		104	85-115			

**LCS Dup (B809060-BSD1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Lead	9.98	0.500	mg/L	10.0		99.8	85-115	1.08	20	
Cadmium	10.0	0.250	mg/L	10.0		100	85-115	1.21	20	
Selenium	40.7	0.500	mg/L	40.0		102	85-115	1.32	20	
Arsenic	20.4	0.500	mg/L	20.0		102	85-115	1.38	20	
Silver	0.490	0.250	mg/L	0.500		98.1	85-115	0.893	20	
Barium	10.0	0.250	mg/L	10.0		100	85-115	0.970	20	
Chromium	10.2	0.250	mg/L	10.0		102	85-115	1.23	20	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Mercury by CVAA - Quality Control**  
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B809067 - EPA 245.1/7470**
**Blank (B809067-BLK1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	ND	0.0002	mg/L							
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**LCS (B809067-BS1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	0.0052	0.0002	mg/L	0.00500		105	85-115			
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**LCS Dup (B809067-BSD1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	0.0054	0.0002	mg/L	0.00500		107	85-115	2.38	20	
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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

Z-01d	FAILED
Z-01c	0.86 ± 0.04
Z-01b	0.54 ± 0.03
Z-01a	0.32 ± 0.02
Z-01	>140
SUB-RS	Analysis subcontracted to Radiation Safety Engineering, Inc.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
A-01	Sample is dry soil. No visible liquid.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <b>TRC SOLUTIONS</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
Project Manager: <b>JOBEL LOUISRY</b>		P.O. #:			
Address: <b>2057 Commerce Dr</b>		Company: <b>TRAVIS MGR</b>			
City: <b>MIDLAND</b> State: <b>TX</b> Zip: <b>79703</b>		Attn: <b>AMBER GAVES</b>			
Phone #: <b>432 466 4450</b> Fax #:		Address:			
Project #: _____ Project Owner: <b>PERISS</b>		City:			
Project Name: <b>NEWSBORNE COBALT MINE</b>		State:			
Project Location: <b>LEA CO, NM</b>		Zip:			
Sampler Name: <b>BECKY GILFILLIN</b>		Phone #:			
FOR LAB USE ONLY		Fax #:			
Lab I.D. <b>H802483</b>	Sample I.D.	(G)GRAB OR (C)OMP.	MATRIX	PRESERV	SAMPLING
		# CONTAINERS	GROUNDWATER		
			WASTEWATER		
			SOIL		
			OIL		
			SLUDGE		
			OTHER :		
			ACID/BASE:		
			ICE / COOL		
			OTHER :		
		DATE	TIME		
		<b>8-31-18</b>	<b>12:00</b>		
		<input checked="" type="checkbox"/>	<b>RCI</b>		
		<input checked="" type="checkbox"/>	<b>TCLIP BENZENE</b>		
		<input checked="" type="checkbox"/>	<b>TCLIP METALS</b>		
		<input checked="" type="checkbox"/>	<b>CHLORIDE 4500</b>		
		<input checked="" type="checkbox"/>	<b>TPH 8015 M EXT</b>		
		<input checked="" type="checkbox"/>	<b>PAINT FILTER</b>		
		<input checked="" type="checkbox"/>	<b>NORM</b>		

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Relinquished By: \_\_\_\_\_ Date: **8/31/18** Time: \_\_\_\_\_  
 Received By: **JOBEL LOUISRY**

Delivered By: (Circle One) **UPS** - Bus - Other: **5:10 PM #97**

Sample Condition:  Cool  Intact  
 Yes  No  Yes  No

CHECKED BY: \_\_\_\_\_

REMARKS: **LOWZYG@TRCSOLUTIONS.COM  
 2 COOPER@TRCSOLUTIONS.COM  
 B COOPER@TRCSOLUTIONS.COM  
 ALAZOVES@PAALP.COM  
 \*Project name changed across brown. On 9/19/18**

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



October 05, 2018

JOEL LOWRY

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: CABRA NINO 2 B3NC ST COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 10/02/18 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 1 @ 1' (H802786-01)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/02/2018	ND	190	95.0	200	0.688		
<b>DRO &gt;C10-C28*</b>	<b>62.0</b>	10.0	10/02/2018	ND	201	100	200	0.0284		
EXT DRO >C28-C36	<10.0	10.0	10/02/2018	ND						

Surrogate: 1-Chlorooctane 82.8 % 41-142

Surrogate: 1-Chlorooctadecane 88.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 2 @ 1' (H802786-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/02/2018	ND	190	95.0	200	0.688		
<b>DRO &gt;C10-C28*</b>	<b>71.4</b>	10.0	10/02/2018	ND	201	100	200	0.0284		
<b>EXT DRO &gt;C28-C36</b>	<b>11.8</b>	10.0	10/02/2018	ND						

Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 3 @ 1' (H802786-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/02/2018	ND	190	95.0	200	0.688		
<b>DRO &gt;C10-C28*</b>	<b>109</b>	10.0	10/02/2018	ND	201	100	200	0.0284		
<b>EXT DRO &gt;C28-C36</b>	<b>23.0</b>	10.0	10/02/2018	ND						

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 4 @ 1' (H802786-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55	
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2018	ND	190	95.0	200	0.688	
<b>DRO &gt;C10-C28*</b>	<b>79.4</b>	10.0	10/02/2018	ND	201	100	200	0.0284	
<b>EXT DRO &gt;C28-C36</b>	<b>12.6</b>	10.0	10/02/2018	ND					

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 86.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 5 @ 1' (H802786-05)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/02/2018	ND	190	95.0	200	0.688		
DRO >C10-C28*	<10.0	10.0	10/02/2018	ND	201	100	200	0.0284		
EXT DRO >C28-C36	<10.0	10.0	10/02/2018	ND						

Surrogate: 1-Chlorooctane 82.3 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 6 @ 1' (H802786-06)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	189	94.6	200	0.409		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	173	86.6	200	2.46		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 78.1 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 7 @ 1' (H802786-07)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	189	94.6	200	0.409		
<b>DRO &gt;C10-C28*</b>	<b>22.8</b>	10.0	10/03/2018	ND	173	86.6	200	2.46		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 76.6 % 41-142

Surrogate: 1-Chlorooctadecane 78.8 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 8 @ 1' (H802786-08)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	189	94.6	200	0.409		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	173	86.6	200	2.46		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 75.7 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 9 @ 1' (H802786-09)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55	
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	189	94.6	200	0.409	
<b>DRO &gt;C10-C28*</b>	<b>260</b>	10.0	10/03/2018	ND	173	86.6	200	2.46	
<b>EXT DRO &gt;C28-C36</b>	<b>46.3</b>	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 79.5 % 41-142

Surrogate: 1-Chlorooctadecane 89.7 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 10 @ 1' (H802786-10)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 88.4 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 11 @ 1' (H802786-11)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>83.2</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 12 @ 1' (H802786-12)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>195</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
<b>EXT DRO &gt;C28-C36</b>	<b>30.3</b>	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 89.4 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 13 @ 1' (H802786-13)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55	
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12	
<b>DRO &gt;C10-C28*</b>	<b>78.6</b>	10.0	10/03/2018	ND	176	88.2	200	1.20	
<b>EXT DRO &gt;C28-C36</b>	<b>11.4</b>	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 37.6-147

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**Analytical Results For:**

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 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 14 @ 1' (H802786-14)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/05/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/05/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/05/2018	ND						

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 15 @ 1' (H802786-15)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>14.8</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 16 @ 1' (H802786-16)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	1.63	81.4	2.00	6.55		
Toluene*	<0.050	0.050	10/03/2018	ND	1.78	88.9	2.00	7.17		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.85	92.7	2.00	8.90		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.39	89.8	6.00	8.32		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>141</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
<b>EXT DRO &gt;C28-C36</b>	<b>19.1</b>	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 82.0 % 41-142

Surrogate: 1-Chlorooctadecane 88.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 17 @ 1' (H802786-17)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/04/2018	ND	2.30	115	2.00	1.53		
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60		
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31		
Total BTEX	<0.300	0.300	10/04/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 81.7 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 18 @ 1' (H802786-18)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/04/2018	ND	2.30	115	2.00	1.53		
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60		
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31		
Total BTEX	<0.300	0.300	10/04/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 80.4 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>697</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
<b>EXT DRO &gt;C28-C36</b>	<b>136</b>	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 19 @ 1' (H802786-19)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/04/2018	ND	2.30	115	2.00	1.53		
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60		
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31		
Total BTEX	<0.300	0.300	10/04/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 82.2 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>35.8</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 90.3 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 20 @ 1' (H802786-20)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/04/2018	ND	2.30	115	2.00	1.53		
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95		
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60		
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31		
Total BTEX	<0.300	0.300	10/04/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 82.4 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>20.7</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 21 @ 1' (H802786-21)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 79.5 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 82.6 % 41-142

Surrogate: 1-Chlorooctadecane 82.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: FL - 22 @ 1' (H802786-22)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 79.5 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: LACT FL @ 1' (H802786-23)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 79.1 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12	
<b>DRO &gt;C10-C28*</b>	<b>164</b>	10.0	10/03/2018	ND	176	88.2	200	1.20	
<b>EXT DRO &gt;C28-C36</b>	<b>29.2</b>	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: LACT WALL @ 6" (H802786-24)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 77.8 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>20.5</b>	10.0	10/03/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 80.3 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 1 @ 6" (H802786-25)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 79.4 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>79.8</b>	10.0	10/04/2018	ND	176	88.2	200	1.20		
<b>EXT DRO &gt;C28-C36</b>	<b>12.3</b>	10.0	10/04/2018	ND						

Surrogate: 1-Chlorooctane 80.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 2 @ 6" (H802786-26)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 78.7 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	192	96.0	200	2.12	
<b>DRO &gt;C10-C28*</b>	<b>113</b>	10.0	10/04/2018	ND	176	88.2	200	1.20	
<b>EXT DRO &gt;C28-C36</b>	<b>15.1</b>	10.0	10/04/2018	ND					

Surrogate: 1-Chlorooctane 77.4 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 3 @ 6" (H802786-27)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 80.4 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	192	96.0	200	2.12	
<b>DRO &gt;C10-C28*</b>	<b>455</b>	10.0	10/04/2018	ND	176	88.2	200	1.20	
<b>EXT DRO &gt;C28-C36</b>	<b>71.5</b>	10.0	10/04/2018	ND					

Surrogate: 1-Chlorooctane 83.6 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 4 @ 6" (H802786-28)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 80.1 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	192	96.0	200	2.12		
DRO >C10-C28*	<10.0	10.0	10/04/2018	ND	176	88.2	200	1.20		
EXT DRO >C28-C36	<10.0	10.0	10/04/2018	ND						

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 87.2 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 5 @ 6" (H802786-29)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 79.5 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	192	96.0	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>171</b>	10.0	10/04/2018	ND	176	88.2	200	1.20		
<b>EXT DRO &gt;C28-C36</b>	<b>25.3</b>	10.0	10/04/2018	ND						

Surrogate: 1-Chlorooctane 77.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 PLAINS ALL AMERICAN PIPELINE  
 JOEL LOWRY  
 505 NORTH BIG SPRINGS ST STE. 600  
 MIDLAND TX, 79701  
 Fax To:

Received:	10/02/2018	Sampling Date:	10/01/2018
Reported:	10/05/2018	Sampling Type:	Soil
Project Name:	CABRA NINO 2 B3NC ST COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PLAINS- LEA CO NM		

**Sample ID: WALL - 6 @ 6" (H802786-30)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78		
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81		
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43		
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90		
Total BTEX	<0.300	0.300	10/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 79.6 % 69.8-142

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12		
<b>DRO &gt;C10-C28*</b>	<b>356</b>	10.0	10/03/2018	ND	197	98.4	200	2.58		
<b>EXT DRO &gt;C28-C36</b>	<b>102</b>	10.0	10/03/2018	ND						

Surrogate: 1-Chlorooctane 76.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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





# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

1 of 3

Company Name: TRC Solutions		P.O. #:		<b>BILL TO</b>		ANALYSIS REQUEST										
Project Manager: Joel Lowry		Address: 10 Desta Drive Suite 150E		Company: PLAINSS W/IT												
City: Midland		State: TX zip: 79705		Attn: AMBEL GROVES												
Phone #: 432-466-4450		Fax #:		Address:												
Project #:		Project Owner: PLAINSS		City:												
Project Name: CASBA INSOLL BANKS 55 COA #1H		State:		Zip:												
Project Location: LEA COUNTY, NM		Phone #:														
Sampler Name: Becky G. P. F. S.		Fax #:														
FOR LAB USE ONLY		PRESERV		SAMPLING												
Lab I.D.  H802786	Sample I.D.  FL-1 @ 1' FL-2 @ 1' FL-3 @ 1' FL-4 @ 1' FL-5 @ 1' FL-6 @ 1' FL-7 @ 1' FL-8 @ 1' FL-9 @ 1' FL-10 @ 1'	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				DATE	TIME	BIEX	TPK					
				GROUNDWATER	WASTEWATER	SOIL	OIL					SLUDGE				
				OTHER :	ACID/BASE:	ICE / COOL	OTHER :									
				Y	Y	Y	Y					Y	10-1-18	8:00		
				Y	Y	Y	Y					Y	8:10			
				Y	Y	Y	Y					Y	8:20			
				Y	Y	Y	Y					Y	8:30			
				Y	Y	Y	Y					Y	8:40			
				Y	Y	Y	Y					Y	8:50			
				Y	Y	Y	Y					Y	9:00			
				Y	Y	Y	Y					Y	9:10			
Y	Y	Y	Y	Y	9:20											
Y	Y	Y	Y	Y	9:30											

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Relinquished By: _____	Date: 10-2-18	Received By: _____	Date: 10-2-18
Relinquished By: _____	Date: 10-2-18	Received By: _____	Date: 10-2-18

Delivered By: (Circle One)  UPS  Bus  Other: \_\_\_\_\_

Sample Condition:  Cool  Intact  Yes  No

CHECKED BY: (Initials) \_\_\_\_\_

REMARKS: \_\_\_\_\_

Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_

Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_

REMARKS: JLOWRY@TRCSOLUTIONS.COM  
 ZCOOPER@TRCSOLUTIONS.COM  
 RCOOPER@TRCSOLUTIONS.COM  
 ALGROVES@PARLP.COM



# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

2 of 3

Company Name: TRC Solutions

Project Manager: Joel Lowry

Address: 10 Desta Drive Suite 150E

City: Midland State: TX Zip: 79705

Phone #: 432-466-4450 Fax #:

Project #: Project Owner: PUKISS

Project Name: CABZA DISCOST/13NVEST/CDM#1H

Project Location: BECKY GEFERIS

Sampler Name: BECKY GEFERIS

FOR LAB USE ONLY

P.O. #: Company: PUKISS MKT  
 Address: Attn: AMAR Groves  
 City: State: Zip: Phone #: Fax #:

### ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
AK02786	FL-11@1'	C 1	1								10-1-18	9:40	BTEX	
	FL-12@1'	C 1	1									9:50	TPH	
	FL-13@1'	C 1	1									10:00		
	FL-14@1'	C 1	1									10:10		
	FL-15@1'	C 1	1									10:20		
	FL-16@1'	C 1	1									10:30		
	FL-17@1'	C 1	1									10:40		
	FL-18@1'	C 1	1									10:50		
	FL-19@1'	C 1	1									11:00		
	FL-20@1'	C 1	1									11:10		

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Relinquished By: \_\_\_\_\_

Date: 10-2-18

Time: 14:45

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Relinquished By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Delivered By: (Circle One)

Sampler - UPS - Bus - Other: \_\_\_\_\_

Sample Condition

Cool  Yes  No  
 Intact  Yes  No

CHECKED BY: (Initials) \_\_\_\_\_

Phone Result:  Yes  No

Fax Result:  Yes  No

REMARKS: \_\_\_\_\_

ADD'l Phone #: \_\_\_\_\_

ADD'l Fax #: \_\_\_\_\_



# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

3 OF 3

**BILL TO**

**ANALYSIS REQUEST**

Company Name: TRC Solutions		P.O. #:																		
Project Manager: Joel Lowry		Company: TRAVIS																		
Address: 10 Desta Drive Suite 150E		Attn: ANGEL GONZALEZ																		
City: Midland State: TX Zip: 79705		Address:																		
Phone #: 432-466-4450 Fax #: _____		City:																		
Project #: _____ Project Owner: PAUL		State:																		
Project Name: CARSA N. 150 11 BRAC ST Com #1H		Zip:																		
Project Location: LEA COUNTY NM		Phone #:																		
Sampler Name: REEVEY GUEFFIS		Fax #:																		
FOR LAB USE ONLY		MATRIX		PRESERV/ SAMPLING																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME							
		# CONTAINERS																		
		21	FL-21@1'	C 1	X								10-1-18	11:20	✓	BTEX	✓	TPH		
		22	FL-22@1'	C 1	X									11:30						
		23	LACT FL@1'	C 1	X									11:40						
		24	LACT WAIL@16"	C 1	X									11:50						
		25	WAIL-1@16"	C 1	X									12:00						
		26	WAIL-2@16"	C 1	X									12:10						
		27	WAIL-3@16"	C 1	X									12:20						
		28	WAIL-4@16"	C 1	X									12:30						
29	WAIL-5@16"	C 1	X									12:40								
30	WAIL-1@16"	C 1	X									12:50								

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Relinquished By: *[Signature]* Date: 10-2-18 Time: 14:45  
 Received By: *[Signature]* Date: \_\_\_\_\_ Time: \_\_\_\_\_

Delivered By: (Circle One)  UPS  Bus  Other: *Site #97*  
 Sample Condition:  Cool  Intact  Yes  No  
 CHECKED BY: *[Signature]* (Initials) *TD*

REMARKS: *TRC SOLUTIONS.COM*  
*TRC SOLUTIONS.COM*  
*TRC SOLUTIONS.COM*  
*ALGROVES@PRAIP.COM*

November 26, 2018

AMBER GROVES

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: CABRA NINO

Enclosed are the results of analyses for samples received by the laboratory on 10/23/18 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LACT FL @ 1.5'	H803040-01	Soil	23-Oct-18 12:00	23-Oct-18 15:35
FL- 3 @ 1.5'	H803040-02	Soil	23-Oct-18 12:05	23-Oct-18 15:35
FL- 9 @ 1.5'	H803040-03	Soil	23-Oct-18 12:10	23-Oct-18 15:35
FL- 12 @ 1.5'	H803040-04	Soil	23-Oct-18 12:15	23-Oct-18 15:35
FL- 16 @ 2'	H803040-05	Soil	23-Oct-18 12:20	23-Oct-18 15:35
FL- 18 @ 2'	H803040-06	Soil	23-Oct-18 12:25	23-Oct-18 15:35
WALL - 2 B @ 6"	H803040-07	Soil	23-Oct-18 12:30	23-Oct-18 15:35
WALL - 3 B @ 6"	H803040-08	Soil	23-Oct-18 12:35	23-Oct-18 15:35
WALL - 5 B @ 6"	H803040-09	Soil	23-Oct-18 12:40	23-Oct-18 15:35
WALL - 6 B @ 6"	H803040-10	Soil	23-Oct-18 12:45	23-Oct-18 15:35

Sample ID for H803040-01 changed from LACT FL @ 9" to LACT FL @ 1.5' as per Brian Cooper via email on 11/26/18. This is the revised report that replaces the one sent on 10/26/18.

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**LACT FL @ 1.5'**  
**H803040-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			102 %		41-142	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			95.0 %		37.6-147	8102405	MS	24-Oct-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**FL- 3 @ 1.5'**  
**H803040-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			99.9 %		41-142	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			92.2 %		37.6-147	8102405	MS	24-Oct-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**FL- 9 @ 1.5'**  
**H803040-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>11.0</b>		10.0	mg/kg	1	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			102 %		41-142	8102405	MS	24-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			98.0 %		37.6-147	8102405	MS	24-Oct-18	8015B	

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**FL- 12 @ 1.5'**  
**H803040-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			95.9 %		41-142	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			89.1 %		37.6-147	8102415	MS	25-Oct-18	8015B	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**FL- 16 @ 2'**  
**H803040-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			93.8 %		41-142	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			86.4 %		37.6-147	8102415	MS	25-Oct-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**FL- 18 @ 2'**  
**H803040-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			<i>97.6 %</i>	<i>41-142</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	
<i>Surrogate: 1-Chlorooctadecane</i>			<i>89.1 %</i>	<i>37.6-147</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**WALL - 2 B @ 6"**  
**H803040-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			95.6 %		41-142	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			87.3 %		37.6-147	8102415	MS	25-Oct-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**WALL - 3 B @ 6"**  
**H803040-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			<i>93.8 %</i>	<i>41-142</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	
<i>Surrogate: 1-Chlorooctadecane</i>			<i>84.0 %</i>	<i>37.6-147</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**WALL - 5 B @ 6"**  
**H803040-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			<i>90.3 %</i>	<i>41-142</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	
<i>Surrogate: 1-Chlorooctadecane</i>			<i>81.9 %</i>	<i>37.6-147</i>		<i>8102415</i>	<i>MS</i>	<i>25-Oct-18</i>	<i>8015B</i>	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**WALL - 6 B @ 6"**  
**H803040-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctane</i>			98.8 %		41-142	8102415	MS	25-Oct-18	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			90.3 %		37.6-147	8102415	MS	25-Oct-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8102405 - General Prep - Organics**
**Blank (8102405-BLK1)**

Prepared &amp; Analyzed: 24-Oct-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.2		mg/kg	50.0		94.4	41-142			
Surrogate: 1-Chlorooctadecane	48.1		mg/kg	50.0		96.2	37.6-147			

**LCS (8102405-BS1)**

Prepared: 24-Oct-18 Analyzed: 25-Oct-18

GRO C6-C10	198	10.0	mg/kg	200		99.1	76.5-133			
DRO >C10-C28	194	10.0	mg/kg	200		97.2	72.9-138			
Total TPH C6-C28	393	10.0	mg/kg	400		98.1	78-132			
Surrogate: 1-Chlorooctane	50.4		mg/kg	50.0		101	41-142			
Surrogate: 1-Chlorooctadecane	46.0		mg/kg	50.0		92.0	37.6-147			

**LCS Dup (8102405-BSD1)**

Prepared &amp; Analyzed: 24-Oct-18

GRO C6-C10	201	10.0	mg/kg	200		100	76.5-133	1.27	20.6	
DRO >C10-C28	198	10.0	mg/kg	200		99.1	72.9-138	1.94	20.6	
Total TPH C6-C28	399	10.0	mg/kg	400		99.7	78-132	1.60	18	
Surrogate: 1-Chlorooctane	50.5		mg/kg	50.0		101	41-142			
Surrogate: 1-Chlorooctadecane	50.0		mg/kg	50.0		100	37.6-147			

**Batch 8102415 - General Prep - Organics**
**Blank (8102415-BLK1)**

Prepared: 24-Oct-18 Analyzed: 25-Oct-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	49.6		mg/kg	50.0		99.2	41-142			
Surrogate: 1-Chlorooctadecane	45.7		mg/kg	50.0		91.5	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: AMBER GROVES  
 Fax To:

 Reported:  
 26-Nov-18 09:33

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8102415 - General Prep - Organics**
**LCS (8102415-BS1)**

Prepared: 24-Oct-18 Analyzed: 25-Oct-18

GRO C6-C10	194	10.0	mg/kg	200		96.9	76.5-133			
DRO >C10-C28	207	10.0	mg/kg	200		103	72.9-138			
Total TPH C6-C28	401	10.0	mg/kg	400		100	78-132			
<i>Surrogate: 1-Chlorooctane</i>	<i>54.4</i>		mg/kg	<i>50.0</i>		<i>109</i>	<i>41-142</i>			
<i>Surrogate: 1-Chlorooctadecane</i>	<i>50.2</i>		mg/kg	<i>50.0</i>		<i>100</i>	<i>37.6-147</i>			

**LCS Dup (8102415-BSD1)**

Prepared: 24-Oct-18 Analyzed: 25-Oct-18

GRO C6-C10	191	10.0	mg/kg	200		95.6	76.5-133	1.34	20.6	
DRO >C10-C28	203	10.0	mg/kg	200		101	72.9-138	2.01	20.6	
Total TPH C6-C28	394	10.0	mg/kg	400		98.4	78-132	1.69	18	
<i>Surrogate: 1-Chlorooctane</i>	<i>53.3</i>		mg/kg	<i>50.0</i>		<i>107</i>	<i>41-142</i>			
<i>Surrogate: 1-Chlorooctadecane</i>	<i>48.8</i>		mg/kg	<i>50.0</i>		<i>97.6</i>	<i>37.6-147</i>			

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

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---

Celey D. Keene, Lab Director/Quality Manager



Site Name: Mewbourne Cabra Nino (Pool)

Date: 8/24/2018

**Soil Profile**

*Description*

*ft. bgs*

<i>Description</i>	<i>ft. bgs</i>
	0
Cat.iche	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16

Site Name: Mewbourne Cabra Nino (pasture) Date: 8/24/2018

**Soil Profile**

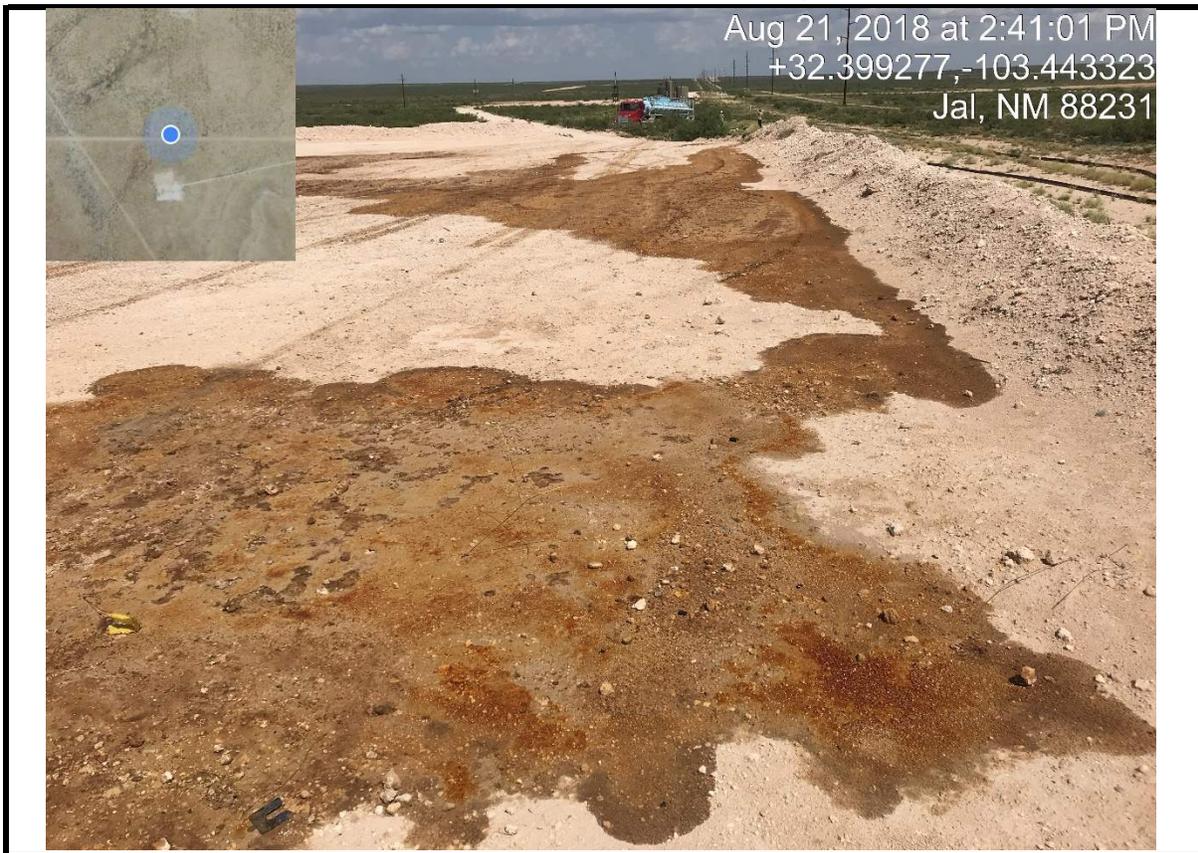
*Description*

*ft. bgs*

<i>Description</i>	<i>ft. bgs</i>
	0
	1
Top Soil	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16



**Photo 1** - View of affected area prior to excavation activities, facing West.



**Photo 2** - View of affected area prior to excavation activities, facing East.



**Photo 3** - View of affected area prior to excavation activities, facing West.



**Photo 4** - View of affected area prior to excavation activities, facing Southeast.



**Photo 5** - View of affected area prior excavation activities, facing West.



**Photo 6** - View of affected area prior to excavation activities, facing Southeast.



**Photo 7** - View of affected area after remediation activities, facing West.



**Photo 8** - View of affected area after remediation activities, facing South.



**Photo 9** - View of affected area after remediation activities, facing South.



**Photo 10** - View of affected area after remediation activities, facing South.

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 Pipeline, LP  
505 Big Spring St, Suite 600  
Midland, Texas 79701

2. **Originating Site:**  
Bell Lake Receiver (Contact Amber Groves regarding SRS#, (575) 200-5517)

3. **Location of Material (Street Address, City, State or ULSTR):**  
UL "P", Sec. 12, T 23S, R 33E

4. **Source and Description of Waste:**  
Waste was generated due to a crude oil release.

Estimated Volume 400 yd<sup>3</sup> / bbls Known Volume (to be entered by the operator at the end of the haul) yd<sup>3</sup> / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**  
I, Amber Groves, representative or authorized agent for Plains Pipeline, LP 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 Pipeline, LP 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:**  
Manual Mata Trucking, LLC

**OCD Permitted Surface Waste Management Facility**

Name and Facility Permit #: Lazy Ace Landfarm, LLC - Permit No. NM-1-041

Address of Facility: PO Box 160, Eunice, NM 88231

Method of Treatment and/or Disposal:

- Evaporation  Injection  Treating Plant  Landfarm  Landfill  Other

Waste Acceptance Status:

- APPROVED  DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: DANNY BERRY

TITLE: Manager

DATE: 1-8-19

SIGNATURE: Danny Berry

TELEPHONE NO.: 575-369-5266

# Bamert Seed Company Inc.

1897 CR 1018 Muleshoe, TX 79347

(800) 262-9892

Permit # TX00905

**Homesteaders Choice Blend**

Sales # SO-66298

Description	Pure Seed	Germ	Dormant	Hard Seed	Origin
Buffalograss, "Texoka" Primed KNO3 ( <i>Bouteloua dactyloides</i> )	19.60%	97.00%	0.00%	0.00%	TX
Dropseed, Sand ( <i>Sporobolus cryptandrus</i> )	11.86%	15.00%	82.00%	0.00%	TX
Gramma, Blue ( <i>Bouteloua gracilis</i> )	16.88%	96.00%	0.00%	0.00%	TX
Gramma, Sideoats "Vaughn" ( <i>Bouteloua curtipendula</i> )	21.99%	90.00%	0.00%	0.00%	TX
Wheatgrass, Western ( <i>Pascopyrum smithii</i> )	20.57%	32.00%	64.00%	0.00%	TX

Purity: 90.90%

Inert Matter: 8.55%

Other Crop Seed: 0.55%

Weed Seed: 0.00%

Noxious Weeds:

Test Date: 02/2019

Net Wt: 15 lbs

September 19, 2018

JOEL LOWRY

PLAINS ALL AMERICAN PIPELINE

505 NORTH BIG SPRINGS ST STE. 600

MIDLAND, TX 79701

RE: MEWBOURNE CABRA NINO

Enclosed are the results of analyses for samples received by the laboratory on 08/31/18 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**PLAINS ALL AMERICAN PIPELINE  
505 NORTH BIG SPRINGS ST STE. 600  
MIDLAND TX, 79701Project: MEWBOURNE CABRA NINO  
Project Number: NONE GIVEN  
Project Manager: JOEL LOWRY  
Fax To:Reported:  
19-Sep-18 16:00

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WC	H802483-01	Soil	31-Aug-18 12:00	31-Aug-18 15:35

Project Name changed from Mewbourne Cobre Nino to Mewbourne Cabra Nino as per Brian Cooper (via email) 09/19/18.

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**WC**  
**H802483-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	8090409	AC	05-Sep-18	4500-Cl-B	
Ignitability	>140		50.0	°F	1	8082817	AC	05-Sep-18	ASTM D 93-80	
Paint Filter Test	FAILED			N/A	1	8090405	AC	04-Sep-18	9095	A-01
<b>pH*</b>	<b>8.58</b>		0.100	pH Units	1	8090402	AC	04-Sep-18	9045	
Reactive Cyanide	<0.100		0.100	mg/kg	1	8090403	AC	05-Sep-18	9010	
<b>Reactive Sulfide</b>	<b>0.0600</b>		0.0100	mg/kg	1	8090403	AC	05-Sep-18	9030	

**Radionuclides**
**SUB-RS**

<b>Radium-226</b>	<b>0.54 ± 0.03</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	
<b>Radium-228</b>	<b>0.32 ± 0.02</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	
<b>Total Radium</b>	<b>0.86 ± 0.04</b>			pCi/gram	1	8061301	CK	13-Sep-18	GammaRay HPGE	

**TCLP Volatile Organic Compounds by GCMS**

Benzene*	<0.0500		0.0500	mg/L	100	8090404	ms	10-Sep-18	1311/8260B	
Surrogate: Dibromofluoromethane			101 %	92.9-119		8090404	ms	10-Sep-18	1311/8260B	
Surrogate: Toluene-d8			102 %	86-108		8090404	ms	10-Sep-18	1311/8260B	
Surrogate: 4-Bromofluorobenzene			95.4 %	81.7-121		8090404	ms	10-Sep-18	1311/8260B	

**Petroleum Hydrocarbons by GC FID**
**S-04**

<b>GRO C6-C10*</b>	<b>13.8</b>		10.0	mg/kg	1	8090406	MS	04-Sep-18	8015B	
<b>DRO &gt;C10-C28*</b>	<b>723</b>		10.0	mg/kg	1	8090406	MS	04-Sep-18	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>112</b>		10.0	mg/kg	1	8090406	MS	04-Sep-18	8015B	
Surrogate: 1-Chlorooctane			119 %	41-142		8090406	MS	04-Sep-18	8015B	
Surrogate: 1-Chlorooctadecane			151 %	37.6-147		8090406	MS	04-Sep-18	8015B	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**WC**  
**H802483-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories**
**TCLP Metals by ICP (1311)**

Arsenic	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
<b>Barium</b>	<b>0.904</b>		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Cadmium	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Chromium	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Lead	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Selenium	<0.500		0.500	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	
Silver	<0.250		0.250	mg/L	5	B809060	AES	14-Sep-18	EPA200.7/13 11	

**TCLP Mercury by CVAA**

Mercury	<0.0002		0.0002	mg/L	1	B809067	AES	12-Sep-18	EPA245.1	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8082817 - General Prep - Wet Chem**
**LCS (8082817-BS1)**

Prepared &amp; Analyzed: 28-Aug-18

Ignitability	80.0		°F	80.0		100	97.5-105			
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**Duplicate (8082817-DUP1)**

Source: H802400-01

Prepared &amp; Analyzed: 29-Aug-18

Ignitability	>140	50.0	°F		ND				20	
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**Batch 8090402 - General Prep - Wet Chem**
**LCS (8090402-BS1)**

Prepared &amp; Analyzed: 04-Sep-18

pH	7.06		pH Units	7.00		101	90-110			
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**Duplicate (8090402-DUP1)**

Source: H802478-01

Prepared &amp; Analyzed: 04-Sep-18

pH	8.91	0.100	pH Units		8.83			0.902	20	
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**Batch 8090403 - General Prep - Wet Chem**
**Blank (8090403-BLK1)**

Prepared: 04-Sep-18 Analyzed: 05-Sep-18

Reactive Cyanide	ND	0.100	mg/kg							
Reactive Sulfide	ND	0.0100	mg/kg							

**Duplicate (8090403-DUP1)**

Source: H802478-01

Prepared: 04-Sep-18 Analyzed: 05-Sep-18

Reactive Cyanide	ND	0.100	mg/kg		ND				20	
Reactive Sulfide	0.0500	0.0100	mg/kg		0.0500			0.00	20	

**Batch 8090409 - General Prep - Wet Chem**
**Blank (8090409-BLK1)**

Prepared &amp; Analyzed: 04-Sep-18

Chloride	ND	16.0	mg/kg							
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090409 - General Prep - Wet Chem**
**LCS (8090409-BS1)**

Prepared &amp; Analyzed: 04-Sep-18

Chloride	432	16.0	mg/kg	400		108	80-120			
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**LCS Dup (8090409-BSD1)**

Prepared &amp; Analyzed: 04-Sep-18

Chloride	448	16.0	mg/kg	400		112	80-120	3.64	20	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Volatile Organic Compounds by GCMS - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090404 - Volatiles**
**Blank (8090404-BLK1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	ND	0.000500	mg/L							
Surrogate: Dibromofluoromethane	0.0101		mg/L	0.0100		101	92.9-119			
Surrogate: Toluene-d8	0.0102		mg/L	0.0100		102	86-108			
Surrogate: 4-Bromofluorobenzene	0.00976		mg/L	0.0100		97.6	81.7-121			

**LCS (8090404-BS1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	0.0181	0.000500	mg/L	0.0200		90.7	80.5-129			
Surrogate: Dibromofluoromethane	0.00995		mg/L	0.0100		99.5	92.9-119			
Surrogate: Toluene-d8	0.00991		mg/L	0.0100		99.1	86-108			
Surrogate: 4-Bromofluorobenzene	0.0101		mg/L	0.0100		101	81.7-121			

**LCS Dup (8090404-BSD1)**

Prepared: 04-Sep-18 Analyzed: 07-Sep-18

Benzene	0.0190	0.000500	mg/L	0.0200		94.8	80.5-129	4.37	6.66	
Surrogate: Dibromofluoromethane	0.00990		mg/L	0.0100		99.0	92.9-119			
Surrogate: Toluene-d8	0.00991		mg/L	0.0100		99.1	86-108			
Surrogate: 4-Bromofluorobenzene	0.00989		mg/L	0.0100		98.9	81.7-121			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8090406 - General Prep - Organics**
**Blank (8090406-BLK1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
<i>Surrogate: 1-Chlorooctane</i>	54.8		mg/kg	50.0		110	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	54.3		mg/kg	50.0		109	37.6-147			

**LCS (8090406-BS1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	194	10.0	mg/kg	200		96.9	76.5-133			
DRO >C10-C28	188	10.0	mg/kg	200		94.2	72.9-138			
Total TPH C6-C28	382	10.0	mg/kg	400		95.5	78-132			
<i>Surrogate: 1-Chlorooctane</i>	59.0		mg/kg	50.0		118	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	59.1		mg/kg	50.0		118	37.6-147			

**LCS Dup (8090406-BSD1)**

Prepared &amp; Analyzed: 04-Sep-18

GRO C6-C10	194	10.0	mg/kg	200		97.0	76.5-133	0.137	20.6	
DRO >C10-C28	169	10.0	mg/kg	200		84.5	72.9-138	10.8	20.6	
Total TPH C6-C28	363	10.0	mg/kg	400		90.8	78-132	5.09	18	
<i>Surrogate: 1-Chlorooctane</i>	58.3		mg/kg	50.0		117	41-142			
<i>Surrogate: 1-Chlorooctadecane</i>	56.9		mg/kg	50.0		114	37.6-147			

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Metals by ICP (1311) - Quality Control**  
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B809060 - EPA 1311**
**Blank (B809060-BLK1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Cadmium	ND	0.250	mg/L							
Selenium	ND	0.500	mg/L							
Arsenic	ND	0.500	mg/L							
Lead	ND	0.500	mg/L							
Barium	ND	0.250	mg/L							
Silver	ND	0.250	mg/L							
Chromium	ND	0.250	mg/L							

**LCS (B809060-BS1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Selenium	41.2	0.500	mg/L	40.0		103	85-115			
Silver	0.495	0.250	mg/L	0.500		99.0	85-115			
Lead	10.1	0.500	mg/L	10.0		101	85-115			
Chromium	10.4	0.250	mg/L	10.0		104	85-115			
Cadmium	10.1	0.250	mg/L	10.0		101	85-115			
Barium	10.1	0.250	mg/L	10.0		101	85-115			
Arsenic	20.7	0.500	mg/L	20.0		104	85-115			

**LCS Dup (B809060-BSD1)**

Prepared: 10-Sep-18 Analyzed: 14-Sep-18

Lead	9.98	0.500	mg/L	10.0		99.8	85-115	1.08	20	
Cadmium	10.0	0.250	mg/L	10.0		100	85-115	1.21	20	
Selenium	40.7	0.500	mg/L	40.0		102	85-115	1.32	20	
Arsenic	20.4	0.500	mg/L	20.0		102	85-115	1.38	20	
Silver	0.490	0.250	mg/L	0.500		98.1	85-115	0.893	20	
Barium	10.0	0.250	mg/L	10.0		100	85-115	0.970	20	
Chromium	10.2	0.250	mg/L	10.0		102	85-115	1.23	20	

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\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Project: MEWBOURNE CABRA NINO  
 Project Number: NONE GIVEN  
 Project Manager: JOEL LOWRY  
 Fax To:

 Reported:  
 19-Sep-18 16:00

**TCLP Mercury by CVAA - Quality Control**  
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B809067 - EPA 245.1/7470**
**Blank (B809067-BLK1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	ND	0.0002	mg/L							
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**LCS (B809067-BS1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	0.0052	0.0002	mg/L	0.00500		105	85-115			
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**LCS Dup (B809067-BSD1)**

Prepared: 10-Sep-18 Analyzed: 12-Sep-18

Mercury	0.0054	0.0002	mg/L	0.00500		107	85-115	2.38	20	
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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

Z-01d	FAILED
Z-01c	0.86 ± 0.04
Z-01b	0.54 ± 0.03
Z-01a	0.32 ± 0.02
Z-01	>140
SUB-RS	Analysis subcontracted to Radiation Safety Engineering, Inc.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
A-01	Sample is dry soil. No visible liquid.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

<b>Company Name:</b> <u>TRC SOLUTIONS</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
<b>Project Manager:</b> <u>JOBEL LOUISRY</u>		<b>P.O. #:</b>			
<b>Address:</b> <u>2057 Commerce Dr</u>		<b>Company:</b> <u>TRC SOLUTIONS</u>			
<b>City:</b> <u>MIDLAND</u> <b>State:</b> <u>TX</u> <b>Zip:</b> <u>79703</u>		<b>Attn:</b> <u>AMBER GAVES</u>			
<b>Phone #:</b> <u>432 466 4450</u> <b>Fax #:</b>		<b>Address:</b>			
<b>Project #:</b>		<b>City:</b>			
<b>Project Name:</b> <u>NEWSBOROUGH COBALT MINE</u>		<b>State:</b>			
<b>Project Location:</b> <u>LEA CO, NM</u>		<b>Zip:</b>			
<b>Sampler Name:</b> <u>BECKY GILFILLIN</u>		<b>Phone #:</b>			
<b>FOR LAB USE ONLY</b>		<b>Fax #:</b>			
<b>Lab I.D.</b> <u>H802483</u>	<b>Sample I.D.</b> <u>1 WDC</u>	<b>(G)RAB OR (C)OMP.</b>			
		<b># CONTAINERS</b>			
		<b>MATRIX</b>			
		<input type="checkbox"/> GROUNDWATER			
		<input type="checkbox"/> WASTEWATER			
		<input checked="" type="checkbox"/> SOIL			
		<input type="checkbox"/> OIL			
		<input type="checkbox"/> SLUDGE			
		<input type="checkbox"/> OTHER :			
		<b>PRESERV</b>			
		<input type="checkbox"/> ACID/BASE:			
		<input type="checkbox"/> ICE / COOL			
		<input type="checkbox"/> OTHER :			
		<b>SAMPLING</b>			
		<b>DATE</b>			
		<b>TIME</b>			
		<input checked="" type="checkbox"/> RC1			
		<input checked="" type="checkbox"/> TCLIP BENZENE			
		<input checked="" type="checkbox"/> TCLIP METALS			
		<input checked="" type="checkbox"/> CHLORIDE 4500			
		<input checked="" type="checkbox"/> TPH 8015 M EXT			
		<input checked="" type="checkbox"/> PAINT FILTER			
		<input checked="" type="checkbox"/> NORM			

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

**Relinquished By:** Becky Gilfillin **Date:** 8/31/18 **Time:** 15:35

**Received By:** Jaeli Henderson

**Delivered By:** (Circle One) UPS **Sampler - UPS - Bus - Other:** 5101 #97

**Sample Condition:**  Cool  Intact  Yes  No  Yes  No

**CHECKED BY:** [Signature]

**REMARKS:**  
 1 LOWZYG@TRCSOLUTIONS.COM  
 2 COSIDER@TRCSOLUTIONS.COM  
 3 COOPER@TRCSOLUTIONS.COM  
 4 AZOVES@PAALP.COM  
 \*Project name changed capital brown. On 9/18/18

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

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

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

Form C-141  
Revised April 3, 2017

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

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, LP	Contact Camille Bryant
Address 505 N. Big Spring, Suite 600, Midland, TX 79701	Telephone No. 575-441-1099
Facility Name Mewbourne Cabra Nino 11 B3NC State Com #1H	Facility Type Lact Unit

Surface Owner NMSLO	Mineral Owner NMSLO	API No.
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**LOCATION OF RELEASE**

Unit Letter N	Section 11	Township 22S	Range 34E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32.3992239 Longitude -103.4432368 NAD83

**NATURE OF RELEASE**

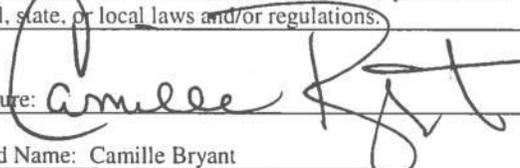
Type of Release Crude Oil	Volume of Release 35 bbls	Volume Recovered 11 bbls
Source of Release Tubing on the Back Pressure Valve	Date and Hour of Occurrence 8/21/2018 @ 9:35 AM	Date and Hour of Discovery 8/21/2018 @ 9:35 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu	
By Whom? Camille Bryant	Date and Hour 8/22/2018 @ 7:12 AM by voicemail	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Tubing failure on the back pressure valve.

Describe Area Affected and Cleanup Action Taken.\*  
Impacted area includes lact unit, approximately 2950 square feet production pad/lease road and approximately 3852 square feet in the pasture. Release area will be remediated per current NMOCD guidelines.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Camille Bryant	Approved by Environmental Specialist: 	
Title: Remediation Supervisor	Approval Date: <b>8/23/2018</b>	Expiration Date:
E-mail Address: cjbryant@paalp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/22/2018 Phone: (575)441-1099	<b>NMAC 19.15.29 effective August 14, 2018. Complete release characterization before any significant remediation.</b>	

\* Attach Additional Sheets If Necessary

**1RP-5172**

**nCH1823548255**

**pCH1823547376**