Page 1 of 245

District 1 1625 N. French Dr., Hobbs, NM 88240 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

Electric Ninoz D

Spirits For Revised October

Arthropism Revised October Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

FAB1514737	885 .	Rel	ease Notifi	catio	n and Co	rrective A	ctior	1	AMEN	DED	
DAB 1514 73	8018				OPERA'	TOR		⊠ Ini	tial Report		Final Repor
Name of Company	Plains Pipel	ine, LP	340911		Contact	Camille Bry					
Address		···	nver City, TX 7932	.3		No. (575) 441-1					
Facility Name	Palladium 7-	-1 4-Inch	n Poly		Facility Typ	e 4-Inch Poly	Pipeli	ne		<u></u>	
Surface Owner BLM	ſ		Mineral (Owner	,			Lease	No.		
			IOC	ATIO	N OF REI	FASE					
Unit Letter Section	Township	Range	Feet from the		/South Line	Feet from the	East/\	West Line	County		
	24S	-31E	·						Eddy	p	
			Latitude N 32.2	251960	0° Longitude	W 103.80057	0°	**		•	
Type of ReleaseCr	ude Oil		NAI	UKE	OF REL	Release_>5 bbls		Volume	Recovered) bble	
` <u></u>	nch Poly Pipeli	ine	, , , , , , , , , , , , , , , , , , ,			Iour of Occurrence			Hour of Dis		
	-				03/01/2013		03/01/2013 @ 10:51				
Was Immediate Notice		Yes $\square N$	o 🛛 Not Requi	red	If YES, To	Whom?					
By Whom?					Date and I-						
Was a Watercourse Re-		Yes 🛭	No No		If YES, Vo	olume Impacting t	he Wat	ercourse.		•	
If a Watercourse was I	npacted, Descri	ibe Fully.	*								
	•										
Describe Cause of Prot		dial Actio	n Taken.* Pinhol	e develo	ped in 4-inch	poly pipeline. Th	e pipeli	ne was de	oiled and the	damag	ged portion
of the pipeline was repl	aced.										
Describe Area Affected											
amended to greater than				and BL	M. The visual	ly impacted area	measure	ed approx	mately 100'	T.'00;	he impacted
area will be remediated	as per applicat	DIE NIMO	D guidelines.								
	·										
I hereby certify that the											
regulations all operator public health or the env	s are required to	o report a: acceptan	nazor me certain i	reiease r ort by th	iounications ai le NMOCD m	na perform correc arked as "Final R	nive act	ions for re loes not re	lieases which lieve the ope	may er rator of	ndanger Fliability
should their operations	have failed to a	idequately	y investigate and i	remediat	te contaminati	on that pose a thr	eat to g	round wat	er, surface wa	ter, hu	man health
or the environment. In federal, state, or local la	addition, NMO	CD accep	otance of a C-141	report d	loes not reliev	e the operator of	respons	ibility for	compliance v	ith any	y other
rederar, state, or local in	aws and/or regu	nations.	<u> </u>			OIL CON	SERV	ATION	DIVISIO	N.	
		., 4	Ļ			OIL COIN	OLIK V	\mathcal{J}		<u> </u>	
Signature WWU	le 10	yeu	9				i	1 L 1	6		
Printed Name: Camill	e Bryant	U			Approved by	District Supervis	or:	My		_	
Title: Remediation Co	ordinator				Approval Dat	e: 5/26/19	<u> 5</u>	Expiratio	Date: NH	4	·····
E-mail Address: cjbrya	int@paaln.com				Conditions of	Anproval.					٠
p-1111				R	temediatio	Approval: n per O.C.D.	Rules	& Guid	ie i Assched	LJ	
Date: 5 0 30			one: (575) 441-10	99 S	UBMIT RE	MEDIATION	PROF	POSAL	МФ		
Attach Additional Sh	eets If Necess	ary		Ĺ	ater tha	in: <u>5/28/</u>				28	P.348

From: <u>Dade, Randy, EMNRD</u>
To: <u>Patterson, Heather, EMNRD</u>

Subject: FW:

Date: Tuesday, May 19, 2015 9:54:18 AM Attachments: Palladium 7-1_WorkPlan.pdf

From: Ben J. Arguijo [mailto:bjarguijo@basinenv.com]

Sent: Monday, May 18, 2015 8:14 AM **To:** Dade, Randy, EMNRD; Randy Pair

Cc: Camille J. Bryant; Bobby Blackwood; sjwalters@basinenv.com

Subject:

Mr. Dade and Mr. Pair,

Attached please find an *Environmental Site Summary & Spill Remediation Plan* (Work Plan) for the Plains All American Pipeline, LP (Plains), release site known as Palladium 7-1 4-Inch Poly.

As has been discussed on-site and via telephone, the crude oil release occurred in March 2013 and was initiall estimated to be approximately one-half of a barrel (0.5 bbl) in size. The site fell through the cracks as a result of personnel transitions but was revisited last month. Laboratory analytical results and field-screens from samples collected during delineation activities conducted on April 16 and April 29, 2015, indicated the release was actually greater than or equal to five barrels (=5 bbls). The release was subsequently reported to both the NMOCD Artesia District Office and the BLM Carslbad Field Office. An amended C-141 is included in the attached Work Plan.

Plains and Basin Environmental request permission to commence the following delineation activities described in the Work Plan posthaste:

"The area around delineation trench TT-1 will be excavated to approximately five feet (5') bgs to allow access for heavy equipment to further advance the trench. The trench will be advanced to the extent practicable. Soil samples will be collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. A representative selection of samples will be submitted to the laboratory for confirmatory analyses of BTEX, TPH, and/or chloride concentrations using the EPA laboratory analytical methods described above. If vertical delineation cannot be achieved via trenching, a drilling rig will be employed to advance one (1) soil boring (SB-1) in the area of trench TT-1."

Please review the Work Plan at your earliest convenience. I look forward to hearing back from you.

Thank you for your time and consideration.

Respectfully, Ben J. Arguijo

Ben J. Arguijo Project Manager Basin Environmental 3100 Plains Hwy. P.O. Box 301 Lovington, NM 88260 p:(575)396-2378 m:(806)549-9597 f:(575)396-1429 bjarguijo@basinenv.com

Basin Environmental Service Technologies, LLC



Environmental Site Summary & Spill Remediation Plan

Company: Plains All American Pipeline, LP Address: 2530 State Highway 214; Denver City, TX 79323 Telephone #: (806)592-2555
Site Name: Palladium 7-1 4-Inch Poly NMOCD Reference#:
Land Owner: US Bureau of Land Management Address: 620 E. Greene St., Carlsbad, NM 88220-6292
Unit Letter: "C" (NE/NW) Section: 5 Township: 24S Range: 31E County: Eddy GPS Coordinates: 32.251960 N -103.800570 W
Depth to Ground Water: ≈ 285' - 290' Distance to Surface Water Body: □ <200' □ 200' - 1,000' ☑ >1,000'
Wellhead Protection Area: <1,000' from Water Source or <200' from Domestic Water Source? ☐Y ☑N
NMOCD Ranking Score: 0 Soil Remediation Levels (mg/kg): Benzene: 10 BTEX: 50 TPH: □100 Chloride: □100
□ 1,000 □ 500 □ 5,000 □ 1,000
Date/Time of Release: 3/1/2013 Type of Release: Crude Oil Approximate Volume of Release: ≥ 5 bbls
Background Information:
On March 1, 2013, Plains All American Pipeline, LP (Plains), discovered a release on its Palladium 7-1 pipeline. The release was attributed to a manufacturing defect, which caused a pinhole leak to develop in the four-inch (4"), polyethylene pipeline. The release was initially estimated to be approximately one-half of a barrel (0.5 bbl) of crude oil. However, delineation activities conducted in April 2015 indicated the size of the release was greater than or equal to five barrels (≥5 bbls). The release was subsequently reported to the New Mexico Oil Conservation Division's (NMOCD) Artesia District Office and the United States Department of the Interior - Bureau of Land Management's (BLM) Carlsbad Field Office. The "Release Notification & Corrective Action" (Form C-141) indicated the release impacted an area of pastureland measuring approximately one hundred feet (100') in length and sixty feet (60') in width. The Form C-141 is provided as Attachment #1. A "Site Location Map" is provided as Attachment #2. General photographs of the release site are provided in Attachment #5.
Summary of Field Activities:
On April 16, 2015, Basin Environmental commenced delineation activities at the site. A hand-augered soil boring (HA-1) was advanced near the release point to investigate the vertical extent of impacted soil. The soil boring was advanced in six-inch (6") to one-foot (1') intervals to approximately seven and one-half feet (7.5') below ground surface (bgs). Soil samples were field screened with a photo invitation detector (PID), and representative confirmation samples were submitted to Xence.

On April 16, 2015, Basin Environmental commenced delineation activities at the site. A hand-augered soil boring (HA-1) was advanced near the release point to investigate the vertical extent of impacted soil. The soil boring was advanced in six-inch (6" to one-foot (1') intervals to approximately seven and one-half feet (7.5') below ground surface (bgs). Soil samples were field-screened with a photo-ionization detector (PID), and representative confirmation samples were submitted to Xenco Laboratories in Odessa, Texas, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons (TPH) concentrations using Environmental Protection Agency (EPA) Methods SW 846-8021b and SW 846-8015M, respectively. Laboratory analytical results indicated additional vertical delineation of the release was required.

On April 29, 2015, a series of five (5) delineation trenches (TT-1, N, S, E, and W) were advanced to further investigate the horizontal and vertical extent of impacted soil. Trench TT-1 was advanced in the area represented by hand-augered soil boring HA-1. Trenches N, S, E, and W were advanced near the north, south, east, and west boundaries, respectively, of the visibly impacted area. The trenches were advanced in one-foot (1') to three-foot (3') intervals to total depths ranging from approximately five feet (5') bgs in trenches N, S, E, and W to approximately twenty feet (20') bgs in trench TT-1. Soil samples were field-screened with a PID, and confirmation samples were submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Sample TT-1 @ 20' was also analyzed for chloride using EPA Method 300.1.

Laboratory analytical results indicate vertical delineation was not achieved in trenches TT-1 and S. Additional vertical delineation is required in the areas represented by these trenches. Horizontal and vertical delineation to the north, east, and west of the release point was achieved.

Locations of the hand-augered soil boring, delineation trenches, and soil samples are depicted in Attachment #3, "Site & Sample Location Map". Laboratory analytical results are summarized in Attachment #4, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil", and analytical reports are provided in Attachment #6.

Basin Environmental Service Technologies, LLC



Environmental Site Summary & Spill Remediation Plan

Proposed Activities:

- The area around delineation trench TT-1 will be excavated to approximately five feet (5') bgs to allow access for heavy equipment to further advance the trench. The trench will be advanced to the extent practicable. Soil samples will be collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. A representative selection of samples will be submitted to the laboratory for confirmatory analyses of BTEX, TPH, and/or chloride concentrations using the EPA laboratory analytical methods described above. If vertical delineation cannot be achieved via trenching, a drilling rig will be employed to advance one (1) soil boring (SB-1) in the area of trench TT-1.
- The horizontal limits of the excavation will be determined by field-screening using a PID and/or visual/olfactory senses. Confirmation soil samples will be collected at approximately fifty-foot (50') horizontal intervals and submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations.
- Due to safety and environmental concerns, the vertical extent of the excavation will be limited to a maximum depth of ten feet (10') bgs, and the walls of the excavation will be benched to prevent collapse. The eastern extent of the excavation will be limited by the presence of an eight-inch (8"), steel natural gas pipeline adjacent to the release site. In addition, the excavation will be fenced off during periods of inactivity to prevent injury to oilfield personnel, livestock, and wildlife.
- Excavated soil will be stockpiled on-site on six (6) mil polypropylene plastic, pending transfer to an NMOCD-permitted facility for disposal.
- In areas exhibiting contaminant concentrations above the NMOCD recommended remediation action levels at ten feet (10') bgs, the floor of the excavation will be fitted with a twenty (20) mil, impermeable, polyethylene plastic liner. A cushion of sand will be installed approximately six inches (6") both above and below the liner to protect it during installation and backfilling activities. This engineered control will serve to inhibit vertical migration of contaminants both upward to the vegetative zone and downward to the underlying groundwater. The remaining portion of the excavation will be backfilled with locally purchased, non-impacted material, compacted, and contoured to fit the surrounding topography.
- Following the proposed remediation activities, the disturbed area will be seeded with a BLM-approved seed mix.

Attachments:

Attachment #1: Release Notification & Corrective Action (Form C-141)

Attachment #2: Site Location Map

Attachment #3: Site & Sample Location Map

Attachment #4: Concentrations of Benzene, BTEX, TPH & Chloride in Soil

Attachment #5: Photographs

Attachment #6: Laboratory Analytical Reports

5/8/2015
Ben J. Arguijo
Project Manager

Attachment #1 Release Notification & Corrective Action (Form C-141)

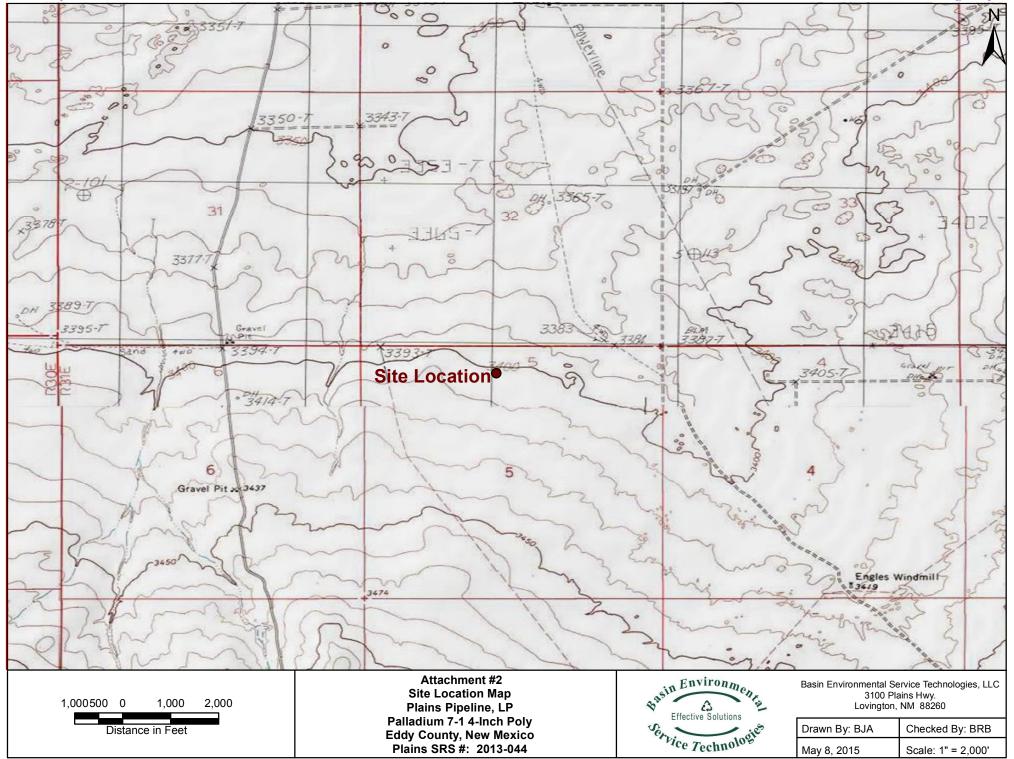
State of New Mexico Energy Minerals and Natural Resources

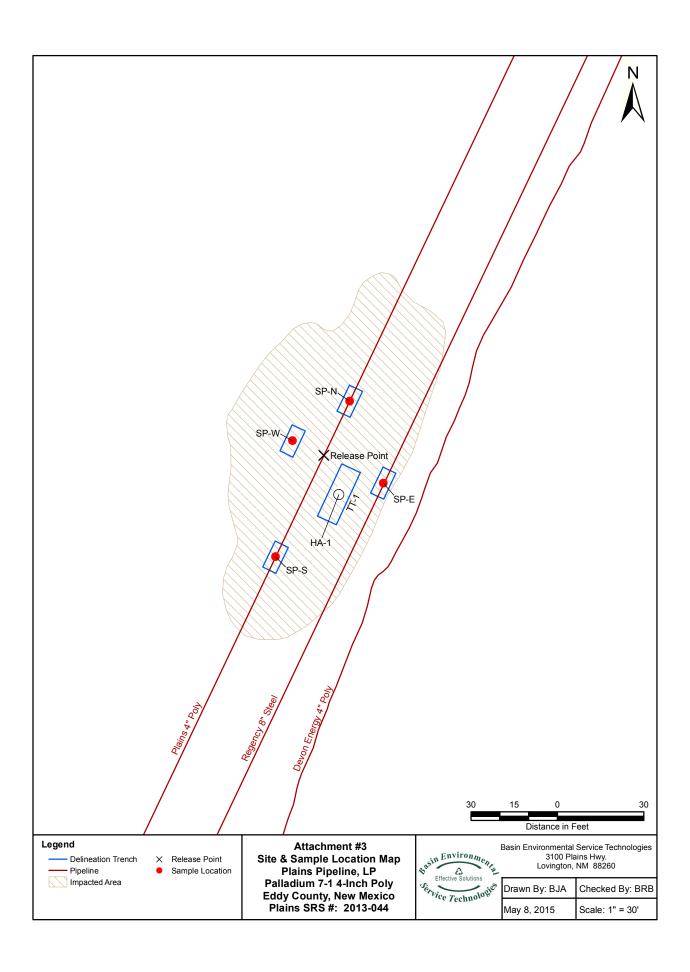
Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr.

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back

220 C Ct F D. C F. NB4 87505	uth St. Francis Dr. Fe, NM 87505	with Rule 116 on bac side of form
	ion and Corrective Ac	tion AMENDED
	OPERATOR	AMENDED Initial Report Final Report
Name of Company Plains Pipeline, LP	Contact Camille Bryan	
Address 2530 State Hwy. 214, Denver City, TX 79323	Telephone No. (575) 441-10	
Facility Name Palladium 7-1 4-Inch Poly	Facility Type 4-Inch Poly P	ipeline
Surface Owner BLM Mineral Owner	er	Lease No.
LOCATI	ON OF RELEASE	
Unit Letter Section Township Range Feet from the No		East/West Line County
C 5 24S 31E		Eddy
Latitude N 32.2519	600° Longitude W 103.800570°	
NATUR	E OF RELEASE	
Гуре of Release Crude Oil	Volume of Release_>5 bbls	Volume-Recovered 0 bbls
Source of Release 4-Inch Poly Pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
Vas Immediate Notice Given?	03/01/2013 @ 10:51 If YES, To Whom?	03/01/2013 @ 10:51
☐ Yes ☐ No ☒ Not Required		
By Whom?	Date and Hour	
Vas a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the	Watercourse.
f a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* Pinhole develop the pipeline was replaced. Describe Area Affected and Cleanup Action Taken. The release was in amended to greater than five barrels and reported to the NMOCD and larea will be remediated as per applicable NMOCD guidelines.	uitially believed to be 0.5 barrel; how	ever, on delineation activities the release was
hereby certify that the information given above is true and complete tregulations all operators are required to report and/or file certain release bublic health or the environment. The acceptance of a C-141 report by should their operations have failed to adequately investigate and remeder the environment. In addition, NMOCD acceptance of a C-141 reportederal, state, or local laws and/or regulations.	e notifications and perform corrective the NMOCD marked as "Final Repliate contamination that pose a threat of the does not relieve the operator of research."	e actions for releases which may endanger ort" does not relieve the operator of liability to ground water, surface water, human health
Printed Name: Camille Bryant	Approved by District Supervisor:	<u> </u>
Fitle: Remediation Coordinator	Approval Date:	Expiration Date:
E-mail Address: cjbryant@paalp.com	Conditions of Approval:	Expiration Date: Attached Organian Date: State of the
Date: 5 0 2015 Phone: (575) 441-1099		790
attach Additional Sheets If Necessary		2/2





Received by OCD: 4/3/2023 3:09:15 PM

ATTACHMENT #4 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

PLAINS ALL AMERICAN PIPELINE, LP PALLADIUM 7-1 4-INCH POLY EDDY COUNTY, NEW MEXICO PLAINS SRS #: 2013-044

	0 4 M D I E					METHOD: E	PA SW 846	5-8021B, 50	30		MET	HOD: 80	15M	TDU	4500 CI-B
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M.P XYLENES (mg/Kg)	O- XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	$\begin{array}{c} \text{GRO} \\ \text{C}_6\text{-C}_{12} \\ \text{(mg/Kg)} \end{array}$	DRO C_{12} - C_{28} (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	TPH C ₆ -C ₃₅ (mg/Kg)	CHLORIDE (mg/Kg)
HA-1 @ 0.5'	0.5'	4/16/2015	In-Situ	0.122	0.387	0.0531	0.184	0.0486	0.233	0.795	740	10,600	286	11,600	-
HA-1 @ 1'	1'	4/16/2015	In-Situ	0.0377	0.204	0.0512	0.179	0.0361	0.215	0.508	742	5,990	213	6,950	-
HA-1 @ 3'	3'	4/16/2015	In-Situ	-	-	-			-	-	552	3,680	102	4,330	-
HA-1 @ 5'	5'	4/16/2015	In-Situ	-	-	-			-	-	852	4,100	105	5,060	-
HA-1 @ 7.5'	7.5'	4/16/2015	In-Situ	-	-	-			-		6,380	14,800	376	21,600	-
TT-1 @ 13'	13'	4/29/2015	In-Situ	<0.0540	6.12	4.54	15.7	5.56	21.3	31.9	3,470	8,460	260	12,200	-
TT-1 @ 20'	20'	4/29/2015	In-Situ	<0.107	16.4	13.7	45.8	17.0	62.8	92.9	1,750	5,330	167	7,250	3.57
SP-N	4.5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	30.2	1,600	55.6	1,690	=
SP-S	4.5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	337	4,660	226	5,220	-
SP-E	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<15.5	66.6	<15.5	66.6	-
SP-W	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<17.0	108	<17.0	108	-
NMOCD Recomm	nended Ren	l nediation Act	ion Level	10						50				5,000	1,000

^{- =} Not analyzed.

Attachment #5 Photographs



Palladium 7-1 4-Inch Poly - Release Site Aerial



Palladium 7-1 4-Inch Poly – Advancement of Delineation Trench TT-1



Palladium 7-1 4-Inch Poly – Delineation Trench TT-1 (Staining Visible on Wall of Trench)

Attachment #6 Laboratory Analytical Reports

Analytical Report 506301 & 506397

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Palladium 7-1 4-Inch Poly SRS#2013-044 24-APR-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





24-APR-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **506301**, **506397**

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 506301. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 506301 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Knus Hoah

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 506301, 506397



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1 @0.5'	S	04-16-15 09:30	5 ft	506301-001
HA-1 @ 1'	S	04-16-15 09:45	- 1 ft	506301-002
HA-1 @ 3'	S	04-16-15 10:15	- 3 ft	506397-001
HA-1 @ 5'	S	04-16-15 10:45	- 5 ft	506397-002
HA-1 @ 7' 6"	S	04-16-15 11:35	7 - 6" ft	506397-003



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 24-APR-15

 Work Order Number(s):
 506301,506397
 Date Received:
 04/18/2015

 ${\bf Sample\ receipt\ non\ conformances\ and\ comments:}$

None

Sample receipt non conformances and comments per sample:

None



Project Id: SRS#2013-044

Contact: Ben Arguijo

Project Location:

Certificate of Analysis Summary 506301

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Sat Apr-18-15 01:45 pm

Report Date: 24-APR-15

Project Manager: Kelsey Brooks

						Project Manager:	Kelsey Brooks	
	Lab Id:	506301-0	001	506301-0	002			
Analysis Requested	Field Id:	HA-1 @0).5'	HA-1 @	1'			
Anaiysis Requesieu	Depth:	.5 ft		1 ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Apr-16-15 (09:30	Apr-16-15 (09:45			
BTEX by EPA 8021	Extracted:	Apr-20-15	16:00	Apr-20-15 1	16:00			
	Analyzed:	Apr-21-15	06:23	Apr-21-15 (06:06			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		0.122	0.00100	0.0377	0.00101			
Toluene		0.387	0.00201	0.204	0.00202			
Ethylbenzene		0.0531	0.00100	0.0512	0.00101			
m_p-Xylenes		0.184	0.00201	0.179	0.00202			
o-Xylene		0.0486	0.00100	0.0361	0.00101			
Xylenes, Total		0.233	0.00100	0.215	0.00101			
Total BTEX		0.795	0.00100	0.508	0.00101			
Percent Moisture	Extracted:							
	Analyzed:	Apr-20-15	17:00	Apr-20-15 1	17:00			
	Units/RL:	%	RL	%	RL			
Percent Moisture		1.00	1.00	1.61	1.00			
TPH by SW8015 Mod	Extracted:	Apr-20-15	15:00	Apr-20-15 1	15:00			
	Analyzed:	Apr-21-15	08:25	Apr-21-15 (09:08			
	Units/RL:	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		740	75.8	742	76.1			
C12-C28 Diesel Range Hydrocarbons		10600	75.8	5990	76.1			
C28-C35 Oil Range Hydrocarbons		286	75.8	213	76.1			
Total TPH		11600	75.8	6950	76.1			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Kelsey Brooks Project Manager



Project Id: SRS#2013-044

Contact: Ben Arguijo

Project Location:

Certificate of Analysis Summary 506397

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Tue Apr-21-15 09:45 am

Report Date: 22-APR-15

Project Manager: Kelsey Brooks

								Project Manager:	Keisey Brooks	
	Lab Id:	506397-0	001	506397-0	02	506397-0	03			
Analysis Requested	Field Id:	HA-1 @	3'	HA-1 @	5'	HA-1 @ 7	' 6"			
Analysis Requesieu	Depth:	3 ft		5 ft		7-6" ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Apr-16-15	10:15	Apr-16-15 1	0:45	Apr-16-15 1	1:35			
Percent Moisture	Extracted:									
	Analyzed:	Apr-21-15	Apr-21-15 17:00		Apr-21-15 17:00		7:00			
	Units/RL:	%	RL	%	RL	%	RL			
Percent Moisture		4.18	1.00	10.5	1.00	14.1	1.00			
TPH by SW8015 Mod	Extracted:	Apr-21-15	13:00	Apr-21-15 1	3:00	Apr-21-15 1	3:00			
	Analyzed:	Apr-21-15	17:22	Apr-21-15 1	7:44	Apr-21-15 1	8:06			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		552	15.6	852	16.7	6380	86.9			
C12-C28 Diesel Range Hydrocarbons		3680	15.6	4100	16.7	14800	86.9			
C28-C35 Oil Range Hydrocarbons		102	15.6	105	16.7	376	86.9			
Total TPH		4330	15.6	5060	16.7	21600	86.9			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Knus Roah

Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
WIDE MEMOU Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

Sample: 506301-002 / SMP

Project ID: SRS#2013-044

Lab Batch #: 966421

Data Analyzadi 04/21/15 06:06

Matrix: Soil Batch:

Units:	mg/kg	Date Analyzed: 04/21/15 06:06	SURROGATE RECOVERY STUDY							
	ВТЕ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1,4-Difluoro	benzene		0.0298	0.0300	99	80-120				
4-Bromofluo	orobenzene		0.0300	0.0300	100	80-120				

Lab Batch #: 966421 Sample: 506301-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 06:23 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021 Found Limits Amount Recovery Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0286 0.0300 95 80-120 4-Bromofluorobenzene 0.0241 0.0300 80-120 80

Lab Batch #: 966445 Sample: 506301-001 / SMP Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 08:25 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 966445 Sample: 506301-002 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 04/21/15 09:08	SU	RROGATE R	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorood	ctane		101	99.8	101	70-135	
o-Terpheny	yl		61.7	49.9	124	70-135	

Lab Batch #: 966445 **Sample:** 691502-1-BLK / BLK Batch: Matrix: Solid

Units:	Date Analyzed: 04/20/15 22:58			SURROGATE RECOVERY STUDY								
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooc	etane		96.7	100	97	70-135						
o-Terpheny	/l		48.3	50.0	97	70-135						

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

Sample: 691490-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 966421

o-Terphenyl

Sample: 091490-1-DLK/ BLK

Batch: 1 Matrix: Solid

50.0

109

70-135

Units:	mg/kg	Date Analyzed: 04/21/15 00:39	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes			[D]						
1,4-Difluor	obenzene		0.0305	0.0300	102	80-120					
4-Bromoflu	iorobenzene		0.0306	0.0300	102	80-120					

Lab Batch #: 966445 Sample: 691502-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/20/15 23:21 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Found Limits Amount Recovery Flags [A] [B] %R %R **Analytes** [D] 1-Chlorooctane 101 100 101 70-135

54.3

Lab Batch #: 966421 Sample: 691490-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 04/21/15 00:55 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 966445 Sample: 691502-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	nits: mg/kg Date Analyzed: 04/20/15 23:44			SURROGATE RECOVERY STUDY									
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chlorooc	ctane		101	100	101	70-135							
o-Terpheny	yl		54.6	50.0	109	70-135							

Lab Batch #: 966421 Sample: 691490-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	its: mg/kg Date Analyzed: 04/21/15 01:12			SURROGATE RECOVERY STUDY								
	BTI	EX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluoro	obenzene	mayes	0.0330	0.0300	110	80-120						
4-Bromoflu	orobenzene		0.0293	0.0300	98	80-120						

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

Project ID: SRS#2013-044

Lab Batch #: 966421

Sample: 506270-001 S / MS **Date Analyzed:** 04/21/15 01:29

Matrix: Soil Batch:

Units:	mg/kg	Date Analyzed: 04/21/15 01:29	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes			[D]						
1,4-Difluor	obenzene		0.0350	0.0300	117	80-120					
4-Bromoflu	iorobenzene		0.0301	0.0300	100	80-120					

Lab Batch #: 966445 Sample: 506270-010 S / MS Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 03:53 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Flags Found Limits Amount Recovery [A] [B] %R %R **Analytes** [D] 1-Chlorooctane 124 99.9 124 70-135 o-Terphenyl 38.4 77 70-135 50.0

Lab Batch #: 966421 Sample: 506270-001 SD / MSD Matrix: Soil Batch:

Units: mg/kg **Date Analyzed:** 04/21/15 01:45 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 966445 Sample: 506270-010 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 04/21/15 04:16	SURROGATE RECOVERY STUDY									
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooc	tane		124	99.8	124	70-135						
o-Terpheny	<i>l</i> l		36.9	49.9	74	70-135						

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



mg/kg

Units:

BS / BSD Recoveries

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 506301,506397 Project ID: SRS#2013-044

Analyst: ARM **Date Prepared:** 04/20/2015 **Date Analyzed:** 04/21/2015

 Lab Batch ID: 966421
 Sample: 691490-1-BKS
 Batch #: 1
 Matrix: Solid

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0953	95	0.100	0.0962	96	1	70-130	35	
Toluene	< 0.00200	0.100	0.0975	98	0.100	0.0980	98	1	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.101	101	0.100	0.101	101	0	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.202	101	0.200	0.201	101	0	70-135	35	
o-Xylene	< 0.00100	0.100	0.101	101	0.100	0.101	101	0	71-133	35	

Analyst: ARM **Date Prepared:** 04/20/2015 **Date Analyzed:** 04/20/2015

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	1010	101	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1010	101	1000	1000	100	1	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



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Project Name: Palladium 7-1 4-Inch Poly

506301,506397 Work Order #:

Project ID: SRS#2013-044

Lab Batch ID:

966421

QC- Sample ID: 506270-001 S

Batch #:

Matrix: Soil

Date Analyzed:

04/21/2015

Date Prepared: 04/20/2015

Analyst: ARM

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00128	0.128	0.127	99	0.127	0.113	89	12	70-130	35	
Toluene	< 0.00255	0.128	0.111	87	0.127	0.103	81	7	70-130	35	
Ethylbenzene	< 0.00128	0.128	0.117	91	0.127	0.107	84	9	71-129	35	
m_p-Xylenes	< 0.00255	0.255	0.225	88	0.255	0.209	82	7	70-135	35	
o-Xylene	< 0.00128	0.128	0.128	100	0.127	0.113	89	12	71-133	35	

Lab Batch ID:

966445

QC- Sample ID: 506270-010 S

Batch #:

Matrix: Soil

Date Analyzed:

04/21/2015

Date Prepared: 04/20/2015

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[C]	[D]	[E]	Kesuit [F]	[G]	70	70 K	/6KFD	
C6-C12 Gasoline Range Hydrocarbons	<16.3	1090	1130	104	1090	1100	101	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.3	1090	1240	114	1090	1300	119	5	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 506301,506397

Lab Batch #: 966423 **Project ID:** SRS#2013-044

 Date Analyzed:
 04/20/2015 17:00
 Date Prepared:
 04/20/2015
 Analyst:
 WRU

 QC- Sample ID:
 506293-021 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY							
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag			
Percent Moisture	9.56	9.94	4	20				

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Version: 1.%

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Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 04/18/2015 01:45:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 506301,506397

Temperature Measuring device used:

	Sample Receipt Checklist	Comments						
#1 *Temperature of cooler(s)?		5						
#2 *Shipping container in good condition	?	Yes						
#3 *Samples received on ice?		Yes						
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A						
#5 Custody Seals intact on sample bottle	es?	N/A						
#6 *Custody Seals Signed and dated?		N/A						
#7 *Chain of Custody present?		Yes						
#8 Sample instructions complete on Cha	in of Custody?	Yes						
#9 Any missing/extra samples?		No						
#10 Chain of Custody signed when relind	quished/ received?	Yes						
#11 Chain of Custody agrees with sample	e label(s)?	Yes						
#12 Container label(s) legible and intact	?	Yes						
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes						
#14 Samples in proper container/ bottle?		Yes						
#15 Samples properly preserved?		Yes						
#16 Sample container(s) intact?		Yes						
#17 Sufficient sample amount for indicat	ed test(s)?	Yes						
#18 All samples received within hold time	e?	Yes						
#19 Subcontract of sample(s)?		No						
#20 VOC samples have zero headspace		N/A						
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM-analysts.		N/A						
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A						
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: PH Device/Lot#:								
	74							
Checklist completed by:	Kelsey Brooks	Date: 04/20/2015						
Checklist reviewed by:		Date: 04/20/2015						

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CHAIN OF CUSTODY RECORD

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Page 1 of 1

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag Plastic Clear ES TS AC

* Container Type Codes

VA Vial Amber VC Vial Clear VP Vial Pre-pre Vial Pre-preserved LAB W.O#: TB ZB PC GA Glass Amber GC Glass Clear Field billable Hrs: PA Plastic Amber PC Plastic Clear

		AN	AL'	YSE	ES	RE	QU	EST	ED		** Preservative Type Co
(5-7D)	5Hrs	1D	2D :	3D	4D	<u>5D</u>	7 <u>D</u>	10D	14D	Other	Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other
Days = [D N	leed i	resul	lts b	y:					Time:	Other

Compai	ny: Basin Environmental Service Te	chnologies, LL	.C	Phone: (575)396-2378				TAT Work Days = D Need results by: Time:					PC Plastic Clear Other					
Address	3100 Plains Hwy.			Fax:	(575)396-1	429								D 14D Other		Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	1Gal Other
City:	Lovington		State: NM	Zip:	8826	60							ES REC				** Preservative Ty	pe Codes
PM/Attn	Ben J. Arguijo		Email:	bjarguijo	@basir	nenv.co	m	Cont Type * VC	GC	GC	GC						A. None E. HCL I. Ice	
roject	ID: Palladium 7-1 4-Inch Poly SRS #: 2013-044			PO#:	PAA-	-C. Brya	ant	Pres Type**	1	ì	1						B. HNO ₃ F. MeOH J. Mo H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc D. NaOH H. NaHSO ₄ L As	&NaOH
nvoice	CONTROL TO DESCRIPTION OF	nerican		Quote #	<u>.</u>			0	<u>'</u>	<u> </u>	-					# #	O.	
ample	r Name:		Event: Daily	Weekly	Mont	hly O	uartoly	le 826			ø					mple Run PAH Only if	^ Matrix Type GW Ground Water S Soi	Codes I/Sediment/Solid
Steve T		Semi-Annua		N/A	IVIOIT	illy Q	uartery	amp as by	TPH	ВТЕХ	Chloride				d	E Sa	WW Waste Water W Wig DW Drinking Water A Air SW Surface Water O Oil	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260		ш	Ö		-7 1			Hold (CALL) on Highest TF	OW Ocean/Sea Water T Tiss PL Product-Liquid U Urir PS Product-Solid B Bloc SL Sludge	ne
SS								# Cont	Lab Only	r:							REMARK	S
_1	HA-1 @ 0.5'	4/16/2015	0930	S	н		1		Х	Х		Nh						
_2	HA-1 @ 1'	4/16/2015	0945	S			1		Х	Х	-X	110						
_3											417	1113						
4																		
5	Ж																	
6																		
7																		
8																		
9																		
0																		
	Reg. Program / Clean-up Std	STATE	for Certs 8	Regs	Q	A/QC	Level	& Certific	ation		EDDs		COC &	Labels	Coolers	Temp °C	Lab Use Only	YES NO N/A
TLs T	RRP DW NPDES LPST DryCln	FL TX GA I				3 4 C DoD		AFCEE QA Other:	PP	ADaPT XLS Othe		ERPIMS	Match Ind Absent	complete Unclear	12502	3	Non-Conformances found? Samples intact upon arrival?	
	Relinquished by		Affilia		21	Date		Tim			ceived		Affilia	ition	Date	Time	Received on Wet Ice? Labeled with proper preservatives?	
1	Muxyle		Pusin E.	w	7/1	6/1	5	41.55	pre	OX	Ma	Julie	111		4/16/15		Received within holding time? Custody seals intact?	
2										3713	ian	M	Xen	100	4-18-13	13:45	VOCs rec'd w/o headspace? Proper containers used?	
3					-		-										pH verified-acceptable, excl VOCs? Received on time to meet HTs?	
	ahoratories: Hobbs 575-392-755	0 D II - 01	4.000.000			24.046	1000		100.50	0.100=							C.O.C. Serial #	

😼 &A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 TS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

* Container Type Codes

Encore Sampler

TerraCore Sampler

VA Vial Amber

VC Vial Clear

Vial Pre-preserved

		7	PFQ
	XE	R	CO
	Lobe	rot	ories
i	Marinal	200000	Badloche mistry

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800 :roool-c

Page__1_ of_ 1

LAB W.O#:

Air Canister GA Glass Amber Tedlar Bag GC Glass Clear ZB Zip Lock Bag Field billable Hrs: PA Plastic Amber Plastic Clear Basin Environmental Service Technologies, LLC PC Plastic Clear (575)396-2378 TAT Work Days = D Need results by: Time: Other Address: 3100 Plains Hwy. Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal (575)396-1429 Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other 40ml, 125 ml, 250 ml, 500 ml, 1L, Other City: State: NM Zip: Lovington 88260 ** Preservative Type Codes **ANALYSES REQUESTED** PM/Attn: Email: Ben Arguijo Cont Type bjarguijo@basinenv.com GC GC GC GC GC GC A. None F HCI B. HNO₃ F. MeOH Project ID: J. MCAA PO#: Palladium 7-1 4-inch Poly SRS #: 2013-044 H2SO4 G. Na2S2O3 K. ZnAc&NaOH PAA-C. Bryant Pres Type D. NaOH H. NaHSO4 L Asbc Acid&NaOH Invoice To: Quote #: Run PAH Only if Camille Bryant Plains All American Example atiles by 8260 ^ Matrix Type Codes Sampler Name: Circle One Event: Daily Weekly Monthly GW Ground Water S Soil/Sediment/Solid Chloride Steve Taylor WW Waste Water Semi-Annual Annual N/A DW Drinking Water Volatiles SW Surface Water Oil Sample # OW Ocean/Sea Water T Tissue Collect Collect Matrix Sample ID Product-Liquid Date Time Code / PS Product-Solid SL Sludge # Cont Lab Only: REMARKS HA-1@3' 1015 S 4/16/2015 X ***RUSH TPH on Surface Samples*** HA-1@5' S 4/16/2015 1045 X HA-1@7'6" 4/16/2015 1135 S X 4 5 0 모 6 8 9 0 Reg. Program / Clean-up Std STATE for Certs & Reas QA/QC Level & Certification **EDDs** COC & Labels Coolers Temp °C Lab Use Only YES NO N/A DW NPDES LPST DryCln FL TX GA NC SC NJ PA OK LA 1 2 3 4 CLP AFCEE OAPP ADaPT SEDD ERPIMS Match Incomplete Non-Conformances found? her: AL NM Other: NELAC DoD-ELAP Other: XLS Other: Absent Unclear Samples intact upon arrival? Relinquished by Affiliation Date Time Affiliation Time Received on Wet Ice? abeled with proper preservatives? 5:00 Received within holding time? sustody seals intact? xeneo OCs rec'd w/o headspace? 3 roper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?

A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 S Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 04/18/2015 01:45:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 506301, 506397

Temperature Measuring device used:

Work Order #. 300301, 300031						
	Sample Receipt Checklist	Comments				
#1 *Temperature of cooler(s)?		5				
#2 *Shipping container in good condition	?	Yes				
#3 *Samples received on ice?	Yes					
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A				
#5 Custody Seals intact on sample bottle	es?	N/A				
#6 *Custody Seals Signed and dated?		N/A				
#7 *Chain of Custody present?		Yes				
#8 Sample instructions complete on Cha	in of Custody?	Yes				
#9 Any missing/extra samples?		No				
#10 Chain of Custody signed when relind	quished/ received?	Yes				
#11 Chain of Custody agrees with sampl	e label(s)?	Yes				
#12 Container label(s) legible and intact?	?	Yes				
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes				
#14 Samples in proper container/ bottle?		Yes				
#15 Samples properly preserved?		Yes				
#16 Sample container(s) intact?		Yes				
#17 Sufficient sample amount for indicate	ed test(s)?	Yes				
#18 All samples received within hold time	e?	Yes				
#19 Subcontract of sample(s)?		No				
#20 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A				
#21 <2 for all samples preserved with HN		N/A				
samples for the analysis of HEM or HEM-	SGT which are verified by the					
analysts. #22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A				
	······································	- 4				
* Marrie 1		u the refolmenter				
* Must be completed for after-hours de	livery of samples prior to placing if	n the refrigerator				
Analyst:	PH Device/Lot#:					
Checklist completed by:	Mana & Mana de					
Oneckiist completed by.	Kelsey Brooks	Date: 04/20/2015				
	ready brooks					
Checklist reviewed by:						
Oliecklist leviewed by.		Date: 04/20/2015				

Analytical Report 507094

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
08-MAY-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





08-MAY-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 507094

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 507094. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 507094 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Knus Hoah

Project Manager

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Sample Cross Reference 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @13'	S	04-29-15 11:49		507094-001
TT-1 @20'	S	04-29-15 13:00		507094-002
SP-N	S	04-29-15 14:15		507094-003
SP-S	S	04-29-15 14:05		507094-004
SP-E	S	04-29-15 14:00		507094-005
SP-W	S	04-29-15 14:10		507094-006



CASE NARRATIVE



 ${\it Client Name: PLAINS ALL AMERICAN EH\&S}$

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Report Date: 08-MAY-15 Work Order Number(s): 507094 Date Received: 05/01/2015

Sample receip	t non conformances and comments:	
Sample receip	t non conformances and comments per sample:	
None		



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: **TT-1** @13'

Matrix: Soil

% Moisture: 7.49

Lab Sample Id: 507094-001

Date Collected: 04.29.15 11.49

Basis: Dry Weight

Date Received: 05.01.15 12.00

Analytical Method: BTEX by EPA 8021

Prep Method: SW5030B

Seq Number

967656

Date Prep: 05.06.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	6.12	mg/kg	05.07.15 15.57		50
Ethylbenzene	100-41-4	4.54	mg/kg	05.07.15 15.57		50
m_p-Xylenes	179601-23-1	15.7	mg/kg	05.07.15 15.57		50
o-Xylene	95-47-6	5.56	mg/kg	05.07.15 15.57		50
Xylenes, Total	1330-20-7	21.3	mg/kg	05.07.15 15.57		50
Total BTEX		31.9	mg/kg	05.07.15 15.57		50

Analytical Method: TPH by SW8015 Mod

Seq Number 967301

Prep Method: TX1005P

Date Prep: 05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	3470	mg/kg	05.02.15 11.14		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	8460	mg/kg	05.02.15 11.14		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	260	mg/kg	05.02.15 11.14		5
Total TPH	PHC635	12200	mg/kg	05.02.15 11.14		5



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: TT-1 @20' Matrix: Soil % Moisture: 6.6

Basis:

Lab Sample Id: 507094-002

Date Collected: 04.29.15 13.00 Date Received: 05.01.15 12.00 Dry Weight

Analytical Method: BTEX by EPA 8021

967656

Prep Method: SW5030B

Date Prep:

05.06.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	16.4	mg/kg	05.07.15 16.14		100
Ethylbenzene	100-41-4	13.7	mg/kg	05.07.15 16.14		100
m_p-Xylenes	179601-23-1	45.8	mg/kg	05.07.15 16.14		100
o-Xylene	95-47-6	17.0	mg/kg	05.07.15 16.14		100
Xylenes, Total	1330-20-7	62.8	mg/kg	05.07.15 16.14		100
Total BTEX		92.9	mg/kg	05.07.15 16.14		100

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number

Seq Number

967292

Prep Method: E300P

Date Prep:

05.01.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.57	mg/kg	05.02.15 03.37		1

Analytical Method: TPH by SW8015 Mod

Seq Number

967301

Prep Method: TX1005P

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	1750	mg/kg	05.02.15 11.35		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	5330	mg/kg	05.02.15 11.35		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	167	mg/kg	05.02.15 11.35		5
Total TPH	PHC635	7250	mg/kg	05.02.15 11.35		5

Sample Id:

Seq Number

SP-N

Matrix:

Soil

% Moisture : 6.06

Lab Sample Id: 507094-003

Date Collected: 04.29.15 14.15

Basis:

Dry Weight

Prep Method: TX1005P

Date Received: 05.01.15 12.00

Analytical Method: TPH by SW8015 Mod

967301

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	30.2	mg/kg	05.02.15 11.56		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1600	mg/kg	05.02.15 11.56		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	55.6	mg/kg	05.02.15 11.56		1
Total TPH	PHC635	1690	mg/kg	05.02.15 11.56		1



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: SP-S

Matrix: Soil

% Moisture: 2.4

Lab Sample Id: 507094-004

Date Collected: 04.29.15 14.05

Basis:

Dry Weight

Date Received: 05.01.15 12.00

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Seq Number

967301

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	337	mg/kg	05.02.15 13.00		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4660	mg/kg	05.02.15 13.00		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	226	mg/kg	05.02.15 13.00		1
Total TPH	PHC635	5220	mg/kg	05.02.15 13.00		1

Sample Id:

Seq Number

SP-E

Matrix:

Soil

% Moisture: 3.62

Lab Sample Id: 507094-005

Date Collected: 04.29.15 14.00

Basis:

Dry Weight

Date Received: 05.01.15 12.00

Analytical Method: TPH by SW8015 Mod

967301

Prep Method: TX1005P

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	66.6	mg/kg	05.02.15 13.21		1
Total TPH	PHC635	66.6	mg/kg	05.02.15 13.21		1

Sample Id:

SP-W

Matrix:

Soil

% Moisture: 11.88

Date Collected: 04.29.15 14.10 Basis: Dry Weight

Lab Sample Id: 507094-006

Date Received: 05.01.15 12.00

Analytical Method: TPH by SW8015 Mod

Seq Number

967301

Prep Method: TX1005P

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	108	mg/kg	05.02.15 13.43		1
Total TPH	PHC635	108	mg/kg	05.02.15 13.43		1



Project Id: SRS#2013-044

Contact: Ben Arguijo

Project Location:

Certificate of Analysis Summary 507094

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Fri May-01-15 12:00 pm

Report Date: 08-MAY-15

Project Manager: Kelsey Brooks

								I Toject Mai	iagei. i	xeisey brooks	,		
	Lab Id:	507094-	001	507094-0	02	507094-0	03	507094-0	04	507094-0	05	507094-00	06
Analogia Danasata I	Field Id:	TT-1 @	13'	TT-1 @2	0'	SP-N		SP-S		SP-E		SP-W	
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-29-15	11:49	Apr-29-15 1	3:00	Apr-29-15 1	4:15	Apr-29-15	4:05	Apr-29-15 1	4:00	Apr-29-15 1	4:10
BTEX by EPA 8021	Extracted:	May-06-15	16:00	May-06-15	16:00								
	Analyzed:	May-07-15	15:57	May-07-15	16:14								
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0.0540	ND	0.107								
Toluene		6.12	0.108	16.4	0.214								
Ethylbenzene		4.54	0.0540	13.7	0.107								
m_p-Xylenes		15.7	0.108	45.8	0.214								
o-Xylene		5.56	0.0540	17.0	0.107								
Xylenes, Total		21.3	0.0540	62.8	0.107								
Total BTEX		31.9	0.0540	92.9	0.107								
Inorganic Anions by EPA 300/300.1	Extracted:			May-01-15	15:00								
	Analyzed:			May-02-15)3:37								
	Units/RL:			mg/kg	RL								
Chloride				3.57	2.14								
Percent Moisture	Extracted:												
	Analyzed:	May-01-15	17:00	May-01-15	17:00	May-01-15 1	17:00	May-01-15	17:00	May-01-15	17:00	May-01-15 1	7:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.49	1.00	6.60	1.00	6.06	1.00	2.40	1.00	3.62	1.00	11.9	1.00
TPH by SW8015 Mod	Extracted:	May-01-15	16:00	May-01-15	16:00	May-01-15 1	16:00	May-01-15	16:00	May-01-15	16:00	May-01-15 1	6:00
	Analyzed:	May-02-15	11:14	May-02-15	11:35	May-02-15 1	11:56	May-02-15	13:00	May-02-15	13:21	May-02-15 1	3:43
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons	•	3470	80.7	1750	80.0	30.2	15.9	337	15.4	ND	15.5	ND	17.0
C12-C28 Diesel Range Hydrocarbons		8460	80.7	5330	80.0	1600	15.9	4660	15.4	66.6	15.5	108	17.0
C28-C35 Oil Range Hydrocarbons		260	80.7	167	80.0	55.6	15.9	226	15.4	ND	15.5	ND	17.0
Total TPH		12200	80.7	7250	80.0	1690	15.9	5220	15.4	66.6	15.5	108	17.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks

Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Sample: 507094-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 967301

Matrix: Soil Batch: 1

Units:	mg/kg	Date Analyzed: 05/02/15 11:14	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chloroocta	ane		125	99.6	126	70-135				
o-Terphenyl			50.1	49.8	101	70-135				

Lab Batch #: 967301

Sample: 507094-002 / SMP

Batch: 1

Matrix: Soil

Units:

mg/kg

Date Analyzed: 05/02/15 11:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.6	118	70-135	
o-Terphenyl	49.9	49.8	100	70-135	

Lab Batch #: 967301

Sample: 507094-003 / SMP

Batch:

Matrix: Soil

Units:

mg/kg

Date Analyzed: 05/02/15 11:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 967301

Sample: 507094-004 / SMP

Batch:

Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 13:00	SURROGATE RECOVERY STUDY						
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	ctane		111	99.9	111	70-135			
o-Terpheny	yl		55.1	50.0	110	70-135			

Lab Batch #: 967301

Sample: 507094-005 / SMP

Batch:

Matrix: Soil

Units: mg/kg Date Analyzed: 05/02/15 13:21 SURROGATE RECOVERY STUDY								
	TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooct	ane		109	99.8	109	70-135		
o-Terphenyl			54.0	49.9	108	70-135		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

--- - /1- --

Sample: 507094-006 / SMP

Project ID: SRS#2013-044

Lab Batch #: 967301

TT... *4 ...

Matrix: Soil Batch: 1

Units:	mg/kg	Date Analyzed: 05/02/15 13:43	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			[2]			
1-Chlorooct	ane		113	99.7	113	70-135		
o-Terphenyl			57.1	49.9	114	70-135		

Lab Batch #: 967656 Sample: 507094-001 / SMP Batch: 1 Matrix: Soil

Units:	Onits: mg/kg Date Analyzed: 05/01/15 15:57 SURROGATE RECOVERY STUDY								
	BTE	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluor	robenzene		0.0315	0.0300	105	80-120			
4-Bromoflu	uorobenzene		0.0300	0.0300	100	80-120			

Sample: 507094-002 / SMP **Lab Batch #:** 967656 Batch: 1 Matrix: Soil

Date Analyzed: 05/07/15 16:14 **Units:** mg/kg

SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Sample: 692051-1-BLK / BLK **Lab Batch #:** 967301 Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/02/15 04:26	SURROGATE RECOVERY STUDY						
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorood	ctane		102	100	102	70-135			
o-Terpheny	yl		52.8	50.0	106	70-135			

Lab Batch #: 967656 **Sample:** 692215-1-BLK / BLK Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/07/15 06:05	SURROGATE RECOVERY STUDY					
	ВТІ	EX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluoro	obenzene		0.0300	0.0300	100	80-120		
4-Bromoflu	orobenzene		0.0313	0.0300	104	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Project ID: SRS#2013-044

Lab Batch #: 967301

Sample: 692051-1-BKS / BKS

Matrix: Solid Batch: 1

Units:	mg/kg	Date Analyzed: 05/02/15 04:50	SURROGATE RECOVERY STUDY				
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		113	100	113	70-135	
o-Terphenyl			48.7	50.0	97	70-135	

Lab Batch #: 967656 **Sample:** 692215-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 05/07/15 06:22 SURROGATE RECOVERY STUDY							
	BTF	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoi	robenzene		0.0321	0.0300	107	80-120	
4-Bromofli	uorobenzene		0.0319	0.0300	106	80-120	

Sample: 692051-1-BSD / BSD Lab Batch #: 967301 Batch: 1 Matrix: Solid

Date Analyzed: 05/02/15 05:13 **Units:** mg/kg SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	50.1	50.0	100	70-135	

Lab Batch #: 967656 **Sample:** 692215-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/07/15 06:38	SURROGATE RECOVERY STUDY						
	ВТІ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluor	robenzene		0.0323	0.0300	108	80-120			
4-Bromofli	uorobenzene		0.0313	0.0300	104	80-120			

Batch: **Lab Batch #:** 967301 Sample: 507062-002 S / MS Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 06:20	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		121	99.7	121	70-135	
o-Terpheny	1		63.0	49.9	126	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

ma/lea

Sample: 507210-003 S / MS

Project ID: SRS#2013-044

Lab Batch #: 967656

T T-- 24 -- -

Date Analyzed: 05/07/15 06:55

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 05/07/15 06:55	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Units: mg/kg Date Analyzed: 05/02/15 06:43 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Found Limits Flags Amount Recovery [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 111 99.8 111 70-135 o-Terphenyl 48.2 49.9 97 70-135

 Lab Batch #: 967656
 Sample: 507210-003 SD / MSD
 Batch: 1
 Matrix: Soil

Units: mg/kg **Date Analyzed:** 05/07/15 07:11 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Limits Flags Found Amount Recovery %R %R [A] [B] [D] **Analytes** 1,4-Difluorobenzene 0.0298 0.0300 99 80-120 4-Bromofluorobenzene 0.0333 0.0300 111 80-120

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094 Project ID: SRS#2013-044

Analyst: ARM Date Prepared: 05/06/2015 Date Analyzed: 05/07/2015

Lab Batch ID:967656Sample:692215-1-BKSBatch #:1Matrix:Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0974	97	0.100	0.0977	98	0	70-130	35	
Toluene	< 0.00200	0.100	0.101	101	0.100	0.101	101	0	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.104	104	0.100	0.104	104	0	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.209	105	0.200	0.208	104	0	70-135	35	
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.105	105	0	71-133	35	

Analyst: JUM Date Prepared: 05/01/2015 Date Analyzed: 05/01/2015

Units: mg/kg BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	52.9	106	50.0	53.2	106	1	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



mg/kg

Units:

BS / BSD Recoveries

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094 Project ID: SRS#2013-044

 Analyst:
 ARM
 Date Prepared: 05/01/2015
 Date Analyzed: 05/02/2015

Lab Batch ID: 967301Sample: 692051-1-BKSBatch #: 1Matrix: Solid

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	905	91	1000	915	92	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	963	96	1000	964	96	0	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes









Work Order #: 507094

Lab Batch #: 967292 **Date Analyzed:** 05/01/2015 Project ID: SRS#2013-044

Date Prepared: 05/01/2015

Analyst: JUM

QC-Sample ID: 506833-011 S Batch #: Matrix: Soil

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]		. ,		
Chloride	<2.06	51.5	56.2	109	80-120	

Lab Batch #: 967292

Date Analyzed: 05/01/2015 **QC- Sample ID:** 506903-001 S **Date Prepared:** 05/01/2015

Analyst: JUM

Batch #:

Matrix: Solid

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.8	299	308	95	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



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Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094 **Project ID:** SRS#2013-044

Lab Batch ID:

967656

QC- Sample ID: 507210-003 S

Batch #:

Matrix: Soil

Date Analyzed:

05/07/2015

Date Prepared: 05/06/2015

Analyst: ARM

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	%R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
Benzene	< 0.00115	0.115	0.105	91	0.116	0.103	89	2	70-130	35	
Toluene	< 0.00231	0.115	0.102	89	0.116	0.103	89	1	70-130	35	
Ethylbenzene	< 0.00115	0.115	0.107	93	0.116	0.107	92	0	71-129	35	
m_p-Xylenes	< 0.00231	0.231	0.208	90	0.231	0.207	90	0	70-135	35	
o-Xylene	< 0.00115	0.115	0.112	97	0.116	0.112	97	0	71-133	35	

Lab Batch ID:

967301

QC- Sample ID: 507062-002 S

Batch #:

Matrix: Soil

Date Analyzed:

05/02/2015

Date Prepared: 05/01/2015

Analyst: ARM

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[C]	[D]	[E]	Kesuit [F]	[G]	70	/0K	/0KI D	
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1030	93	1110	995	90	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	494	1110	1690	108	1110	1470	88	14	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094

Lab Batch #: 967296 **Project ID:** SRS#2013-044

 Date Analyzed:
 05/01/2015 17:00
 Date Prepared:
 05/01/2015
 Analyst: WRU

 QC- Sample ID:
 507031-033 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	16.6	17.4	5	20	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/01/2015 12:00:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 507094

Temperature Measuring device used:

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		4
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when reline	quished/ received?	Yes
#11 Chain of Custody agrees with sample	le label(s)?	Yes
#12 Container label(s) legible and intact	?	Yes
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#14 Samples in proper container/ bottle?		Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicat	ed test(s)?	Yes
#18 All samples received within hold time	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-		N/A
analysts.	•	
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
	n/ 14	
Checklist completed by: Checklist reviewed by:	Kelsey Brooks	Date: 05/01/2015
Checklist reviewed by:	Jac	Date: 05/01/2015
	Julian Martinez	Date. 00/01/2013

Final 1.001

	200	do
23	NE	60
Lab	oral	ories

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800 roool-c

Page 1 of 1

* Container Type Codes LAB W 0 # · A Vial Amber

VA Vial Amber

Vial Clear

Vial Pre-preserved ES Encore Sampler TS TerraCore Sampler AC Air Canister

ompany: Basin Environmental Service Technologies, LLC	Phone	e: ₍₅₇	5)396-2	378 _	Field billable Hrs:								20,10	GA Glass Amber TB Tedlar Bag GC Glass Clear ZB Zip Lock Bag PA Plastic Amber PC Plastic Clear PC Plastic Clear			
ddress: 3100 Plains Hwy.	Fax:	Fax: (575)396-2378			TAT Work Days = D Need results by: Time:						Other						
ity: Lovington State	: NM Zip:			120	Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other_									Size(s): 20z, 40z, 80z, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other			
M/Attn: Ben J. Arguijo Emai	1.		88260 @basinenv.com		ANALYSES REQUESTED							** Preservative Type Codes					
Project ID: Palladium 7-1 4-Inch Poly SRS #: 2013-044			PO#: PAA-C. Bryant			C G	C GC	-		+	+			A. None E. HCL I. Ice B. HNO ₃ F. MeOH J. MCAA C H ₂ SO ₄ G. Na ₂ S ₂ O ₃ K. ZnAc&NaOH			
Invoice To: Camille Bryant Plains All American			Quote #:			' '		+-	+					D. NaOH H. NaHSO ₄ L Asbc Acid&NaOH O.			
Sampler Name: Circle One Event: Daily Matt Taylor Semi-Annual Annual			Weekly Monthly Quartely N/A			TPH	Chloride						Sample Run PAH PHOnly If	^ Matrix Type Codes GW Ground Water S Soil/Sediment/Solid WW Waste Water W Wipe			
= Complete	llect Matrix me Code	2 Ch Ch	Integrity OK (Y/N)	Total # of containers Exa	Volatiles by 8260	ਤੌਂ ਤਿੰ	BTEX						Hold Sc (CALL) on Highest TPH	DW Drinking Water A Air SW Surface Water O Oil OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge			
					#Cont Lab Only:									REMARKS			
_1 TT-1 @ 13' 4/29/2015 11	49 S			1	>				1	T	T						
_2 TT-1 @ 20' 4/29/2015 13'	00 S			1	×				+	+-		_		NeedTAtresults by 5			
3 SP-N 4/29/2015 14	15 S			1	×				+					****RUSH****			
4 SP-S 4/29/2015 144	05 S			1	×		HOLD		+	1		-					
5 SP-E 4/29/2015 140	00 S			1	X		-		+	+							
6 SP-W 4/29/2015 14				1	X					+	+						
7				•			+	+-	1	-	-						
8		\dagger	\neg				+-	-	-			_					
9			\dashv				+										
0		$\dagger \dagger$	\top														
Reg. Program / Clean-up Std STATE for Cel	rts & Regs	QA	VQC L	evel & Ce	rtification		EDDs		COC &	Labels	6						
s TRRP DW NPDES LPST DryCln FL TX GA NC SC In: Relinquished by A	NJ PA OK LA	OK LA 1 2 3 4 CLP A			AFCEE QAPP Other:		ADaPT SEDD ERPIMS XLS Other:		Match I Absent	ncomplete Unclear			N	Lab Use Only YES NO N/A Ion-Conformances found? samples intact upon arrival?			
11/1	ENV				7ime		Received by			Affiliation		Date Time		deceived on Wet Ice?			
	in Venv	- /			1345				Basin Env.		4/29/	1/15 / 100 R		deceived within holding time?			
	IN ENV	7			50	TO.			W	Kliccol		IST LAND Pro		OCs rec'd w/o headspace? roper containers used?			
A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0	insur	1544 4:20,5 3			6	4	&Birth.			ms III		a	pr	H verified-acceptable, excl VOCs?			

S Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #



Work Order #: 507094

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Date/ Time Received: 05/01/2015 12:00:00 PM

Temperature Measuring device used:

5	Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		4	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on shipping contained	er/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?		N/A	
#6 *Custody Seals Signed and dated?		N/A	
#7 *Chain of Custody present?		Yes	
#8 Sample instructions complete on Chain of	Custody?	Yes	
#9 Any missing/extra samples?		No	
#10 Chain of Custody signed when relinquish	ed/ received?	Yes	
#11 Chain of Custody agrees with sample lab	el(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with Cha	ain of Custody?	Yes	
#14 Samples in proper container/ bottle?		Yes	
#15 Samples properly preserved?		Yes	
#16 Sample container(s) intact?		Yes	
#17 Sufficient sample amount for indicated te	st(s)?	Yes	
#18 All samples received within hold time?		Yes	
#19 Subcontract of sample(s)?		No	
#20 VOC samples have zero headspace (less	s than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,1 samples for the analysis of HEM or HEM-SGT analysts.		N/A	
#22 >10 for all samples preserved with NaAso	O2+NaOH, ZnAc+NaOH?	N/A	
* Must be completed for after-hours deliver	y of samples prior to placing in	the refrige	erator

ompleted for after-hours de	livery of samples prior to placi	ng in the refrigerator
	PH Device/Lot#:	
Checklist completed by:	Kelsey Brooks	Date: 05/01/2015
Checklist reviewed by:	Julian Martinez	Date: 05/01/2015

Analyst:

From: <u>Dade, Randy, EMNRD</u>

To: <u>Patterson, Heather, EMNRD</u>

Subject: FW: Re

Date: Tuesday, May 19, 2015 9:52:45 AM

From: Pair, Randal [mailto:rpair@blm.gov] Sent: Monday, May 18, 2015 1:47 PM

To: Ben J. Arguijo

Cc: Dade, Randy, EMNRD; Camille J. Bryant; Bobby Blackwood; sjwalters@basinenv.com

Subject: Re:

Whoops! Forgot to mention Lesser Prairie Chicken - this leak is in an area where the timing restriction applies - no work between 3:00 a.m. to 9:00 a.m. [From March 1 to June 15]. In this particular area, this timing requirement might be waived, depending upon this year's survey data. If that is a big imposition and you want to pursue a waiver, let me know.

Randal "Randy" Pair

Envir. Protection Specialist - Realty Compliance

office: 575.234.6240 cell: 575.361.0062 email: rpair@blm.gov

On Mon, May 18, 2015 at 12:28 PM, Ben J. Arguijo < bjarguijo@basinenv.com > wrote: Thank you, sir.

Ben

Ben J. Arguijo
Project Manager
Basin Environmental
3100 Plains Hwy.
P.O. Box 301
Lovington, NM 88260
p:(575)396-2378 m:(806)549-9597
f:(575)396-1429

bjarguijo@basinenv.com

On Mon, May 18, 2015 at 11:59 AM, Pair, Randal < rpair@blm.gov > wrote: Ben.

With your addendum, I approve this general approach. As your addendum noted, BLM will want to see lab results of final confirmation samples before BLM approves liner installation and backfilling.

Liner - if needed - should extend 4-ft laterally beyond remaining contamination (and, if feasible, turned vertically downward 2-feet at that extra 4-ft extent). And you will GPS the area of the liner for BLM records.

Randal "Randy" Pair Envir. Protection Specialist - Realty Compliance office: <u>575.234.6240</u> cell: <u>575.361.0062</u> email: <u>rpair@blm.gov</u>

On Mon, May 18, 2015 at 8:27 AM, Ben J. Arguijo

 bjarguijo@basinenv.com> wrote:

Gentlemen,

I failed to note that laboratory analytical results and field-screens from the delineation activities will be provided to, and discussed with, the NMOCD and BLM prior to commencement of any of the proposed remediation activities. Apologies.

Respectfully, Ben J. Arguijo

Ben J. Arguijo
Project Manager
Basin Environmental
3100 Plains Hwy.
P.O. Box 301
Lovington, NM 88260
p:(575)396-2378 m:(806)549-9597
f:(575)396-1429
bjarguijo@basinenv.com

On Mon, May 18, 2015 at 8:13 AM, Ben J. Arguijo

bjarguijo@basinenv.com> wrote: Mr. Dade and Mr. Pair,

Attached please find an *Environmental Site Summary & Spill Remediation Plan* (Work Plan) for the Plains All American Pipeline, LP (Plains), release site known as Palladium 7-1 4-Inch Poly.

As has been discussed on-site and via telephone, the crude oil release occurred in March 2013 and was initiall estimated to be approximately one-half of a barrel (0.5 bbl) in size. The site fell through the cracks as a result of personnel transitions but was revisited last month. Laboratory analytical results and field-screens from samples collected during delineation activities conducted on April 16 and April 29, 2015, indicated the release was actually greater than or equal to five barrels (=5 bbls). The release was subsequently reported to both the NMOCD Artesia District Office and the BLM Carslbad Field Office. An amended C-141 is included in the attached Work Plan.

Plains and Basin Environmental request permission to commence the following delineation activities described in the Work Plan posthaste:

"The area around delineation trench TT-1 will be excavated to approximately five feet (5') bgs to allow access for heavy equipment to further advance the trench. The trench will be advanced to the extent practicable. Soil samples will be collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. A representative selection of samples will be submitted to the laboratory for confirmatory analyses of BTEX, TPH, and/or chloride concentrations using the EPA laboratory analytical methods described above. If vertical

delineation cannot be achieved via trenching, a drilling rig will be employed to advance one (1) soil boring (SB-1) in the area of trench TT-1."

Please review the Work Plan at your earliest convenience. I look forward to hearing back from you.

Thank you for your time and consideration.

Respectfully, Ben J. Arguijo

Ben J. Arguijo
Project Manager
Basin Environmental
3100 Plains Hwy.
P.O. Box 301
Lovington, NM 88260
p:(575)396-2378 m:(806)549-9597
f:(575)396-1429
bjarguijo@basinenv.com

From: Patterson, Heather, EMNRD
To: <u>"bjarguijo@basinenv.com"</u>

Subject: Palladium 7-1

Date: Wednesday, May 20, 2015 7:00:00 AM

Mr. Arguijo,

Your work plan is approved.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

In the future, please remit your work plans to both Mr. Bratcher and myself to ensure a timely review.

Heather Patterson Environmental Specialist NMOCD District II Office (575)748-1283 ext.101 Cell (575)703-0228

From: Dade, Randy, EMNRD

Sent: Tuesday, May 19, 2015 9:54 AM **To:** Patterson, Heather, EMNRD

Subject: FW:

From: Ben J. Arquijo [mailto:bjarquijo@basinenv.com]

Sent: Monday, May 18, 2015 8:14 AM **To:** Dade, Randy, EMNRD; Randy Pair

Cc: Camille J. Bryant; Bobby Blackwood; sjwalters@basinenv.com

Subject:

Mr. Dade and Mr. Pair,

Attached please find an *Environmental Site Summary & Spill Remediation Plan* (Work Plan) for the Plains All American Pipeline, LP (Plains), release site known as Palladium 7-1 4-Inch Poly.

As has been discussed on-site and via telephone, the crude oil release occurred in March 2013 and was initiall estimated to be approximately one-half of a barrel (0.5 bbl) in size. The site fell through the cracks as a result of personnel transitions but was revisited last month. Laboratory analytical results and field-screens from samples collected during delineation activities conducted on April 16 and April 29, 2015, indicated the release was actually greater than or equal to five barrels (=5 bbls). The release was subsequently reported to both the

NMOCD Artesia District Office and the BLM Carslbad Field Office. An amended C-141 is included in the attached Work Plan.

Plains and Basin Environmental request permission to commence the following delineation activities described in the Work Plan posthaste:

"The area around delineation trench TT-1 will be excavated to approximately five feet (5') bgs to allow access for heavy equipment to further advance the trench. The trench will be advanced to the extent practicable. Soil samples will be collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. A representative selection of samples will be submitted to the laboratory for confirmatory analyses of BTEX, TPH, and/or chloride concentrations using the EPA laboratory analytical methods described above. If vertical delineation cannot be achieved via trenching, a drilling rig will be employed to advance one (1) soil boring (SB-1) in the area of trench TT-1."

Please review the Work Plan at your earliest convenience. I look forward to hearing back from you.

Thank you for your time and consideration.

Respectfully, Ben J. Arguijo

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f:(575)396-1429
bjarguijo@basinenv.com

From: Ben J. Arguijo

To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; Randy Pair
Cc: Camille J. Bryant; Bobby Blackwood; sjwalters@basinenv.com

 Subject:
 Palladium 7-1 4-Inch Poly (2RP-3018)

 Date:
 Thursday, July 02, 2015 10:29:55 AM

All.

As we discussed in our conference call yesterday, the Palladium 7-1 4-Inch Poly release site (2RP-3018) has been excavated horizontally and vertically to the extent practicable, in accordance with the *Environmental Site Summary & Spill Remediation Plan* dated 5/8/2015. The north, south, and west walls of the excavation have been advanced an additional 4 feet to create a buffer zone around the maximum horizontal extent of impacted soil. The floor of the excavation will now be fitted with a 20-mil, impermeable, polyethylene liner at approximately 10 feet bgs. A cushion of sand will be installed approximately 6 inches both above and below the liner to protect it during installation and backfilling activities. The liner will extend horizontally into the buffer zone and be sloped to facilitate shedding of moisture outside the footprint of the excavation. The liner will also extend vertically approximately 3 to 4 feet along the eastern extent of the excavation, as excavation of this area was limited by the presence of an 8-inch, steel natural gas pipeline owned by Regency Energy Partners. This engineered control will serve to inhibit vertical migration of contaminants left in-situ both upward to the vegetative zone and downward to the underlying groundwater.

Since we were unable to achieve vertical delineation in trench TT-1, a section of 8-inch PVC conduit will be installed near the release point to allow advancement of a soil boring (SB-1) through the liner at a later date. The riser will be fitted with a chemically welded, 40-mil boot to preserve the integrity and impermeability of the liner. Following installation of the liner and conduit, the excavation will be backfilled with locally acquired, non-impacted material, compacted, and contoured to fit the surrounding topography.

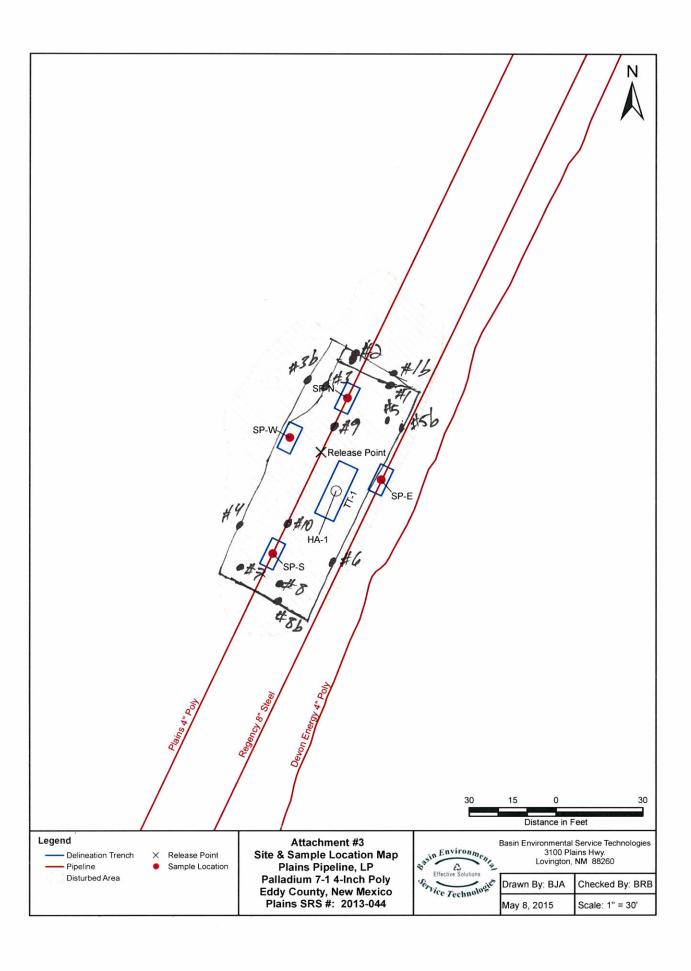
Following backfilling, a delineation trench will be advanced to the east of the Regency pipeline to investigate the vertical and horizontal extent of impacted soil in that area. The trench will be advanced at 1- to 2-foot vertical intervals until PID field-screens and/or olfactory and visual senses suggest contaminants of concern are below the NMOCD recommended remediation action levels established for the site, or to the extent practicable.

Upon completion of the proposed corrective actions, a *Remediation Summary & Risk-Based Site Closure Request* will be submitted to the NMOCD and BLM, documenting remediation activities and results of confirmation soil samples.

The disturbed area will be seeded with a BLM-approved seed mix at a time conducive to germination.

If you have any questions, comments, or concerns, please do not hesitate to contact me by telephone or email.

Respectfull	y,
Ben J. Argu	iijo



Received by OCD: 4/3/2023 3:09:15 PM

TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

PLAINS ALL AMERICAN PIPELINE, LP PALLADIUM 7-1 4-INCH POLY EDDY COUNTY, NEW MEXICO PLAINS SRS #: 2013-044

						METHOD: E	PA SW 846	MET	HOD: 80		4500 CI-B				
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE	_		TOTAL XYLENES	TOTAL BTEX	GRO C ₆ -C ₁₂	DRO C ₁₂ -C ₂₈		TPH C ₆ -C ₃₅ (mg/Kg)	CHLORIDE (mg/Kg)
	(200)			(9/119/	(mg/itg/	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/itg/	(9/119/
HA-1 @ 0.5'	0.5'	4/16/2015	In-Situ	0.1220	0.3870	0.0531	0.1840	0.0486	0.2330	0.7950	740	10,600	286	11,600	-
HA-1 @ 1'	1'	4/16/2015	In-Situ	0.0377	0.2040	0.0512	0.1790	0.0361	0.2150	0.5080	742	5,990	213	6,950	-
HA-1 @ 3'	3'	4/16/2015	In-Situ	-	-	-			-	ı	552	3,680	102	4,330	-
HA-1 @ 5'	5'	4/16/2015	In-Situ	-	-	-			-	ı	852	4,100	105	5,060	-
HA-1 @ 7.5'	7.5'	4/16/2015	In-Situ	-	-	-			-	-	6,380	14,800	376	21,600	-
TT-1 @ 13'	13'	4/29/2015	In-Situ	< 0.0540	6.12	4.54	15.7	5.56	21.3	31.9	3,470	8,460	260	12,200	-
TT-1 @ 20'	20'	4/29/2015	In-Situ	< 0.1070	16.4	13.7	45.8	17.0	62.8	92.9	1,750	5,330	167	7,250	3.57
SP-N	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	30.2	1,600	55.6	1,690	-
SP-S	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	337	4,660	226	5,220	-
SP-E	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<15.5	66.6	<15.5	66.6	-
SP-W	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<17.0	108	<17.0	108	-
_															
TT-1 @ 24'	24'	5/21/2015	In-Situ	0.2450	10.6	8.46	25.6	10.0	35.6	54.9	1,930	3,990	160	6.080	-
TT-1 @ 26'	26'	5/21/2015	In-Situ	1.20	18.8	10.9	32.7	12.6	45.3	76.2	1.920	3,900	174	5,990	
		0,21,2010	5.10		1010	1010	<u></u>		1010	101	.,	2,000		-,,,,,,	
#1	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	-	1,380	9,020	1,540	11,900	-
#2	3.5'	6/1/2015	Excavated	_	_	_	_	-	_	_	226	3.170	127	3.520	-
#3	3.5'	6/1/2015	In-Situ	_	_	_	_	-	_	_	<17.2	86.8	<17.2	86.8	-
#4	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	_	<17.8	24.0	<17.8	24.0	-
#5	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	_	1.020	4.670	172	5,860	-
#6	3.5'	6/1/2015	In-Situ	_	_	_	_	-	_	_	<17.0	103	<17.0	103	-
#7	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	-	81.7	478	<16.7	560	-
#8	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	_	75.9	1,470	45.4	1.590	-
#9	10'	6/1/2015	In-Situ	_	_	_	_	-	_	_	2,490	8,140	268	10.900	-
#10	10'	6/1/2015	In-Situ	-	-	-	-	-	-	-	6,310	12,700	448	19,500	-
											-,-	,		- ,	
#1b @ 9'	9'	6/10/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.6	<16.6	<16.6	<16.6	-
#3b @ 9'	9'	6/10/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.3	<16.3	<16.3	<16.3	-
#5b @ 9'	9'	6/18/2015	In-Situ	-	-	-	-	-	-	-	1,010	4.620	1.020	6,650	-
		5. 15,2510	5.13								.,0.0	.,023	.,023	5,555	
TT-1 @ 28'	28'	6/15/2015	In-Situ	-	-	-	-	-	-	-	7,850	12,800	542	14,000	-
TT-1 @ 20	30'	6/15/2015	In-Situ	_	_	_	_	_	_	_	4,720	9,790	387	13,100	_
#8b @ 9'	9'	6/15/2015	In-Situ	_	_	_	_	_	-	_	<16.7	39.7	<16.7	39.7	_
		3, 10, 2010	iii Oila								110.7	55.7	110.7	50.7	
NMOCD Recom	mended Per	nediation Act	ion I evel	10						50				5.000	1.000
- = Not analyzed	criaca rici	iodiation Act	IOII LOVOI	10		i	l	l		50	i	l		3,000	1,000

^{- =} Not analyzed.

From: Ben J. Arguijo

bjarguijo@basinenv.com>

Sent: Tuesday, June 28, 2016 5:52 PM

To: mike. bratcher **Cc:** Camille J Bryant

Subject:Palladium 7-1 4-Inch - Site Closure Request [External]Attachments:Palladium_SiteClosureRequest.pdf; Palladium_Final C-141.pdf

Mike,

Per our meeting this morning, attached please find the *Remediation Summary & Risk-Based Site Closure Request* for Plains' Palladium 7-1 4-Inch Poly release site. A Final C-141 is also attached.

If you have any questions/problems, please let me know.

Thanks.

Ben



Ben J. Arguijo Sr. Project Manager Basin Environmental Lovington & Hobbs, NM Mobile:(806)549-9597 bjarguijo@basinenv.com

Basin Environmental Service Technologies, LLC

3100 Plains Highway
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Lovington, New Mexico 88260
bjarguijo@basinenv.com

Office: (575) 396-2378 Fax: (575) 396-1429



REMEDIATION SUMMARY & RISK-BASED SITE CLOSURE REQUEST

PLAINS ALL AMERICAN PIPELINE, LP
PALLADIUM 7-1 4-INCH POLY
Eddy County, New Mexico
Unit Letter "C" (NE/NW), Section 5, Township 24 South, Range 31 East
Latitude 32.25196 North, Longitude -103.80057 West
Plains SRS #: 2013-044

NMOCD Reference #: 2RP-3018

Prepared For:

Plains Pipeline, LP 333 Clay Street, Suite 1600 Houston, Texas 77002

Prepared By:

Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, New Mexico 88260

June 2016

NM OIL CONSERVATION

ARTESIA DISTRICT

JUN 28 2016

RECET

Sen J. Arguijo Project Manager

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FIGURES

Figure 1 – Site Location Map

Figure 2 – Site & Sample Location Map

TABLES

Table 1 – Concentrations of Benzene, BTEX, TPH & Chloride in Soil

APPENDICES

 $Appendix \ A-Photographs$

Appendix B – Soil Boring Log

Appendix C – Laboratory Analytical Reports

Appendix D – Release Notification and Corrective Action (Form C-141)

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains All American Pipeline, LP (Plains), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Palladium 7-1 4-Inch Poly. The legal description of the release site is Unit Letter "C" (NE/NW), Section 5, Township 24 South, Range 31 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.251960° North latitude and -103.800570° West longitude. The property affected by the release is owned by United States Department of the Interior - Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On March 1, 2013, Plains discovered a release had occurred on its Palladium 7-1 pipeline. The release was attributed to a manufacturing defect, which caused a pinhole leak to develop in the four-inch (4"), polyethylene pipeline. The release was initially estimated to be approximately one-half of a barrel (0.5 bbl) of crude oil and, thus, was not reported to the New Mexico Oil Conservation Division (NMOCD).

On April 16, 2015, Basin Environmental commenced delineation activities at the release site. A hand-augered soil boring (HA-1) was advanced near the release point to investigate the vertical extent of impacted soil. The soil boring was advanced in six-inch (6") to one-foot (1') intervals to approximately seven and one-half feet (7.5') below ground surface (bgs). Soil samples were field-screened with a photo-ionization detector (PID), and representative confirmation soil samples (HA-1 @ 0.5', HA-1 @ 1', HA-1 @ 3', HA-1 @ 5', HA-1 @ 7.5') were submitted to Xenco Laboratories in Odessa, Texas, for analysis TPH concentrations using Environmental Protection Agency (EPA) Method SW 846-8015M. Soil samples HA-1 @ 0.5' and HA-1 @ 1' were also analyzed for BTEX concentrations using EPA Method SW 846-8021b.

Laboratory analytical results indicated benzene concentrations ranged from 0.0377 mg/kg in soil sample HA-1 @ 1' to 0.1220 mg/kg in soil sample HA-1 @ 0.5'. Total BTEX concentrations ranged from 0.5080 mg/kg in soil sample HA-1 @ 1' to 0.7950 mg/kg in soil sample HA-1 @ 0.5'. TPH concentrations ranged from 4,330 mg/kg in soil sample HA-1 @ 3' to 21,600 mg/kg in soil sample HA-1 @ 7.5'.

Review of laboratory analytical documentation indicated additional vertical delineation of the release was required.

On April 29, 2015, a series of five (5) delineation trenches (TT-1, N, S, E, and W) were advanced at the site to further investigate the horizontal and vertical extent of impacted soil. Trench TT-1 was advanced in the area represented by hand-augered soil boring HA-1. Trenches N and S were advanced along the Palladium 7-1 poly pipeline, at the northern and southern boundaries, respectively, of the visibly impacted area. Trench E was advanced along an eightinch (8"), steel, natural gas pipeline at the eastern boundary of the visibly impacted area. Trench W was advanced along the western boundary of the visibly impacted area.

The delineation trenches were advanced in one-foot (1') to three-foot (3') intervals to total depths ranging from approximately five feet (5') bgs in trenches N, S, E, and W to approximately

twenty feet (20') bgs in trench TT-1. Soil samples were field-screened with a PID, and six (6) confirmation soil samples (TT-1 @ 13', TT-1 @ 20', SP-N, SP-S, SP-E, SP-W) were submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Soil sample TT-1 @ 20' was also analyzed for chloride using EPA Method 300.1.

Laboratory analytical results indicated benzene concentrations were less than the laboratory method detection limit (MDL) in soil samples TT-1 @ 13' and TT-1 @ 20'. Total BTEX concentrations ranged from 31.9 mg/kg in soil sample TT-1 @ 13' to 92.9 mg/kg in soil sample TT-1 @ 20'. TPH concentrations ranged from 66.6 mg/kg in soil sample SP-E to 12,200 mg/kg in soil sample TT-1 @ 13'. The chloride concentration in soil sample TT-1 @ 20' was 3.57 mg/kg.

Further vertical advancement of delineation trench TT-1 was hampered by the presence of active pipelines on either side of the trench, which restricted the horizontal range of motion of the excavator's boom.

Review of laboratory analytical documentation indicated delineation was not achieved in trenches TT-1 and S, and additional vertical delineation was required in the areas represented by these trenches. Horizontal and vertical delineation to the north, east, and west of the release point was achieved.

General photographs of the release site and remediation activities are provided as Appendix A. Locations of the hand-augered soil boring and delineation trenches are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix C.

Since the April 2015 delineation activities indicated the volume of the release was greater than or equal to five barrels (≥5 bbls), the release was subsequently reported to the NMOCD's Artesia District Office and the BLM's Carlsbad Field Office. The "Release Notification and Corrective Action" (Form C-141), dated May 6, 2015, indicated the release impacted an area of pastureland measuring approximately one hundred feet (100') in length and sixty feet (60') in width. The Form C-141 is provided as Appendix D.

On May 4, 2015, representatives of the BLM, Plains, and Basin Environmental met on-site to visually inspect the release and surrounding area, review the locations of the delineation trenches, and to determine a path forward to an NMOCD- and BLM-approved closure. During the site visit, the BLM representative determined that an archaeological survey of the release site would not be required due to its location along the rights-of-way (ROW) of three (3) pipelines (Plains, Regency Energy Partners, and Devon Energy) and its proximity to a nearby tank battery (i.e., approximately 290 feet west of the release), which would have been surveyed during construction and/or expansion. An archaeological survey would be required in the event that remediation activities encroached upon undisturbed soil to the west of the pipeline ROW.

Since remediation activities did not encroach upon undisturbed soil to the west of the pipeline ROW, no archaeological survey of the site was required.

On May 18, 2015, an *Environmental Site Summary & Spill Remediation Plan* (Work Plan) was submitted to the BLM and NMOCD outlining a strategy to advance the site to an approved, risk-based closure. The Work Plan was approved upon submittal by a representative of the BLM, with the additional requirements that a plastic liner, if required, would 1.) be installed such that it extended approximately four feet (4') laterally beyond the maximum horizontal extent of impacted soil, and 2.) be sloped approximately two feet (2') downward around the perimeter to facilitate runoff of moisture. In addition, the daily work schedule would be modified to prevent interruption of the mating cycle of the Lesser Prairie Chicken (i.e., March 1 to June 15, 3:00 AM to 9:00 AM).

The Work Plan was approved by an NMOCD representative on May 20, 2015, with no additional requirements.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 5, Township 24 South, Range 31 East. A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered approximately two-hundred eighty-five (285) to two-hundred ninety feet (290') bgs. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the Palladium 7-1 4-Inch Poly release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/kg (ppm)
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) 50 mg/kg (ppm)
- Total petroleum hydrocarbons (TPH) 5,000 mg/kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On May 21, 2015, the area around delineation trench TT-1 was excavated to approximately five feet (5') bgs to allow access for heavy equipment to further advance the trench. The trench was re-entered and advanced to approximately twenty-six feet (26') bgs (the extent practicable). Soil

samples were collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. Two (2) confirmation soil samples (TT-1 @ 24' and TT-1 @ 26') were submitted to the laboratory for analysis of BTEX and TPH concentrations using the EPA laboratory analytical methods described above.

Laboratory analytical results indicated benzene concentrations ranged from 0.2450 mg/kg in soil sample TT-1 @ 24' to 1.20 mg/kg in soil sample TT-1 @ 26'. Total BTEX concentrations ranged from 54.9 mg/kg in soil sample TT-1 @ 24' to 76.2 mg/kg in soil sample TT-1 @ 26'. TPH concentrations ranged from 5,990 mg/kg in soil sample TT-1 @ 26' to 6,080 mg/kg in soil sample TT-1 @ 24'.

Review of laboratory analytical documentation indicated additional vertical delineation was required in the area represented by delineation trench TT-1.

On May 29, 2015, excavation of impacted soil commenced at the site. A PID and olfactory/visual senses were used to field-screen the horizontal extent of impacted soil and to guide the excavation. The eastern extent of the excavation was limited by the presence of an eight-inch (8"), steel, natural gas pipeline adjacent to the release site. To prevent sloughing from undermining the structural integrity of the natural gas pipeline and the Palladium 7-1 poly pipeline, the vertical extent of the excavation was limited to a maximum depth of ten feet (10') bgs.

Excavated soil was stockpiled on six (6) mil, polyethylene plastic, pending final disposition. From May 29 through June 19, 2015, approximately one thousand, two hundred seventy-two cubic yards (1,272 yd³) of impacted soil was excavated and transported to Lazy Ace Landfarm, LLC (NMOCD Permit #WM-01-041), for disposal.

On June 1, 2015, ten (10) soil samples (#1, #2, #3, #4, #5, #6, #7, #8, #9, and #10) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from 24.0 mg/kg in soil sample #4 to 19,500 mg/kg in soil sample #10.

On June 10, 2015, the area represented by soil sample #1 was advanced horizontally to the north and vertically to approximately ten feet (10') bgs. Due to the appearance of staining in the excavation sidewall attributed to leaching, the area represented by soil sample #3 was advanced horizontally to the west and vertically to approximately ten feet (10') bgs. Two (2) soil samples (#1b @ 9' and #3b @ 9') were collected from the sidewall of the excavation and submitted to the laboratory for analysis of TPH and BTEX concentrations. Laboratory analytical results indicated TPH and BTEX constituent concentrations were less than the appropriate laboratory MDL.

On June 15, 2015, delineation trench TT-1 was re-entered and advanced to approximately thirty feet (30') bgs (the extent practicable). Soil samples were collected at one (1) to two-foot (2') vertical intervals and field-screened with a PID. Two (2) confirmation soil samples (TT-1 @ 8' and TT-1 @ 30') were submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from 13,100 mg/kg in soil sample TT-1 @ 30' to 14,000 mg/kg in soil sample TT-1 @ 28'.

Review of laboratory analytical documentation indicated additional vertical delineation was required in the area represented by delineation trench TT-1.

To accommodate an expanded access ramp, the area represented by soil sample #8 was advanced horizontally to the south and vertically to approximately ten feet (10') bgs. A soil sample (#8b @ 9') was collected from the sidewall of the excavation and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated the TPH concentration was 39.7 mg/kg.

On June 18, 2015, the area represented by soil sample #5 was advanced to the east. Due to safety and environmental concerns, a three-foot (3') safety buffer zone was maintained between the excavation and the adjacent eight-inch (8") natural gas pipeline. A soil sample (#5b @ 9') was collected from the sidewall of the excavation and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated the TPH concentration was 6,650 mg/kg.

Pursuant to BLM request, the north, south, and west walls of the excavation were advanced an additional four feet (4') to create a buffer zone around the maximum horizontal extent of impacted soil.

On July 1, 2015, representatives of the NMOCD, BLM, Plains, and Basin Environmental conducted a conference call to discuss remediation activities performed at the site to-date and to determine a path forward to an approved closure. Permission was requested to 1.) install a twenty (20) mil, impermeable, polyethylene liner on the floor of the excavation and the buffer zone at approximately ten feet (10') feet bgs, 2.) install a section of eight-inch (8") PVC conduit near the release point to allow advancement of a soil boring (SB-1) through the liner at a later date, and 3.) backfill the excavation.

The requests were approved by the BLM and NMOCD, with the additional requirements that 1.) the liner would be installed such that it extended vertically approximately three (3) to four feet (4') along the eastern wall of the excavation, since excavation in that area was limited by the presence of the eight-inch (8") natural gas pipeline, and 2.) a delineation trench would be advanced to the east of the pipeline to investigate the vertical and horizontal extent of impacted soil in that area. The delineation trench would be advanced until PID field-screens and/or olfactory and visual senses suggested contaminants of concern were below the NMOCD recommended remediation action levels (RRALs) established for the site, or to the extent practicable. In addition, one (1) soil sample would be collected from a depth matching the maximum vertical extent of the staining present on the eastern wall of the excavation (or approximately 6' bgs).

On July 7, 2015, a twenty (20) mil, impermeable, polyethylene liner was installed on the floor excavation at approximately ten feet (10') bgs. A cushion of sand was installed both above and below the liner to protect the liner from damage during installation and backfilling activities. Pursuant to BLM request, the liner was extended horizontally into the four-foot (4') buffer zone around the excavation and sloped to facilitate shedding of moisture outside the footprint of the excavation and the maximum horizontal extent of in-situ impacted soil. The liner was also extended vertically approximately four feet (4') along the eastern extent of the excavation. This

engineered control will serve to inhibit vertical migration of contaminants left in-situ both upward to the vegetative zone and downward to the underlying groundwater.

On July 9, 2015, a section of eight-inch (8") PVC conduit was installed near the release point, in an area representative of delineation trench TT-1, to facilitate advancement of a soil boring through the liner at a later date. The riser was fitted with a chemically welded, forty (40) mil boot to preserve the integrity and impermeability of the liner.

Based on laboratory analytical results, and with NMOCD approval, from July 7 through July 13, 2015, the excavation was backfilled with non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, the final dimensions of the excavation were approximately sixty-two feet (62') in length, approximately forty-five feet (45') in width, and approximately ten feet (10') in depth.

On July 13, 2015, a delineation trench (TT-2) was advanced to investigate the horizontal and vertical extent of impacted soil to the east of the eight-inch (8") natural gas pipeline adjacent to the excavation. The trench was advanced in two-foot (2') intervals to a total depth of approximately fourteen feet (14') bgs. The soil samples were field-screened with a PID, and five (5) confirmation samples (TT-2 @ 2', TT-2 @ 6', TT-2 @ 10', TT-2 @ 12', and TT-2 @ 14') were submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in all submitted soil samples.

Review of laboratory analytical documentation indicated horizontal and vertical delineation to the east of the excavation was achieved.

On October 28, 2015, one (1) soil boring (SB-1) was advanced through the eight-inch (8") PVC conduit that had been set on the floor of the excavation prior to backfilling. The soil boring was advanced to a total depth of one hundred forty feet (140') bgs. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID and olfactory senses. Six (6) confirmation samples (SB-1 @ 30', SB-1 @ 50', SB-1 @ 80', SB-1 @ 105', SB-1 @ 135', and SB-1 @ 140') were submitted to the laboratory for analysis of BTEX and TPH concentrations. Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in soil samples SB-1 @ 30', SB-1 @ 105', SB-1 @ 135', and SB-1 @ 140' to 0.0107 mg/kg in soil sample SB-1 @ 50'. Total BTEX concentrations ranged from less than the laboratory MDL in soil samples SB-1 @ 105', SB-1 @ 135', and SB-1 @ 140' to 28.5 mg/kg in soil sample SB-1 @ 30'. TPH concentrations ranged from 151 mg/kg in soil sample SB-1 @ 140' to 2,900 mg/kg in soil sample SB-1 @ 30'. A soil boring log is provided as Appendix C.

On May 24, 2016, the remediation site was seeded with a BLM-approved seed mixture. Post-seeding photographs of the site are included in Appendix B.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil Samples were delivered to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of BTEX, TPH, and/or chloride concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, and/or chloride concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

The Palladium 7-1 4-Inch Poly release site was excavated to the extent practicable. Soil samples collected from the delineation trenches, soil boring, and floor and sidewalls of the excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene and chloride were below the RRALs established for the site.

A twenty (20) mil, impermeable, polyethylene liner was installed on the floor of the excavation prior to backfilling. The liner was extended horizontally into a four-foot (4') buffer zone around the excavation and sloped to facilitate shedding of moisture outside the footprint of the excavation and the maximum horizontal extent of in-situ impacted soil. The liner was also extended vertically approximately four feet (4') along the eastern extent of the excavation. This engineered control will serve to inhibit vertical migration of contaminants left in-situ both upward to the vegetative zone and downward to the underlying groundwater.

Soil along the eastern extent of the excavation exhibiting TPH concentrations above the RRAL established for the site will be remediated upon decommission and/or abandonment of the currently active natural gas pipeline.

Basin Environmental recommends Plains provide the NMOCD's Artesia District Office and the BLM's Carlsbad Field Office a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the Palladium 7-1 4-Inch Poly release site.

6.0 LIMITATIONS

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

This report has been prepared for the benefit of Plains All American Pipeline, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Pipeline, LP.

7.0 DISTRIBUTION:

Copy 1: Mike Bratcher

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division (District 2)

1301 E. Grand Avenue Artesia, NM 88210

Copy 2: Randal Pair

Bureau of Land Management

602 E. Greene Street Carlsbad, NM 88220

Copy 3: Jeff Dann

Plains All American Pipeline, LP 333 Clay Street, Suite 1600 Houston, Texas 77002 jpdann@paalp.com

Copy 4: Camille Bryant

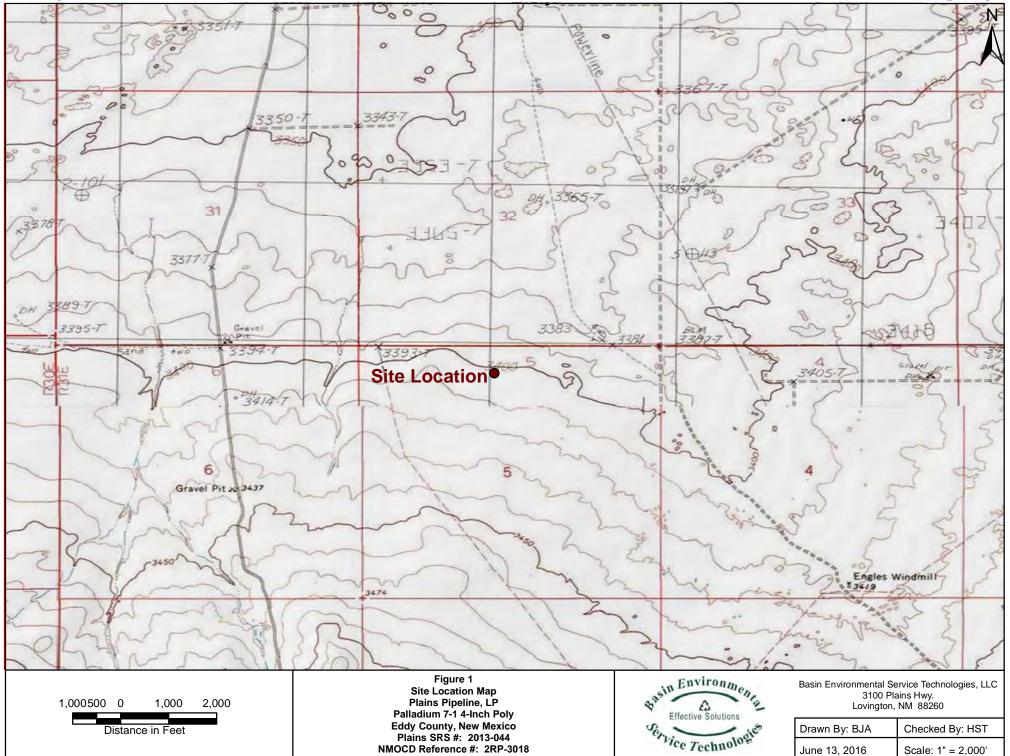
Plains Marketing, LP 2530 State Highway 214 Denver City, Texas 79323 cjbryant@paalp.com

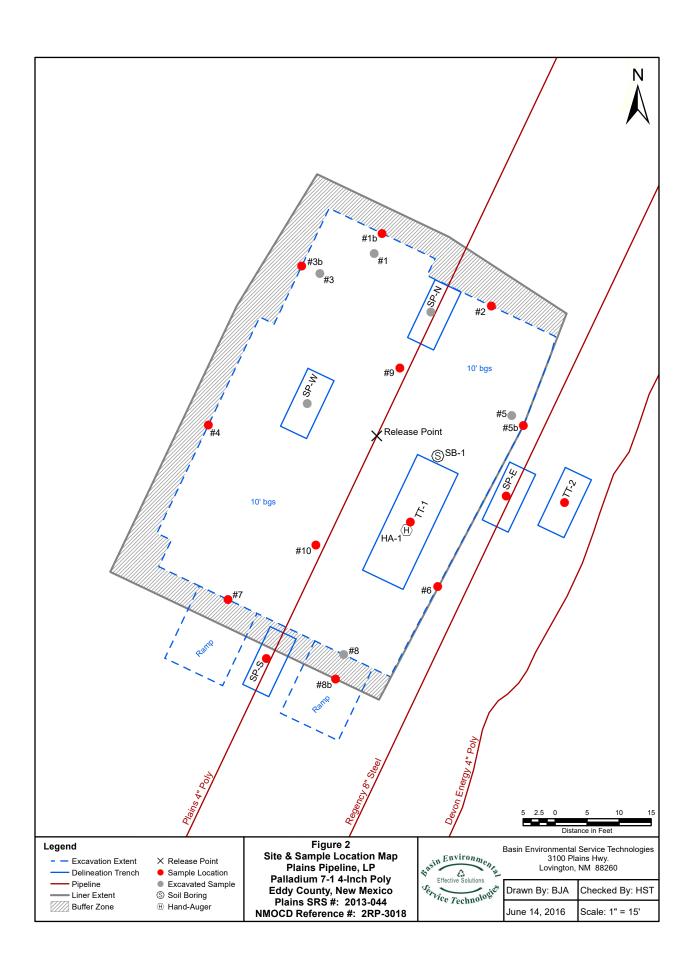
Copy 5: Basin Environmental Service Technologies, LLC

P.O. Box 301

Lovington, New Mexico 88260

Figures





Tables

TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

PLAINS ALL AMERICAN PIPELINE, LP PALLADIUM 7-1 4-INCH POLY EDDY COUNTY, NEW MEXICO PLAINS SRS #: 2013-044

NMOCD REFERENCE #: 2RP-3018

						METHOD: E	PA SW 846	6-8021B, 50	30		MET	THOD: 80 ⁻	15M		4500 CI-B
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	(mg/Kg)	TOLUENE (mg/Kg)	(mg/Kg)	M.P XYLENES (mg/Kg)	O- XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	TPH C ₆ -C ₃₅ (mg/Kg)	CHLORIDE (mg/Kg)
HA-1 @ 0.5'	0.5'	4/16/2015	In-Situ	0.1220	0.3870	0.0531	0.1840	0.0486	0.2330	0.7950	740	10,600	286	11,600	-
HA-1 @ 1'	1'	4/16/2015	In-Situ	0.0377	0.2040	0.0512	0.1790	0.0361	0.2150	0.5080	742	5,990	213	6,950	-
HA-1 @ 3'	3'	4/16/2015	In-Situ	-	-	-			-	-	552	3,680	102	4,330	-
HA-1 @ 5'	5'	4/16/2015	In-Situ	-	-	-			-	-	852	4,100	105	5,060	-
HA-1 @ 7.5'	7.5'	4/16/2015	In-Situ	-	-	-			-	-	6,380	14,800	376	21,600	-
TT-1 @ 13'	13'	4/29/2015	In-Situ	<0.0540	6.12	4.54	15.7	5.56	21.3	31.9	3,470	8,460	260	12,200	-
TT-1 @ 20'	20'	4/29/2015	In-Situ	<0.1070	16.4	13.7	45.8	17.0	62.8	92.9	1,750	5,330	167	7,250	3.57
SP-N	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	30.2	1,600	55.6	1,690	-
SP-S	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	337	4,660	226	5,220	-
SP-E	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<15.5	66.6	<15.5	66.6	-
SP-W	5'	4/29/2015	In-Situ	-	-	-	-	-	-	-	<17.0	108	<17.0	108	-
TT-1 @ 24'	24'	5/21/2015	In-Situ	0.2450	10.6	8.46	25.6	10.0	35.6	54.9	1,930	3,990	160	6,080	-
TT-1 @ 26'	26'	5/21/2015	In-Situ	1.20	18.8	10.9	32.7	12.6	45.3	76.2	1,920	3,900	174	5,990	
#1	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	-	1,380	9,020	1,540	11,900	-
#2	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	-	226	3,170	127	3,520	-
#3	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	-	<17.2	86.8	<17.2	86.8	-
#4	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	-	<17.8	24.0	<17.8	24.0	-
#5	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	-	1,020	4,670	172	5,860	-
#6	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	-	<17.0	103	<17.0	103	-
#7	3.5'	6/1/2015	In-Situ	-	-	-	-	-	-	-	81.7	478	<16.7	560	-
#8	3.5'	6/1/2015	Excavated	-	-	-	-	-	-	-	75.9	1,470	45.4	1,590	-
#9	10'	6/1/2015	In-Situ	-	-	-	-	-	-	-	2,490	8,140	268	10,900	-
#10	10'	6/1/2015	In-Situ	-		-	-	-	-	-	6,310	12,700	448	19,500	-
#1b @ 9'	9'	6/10/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.6	<16.6	<16.6	<16.6	-
#3b @ 9'	9'	6/10/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.3	<16.3	<16.3	<16.3	-
TT 1 0 001	001	0/45/00/5	1 0"								7.050	40.000	5.40	44.000	
TT-1 @ 28'	28'	6/15/2015	In-Situ	-	-	-	-	-	-	-	7,850	12,800	542	14,000	-
TT-1 @ 30'	30'	6/15/2015	In-Situ	-	-	-	-	-		-	4,720	9,790	387	13,100	-
#8b @ 9'	9'	6/15/2015	In-Situ	-	-	-	-	-	-	-	<16.7	39.7	<16.7	39.7	-
#5b @ 9'	9'	6/18/2015	In-Situ	-	-	-	-	-	-	-	1,010	4,620	1,020	6,650	-
		5. 10.2010	5.13								.,0.0	.,020	.,023	5,555	

TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

PLAINS ALL AMERICAN PIPELINE, LP PALLADIUM 7-1 4-INCH POLY EDDY COUNTY, NEW MEXICO PLAINS SRS #: 2013-044 NMOCD REFERENCE #: 2RP-3018

	044451.5					METHOD: E	PA SW 846	6-8021B, 50	30		MET	HOD: 80	15M	TDU	4500 CI-B
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M.P XYLENES (mg/Kg)	O- XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	TPH C ₆ -C ₃₅ (mg/Kg)	CHLORIDE (mg/Kg)
TT-2 @ 2'	2'	7/13/2015	In-Situ								<15.7	<15.7	<15.7	<15.7	-
TT-2 @ 6'	6'	7/13/2015	In-Situ								<17.1	<17.1	<17.1	<17.1	-
TT-2 @ 10'	10'	7/13/2015	In-Situ								<17.2	<17.2	<17.2	<17.2	-
TT-2 @ 12'	12'	7/13/2015	In-Situ								<16.5	<16.5	<16.5	<16.5	-
TT-2 @ 14'	14'	7/13/2015	In-Situ								<17.0	<17.0	<17.0	<17.0	-
SB-1 @ 30'	30'	10/28/2015	In-Situ	< 0.0253	3.8	3.64	15.5	5.51	21	28.5	412	2,270.0	220	2,900	-
SB-1 @ 50'	50'	10/28/2015	In-Situ	0.0107	0.019	0.00744	0.102	0.031	0.133	0.17	19.0	321.0	42.3	382	-
SB-1 @ 80'	80'	10/28/2015	In-Situ	0.00126	0.00378	0.0153	0.092	0.0496	0.142	0.162	24.2	283.0	35.7	343	-
SB-1 @ 105'	105'	10/28/2015	In-Situ	<0.001	< 0.002	<0.001	< 0.002	< 0.001	<0.001	< 0.001	<14.9	178.0	25.1	203	-
SB-1 @ 135'	135'	10/28/2015	In-Situ	<0.001	<0.002	<0.001	<0.002	<0.001	<0.001	<0.001	17.3	277.0	34.9	329	-
SB-1 @ 140'	140'	10/28/2015	In-Situ	<0.001	<0.002	<0.001	<0.002	<0.001	<0.001	<0.001	<15.0	133.0	17.5	151	-
NMOCD Recomm	nended Rer	nediation Act	ion Level	10						50				5,000	1,000

^{- =} Not analyzed.

Appendices

Appendix A Photographs



Palladium 7-1 4-Inch Poly – Point of Release (Looking Northeast)



Palladium 7-1 4-Inch Poly – Excavation (Looking North)



Palladium 7-1 4-Inch Poly - Excavation (Looking East-Northeast)



Palladium 7-1 4-Inch Poly - Excavation (Looking Southeast)



Palladium 7-1 4-Inch Poly – Liner Installation (Looking South-Southeast)



Palladium 7-1 4-Inch Poly – Liner Installation (Looking Southwest)



Palladium 7-1 4-Inch Poly – Backfilling (Looking Northeast)



Palladium 7-1 4-Inch Poly - Backfilling (Looking West



Palladium 7-1 4-Inch Poly – Backfilled Excavation



Palladium 7-1 4-Inch Poly – Advancement of Soil Boring SB-1



Palladium 7-1 4-Inch Poly – Post-Seeding (Looking North)



Palladium 7-1 4-Inch Poly –Post-Seeding (Looking Northeast)

Appendix B Soil Boring Log

Company: Plains Pipeline, LP

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS #2013-044 Location: Eddy Co., NM

Legal Description: U/L "C" (NENW), Sec. 5, T24S, R31E

Logger: Robbie Runnels Drafted By: Ben J. Arguijo Draft Date: January 12, 2016 Well/Borehole ID: SB-1
Drilling Method: Air Rotary
Driller: Straub Corporation
Latitude: 32.251944

Longitude: -103.800556 Drilling Date: 10/28/2015

Depth of Exploratory Boring (ft): 140 Depth to Groundwater (ft): N/A



				1 Measurer	nents/Observ		1	Lab Resul	ts		
rilling pth (ft)	Lithology	Lithology Description	PID Reading	Chloride	Petroleum Odor	Petroleum Staining	_	Benzene		Well Co	nstruction
		\								[N 160]	
0 5 10 15 15		PVC Drilling Conduit	-	-	-	-	-		-	V///	
Ē			-	-	-	-	-		-		
Ĕ,		Brown fine sand w/ clay	-	-	Heavy	Moderate	-	-	-		
20-		Red very fine sand -	-	-	Heavy	None	-	-	-		
		Cement sandstone	2,198	-	Heavy	None	-	-	-		
25-	××		2,087	-	Heavy	None	2,900	ND	28.5		
30-	××	Red silty clay - Silty Sand	291	-	Moderate	None	-	-	-		
35=	××		332	-	Moderate	None	-		-		
40=			295	-	Moderate	None					
45		Red very fine sand -	168	-	Moderate	None	382	0.011	0.17		
50-		Cement sandstone	108		Moderate	None	-	-	-		Bentonite F
55-			91.8		Slight	None					Gravel Pac
50- <u>=</u>	××	\	35.2		Slight	None			_	- [/// □	Grout Seal
65-	××	_Dark red silty clay - Silty sand	143		Moderate	None				- [//]	Sand Pack
70	××	Silty sand	104		Moderate	None			_	-	Slough
′5∄		Red very fine sand -	435		Moderate	None	343	0.001	0.16	- 1991	Monument PVC Casin
30月		Cement sandstone	70.8		Slight	None	-	0.001	0.10	- <i> </i>	Screen
35-		\	_					-	-	- 1995	End Cap
90-			28.7	-	Slight	None	-	-	-	- //// `	
95-		Dad your face and	87.4	-	Slight	None	-	-	-	- [///	
E00		Red very fine sand - Cement sandstone	152	-	Moderate	None	-	-	-	- [///	
05-		w/ clay	1,144	-	Heavy	None	203	ND	ND	- [///	
10-			51.8	-	Slight	None	-	-	-	- 1///	
=	XX	\	40.1	-	Slight	None	-	-	-		
15-	××	Dark red silty clay	129	-	Moderate	None	-	-	-		
20-1	××		144	-	Moderate	None	-	-	-		
=	××	Bod oilby alov	190	-	Moderate	None	-	-	-		
30-	××	Red silty clay	44.8	-	None	None	329	ND	ND		
35 40	××		41.2	-	None	None	151	ND	ND		



Basin Environmental Service Technologies, LLC

P.O. Box 301, Lovington, NM 88260 Lovington: (575)396-2378 Hobbs: (575)393-2967

Notes:

- 1. All samples collected from cuttings.
- Lines between material types shown in the soil profile log represent approximate boundaries. Actual transitions may be gradual.
- Field-test & laboratory analytical results reported in mg/kg (ppm).

Appendix C Laboratory Analytical Reports

Analytical Report 506301 & 506397

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
24-APR-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





24-APR-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 506301, 506397

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 506301. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 506301 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 506301, 506397



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1 @0.5'	S	04-16-15 09:30	5 ft	506301-001
HA-1 @ 1'	S	04-16-15 09:45	- 1 ft	506301-002
HA-1 @ 3'	S	04-16-15 10:15	- 3 ft	506397-001
HA-1 @ 5'	S	04-16-15 10:45	- 5 ft	506397-002
HA-1 @ 7' 6"	S	04-16-15 11:35	7 - 6" ft	506397-003



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 24-APR-15

 Work Order Number(s):
 506301,506397
 Date Received:
 04/18/2015

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 506301

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Sat Apr-18-15 01:45 pm

Report Date: 24-APR-15



				Project Manager: Kelsey Brooks
	Lab Id:	506301-001	506301-002	
Analusia Daguastad	Field Id:	HA-1 @0.5'	HA-1 @ 1'	
Analysis Requested	Depth:	.5 ft	1 ft	
	Matrix:	SOIL	SOIL	
	Sampled:	Apr-16-15 09:30	Apr-16-15 09:45	
BTEX by EPA 8021	Extracted:	Apr-20-15 16:00	Apr-20-15 16:00	
	Analyzed:	Apr-21-15 06:23	Apr-21-15 06:06	
	Units/RL:	mg/kg RL	mg/kg RL	
Benzene		0.122 0.00100		
Toluene		0.387 0.0020	0.204 0.00202	
Ethylbenzene		0.0531 0.00100	0.0512 0.00101	
m_p-Xylenes		0.184 0.0020	0.179 0.00202	
o-Xylene		0.0486 0.00100	0.0361 0.00101	
Xylenes, Total		0.233 0.00100	0.215 0.00101	
Total BTEX		0.795 0.00100	0.508 0.00101	
Percent Moisture	Extracted:			
	Analyzed:	Apr-20-15 17:00	Apr-20-15 17:00	
	Units/RL:	% RL	% RL	
Percent Moisture		1.00 1.00	1.61 1.00	
TPH by SW8015 Mod	Extracted:	Apr-20-15 15:00	Apr-20-15 15:00	
	Analyzed:	Apr-21-15 08:25	Apr-21-15 09:08	
	Units/RL:	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		740 75.8		
C12-C28 Diesel Range Hydrocarbons		10600 75.8	5990 76.1	
C28-C35 Oil Range Hydrocarbons		286 75.8	213 76.1	
Total TPH		11600 75.8	6950 76.1	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.%

Kelsey Brooks

Contact: Ben Arguijo

Certificate of Analysis Summary 506397

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Tue Apr-21-15 09:45 am

Report Date: 22-APR-15

Project Manager: Kelsey Brooks

								Troject Manager.	
	Lab Id:	506397-0	001	506397-0	02	506397-0	03		
Analysis Requested	Field Id:	HA-1 @	3'	HA-1 @	5'	HA-1 @ 7	6"		
Anaiysis Kequesiea	Depth:	3 ft		5 ft		7-6" ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Apr-16-15	10:15	Apr-16-15 1	0:45	Apr-16-15 1	1:35		
Percent Moisture	Extracted:								
	Analyzed:	Apr-21-15	17:00	Apr-21-15 1	7:00	Apr-21-15 1	7:00		
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		4.18	1.00	10.5	1.00	14.1	1.00		
TPH by SW8015 Mod	Extracted:	Apr-21-15	13:00	Apr-21-15 1	3:00	Apr-21-15 1	3:00		
	Analyzed:	Apr-21-15	17:22	Apr-21-15 1	7:44	Apr-21-15 1	8:06		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		552	15.6	852	16.7	6380	86.9		
C12-C28 Diesel Range Hydrocarbons		3680	15.6	4100	16.7	14800	86.9		
C28-C35 Oil Range Hydrocarbons		102	15.6	105	16.7	376	86.9		
Total TPH		4330	15.6	5060	16.7	21600	86.9		

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Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix. AZ 85040	(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

mg/kg

Sample: 506301-002 / SMP

Project ID: SRS#2013-044

Lab Batch #: 966421

Units:

Matrix: Soil Batch: **Date Analyzed:** 04/21/15 06:06 SUPPOCATE DECOVERY STUDY

	30	KKUGATE KI	COVERT	31001	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 966421 Sample: 506301-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 06:23 SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021 Limits Found Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0286 0.0300 95 80-120 4-Bromofluorobenzene 0.0241 0.0300 80 80-120

Lab Batch #: 966445 Sample: 506301-001 / SMP **Batch:** Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 08:25 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 966445 Sample: 506301-002 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 04/21/15 09:08	8 SURROGATE RECOVERY STUDY								
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooc	tane		101	99.8	101	70-135					
o-Terpheny	7]		61.7	49.9	124	70-135					

Lab Batch #: 966445 Sample: 691502-1-BLK / BLK Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 04/20/15 22:58	SU	RROGATE RE	COVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		96.7	100	97	70-135	
o-Terphenyl			48.3	50.0	97	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

Sample: 691490-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 966421

Date Analyzed: 04/21/15 00:39

Matrix: Solid Batch: 1

Units:	mg/kg	Date Analyzed: 04/21/15 00:39	SU	RROGATE RE	ECOVERY S	STUDY	
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	obenzene		0.0305	0.0300	102	80-120	
4-Bromoflu	orobenzene		0.0306	0.0300	102	80-120	

Lab Batch #: 966445 **Sample:** 691502-1-BKS / BKS Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 04/20/15 23:21	SU	RROGATE RE	ECOVERY S	STUDY	
	TPH b	y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		101	100	101	70-135	
o-Terphenyl			54.3	50.0	109	70-135	

Lab Batch #: 966421 **Sample:** 691490-1-BKS / BKS Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 04/21/15 00:55 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 966445 Sample: 691502-1-BSD / BSD Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 04/20/15 23:44	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		101	100	101	70-135	
o-Terpheny	1		54.6	50.0	109	70-135	

Lab Batch #: 966421 **Sample:** 691490-1-BSD / BSD Batch: Matrix: Solid

Units:	ng/kg	Date Analyzed: 04/21/15 01:12	SU	RROGATE RE	ECOVERY S	STUDY	
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenz	an a	Analytes	0.0220	0.0200		80-120	
4-Bromofluorobe			0.0330	0.0300	98	80-120	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 506301,506397

--- -- /1- --

Project ID: SRS#2013-044

Lab Batch #: 966421

TT--24---

Sample: 506270-001 S / MS Date Analyzed: 04/21/15 01:29

Matrix: Soil Batch:

Units: http:// Date Analyzed: 04/21/13 01.29	SU	RROGATE RE	ECOVERYS	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes	. ,		[D]		
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 966445 **Sample:** 506270-010 S / MS Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 03:53 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Limits **Found** Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 124 99.9 124 70-135 o-Terphenyl 38.4 50.0 77 70-135

Lab Batch #: 966421 **Sample:** 506270-001 SD / MSD **Batch:** Matrix: Soil

Units: mg/kg Date Analyzed: 04/21/15 01:45 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 966445 Sample: 506270-010 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 04/21/15 04:16	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		124	99.8	124	70-135	
o-Terpheny	1		36.9	49.9	74	70-135	

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution

BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 506301,506397

Project ID: SRS#2013-044

Analyst: ARM **Date Prepared:** 04/20/2015

Date Analyzed: 04/21/2015

Lab Batch ID: 966421

Matrix: Solid

Units:

Sample: 691490-1-BKS

Batch #: 1

Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
BTEX by EPA 8021	Blank Sample Result [A]	Spike Added	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[2]	رکا	[2]	[12]	resure [1]	[ا				
Benzene	< 0.00100	0.100	0.0953	95	0.100	0.0962	96	1	70-130	35	
Toluene	< 0.00200	0.100	0.0975	98	0.100	0.0980	98	1	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.101	101	0.100	0.101	101	0	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.202	101	0.200	0.201	101	0	70-135	35	
o-Xylene	< 0.00100	0.100	0.101	101	0.100	0.101	101	0	71-133	35	

Analyst: ARM **Date Prepared:** 04/20/2015 **Date Analyzed:** 04/20/2015

Lab Batch ID: 966445 **Batch #:** 1 Matrix: Solid **Sample:** 691502-1-BKS

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY TPH by SW8015 Mod Blank **Spike** Blank Blank Spike Blank Blk. Spk Control Control Dup. **RPD** Sample Result Added Spike Spike Spike Limits Limits Flag Added [A] Result %R **Duplicate** %R % %R %RPD [B] [C] [D] Result [F] [G] [E]**Analytes** C6-C12 Gasoline Range Hydrocarbons <15.0 70-135 35 1000 1060 106 1000 1010 101 5 C12-C28 Diesel Range Hydrocarbons <15.0 1000 1010 101 1000 1000 100 1 70-135 35

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 506301,506397 Project ID: SRS#2013-044

Lab Batch ID: 966421 **QC- Sample ID:** 506270-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/21/2015 Date Prepared: 04/20/2015 Analyst: ARM

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00128	0.128	0.127	99	0.127	0.113	89	12	70-130	35	
Toluene	< 0.00255	0.128	0.111	87	0.127	0.103	81	7	70-130	35	
Ethylbenzene	< 0.00128	0.128	0.117	91	0.127	0.107	84	9	71-129	35	
m_p-Xylenes	< 0.00255	0.255	0.225	88	0.255	0.209	82	7	70-135	35	
o-Xylene	< 0.00128	0.128	0.128	100	0.127	0.113	89	12	71-133	35	

Lab Batch ID: 966445 **QC- Sample ID:** 506270-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/21/2015 Date Prepared: 04/20/2015 Analyst: ARM

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.3	1090	1130	104	1090	1100	101	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.3	1090	1240	114	1090	1300	119	5	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 506301,506397

Lab Batch #: 966423 **Project ID:** SRS#2013-044

 Date Analyzed:
 04/20/2015 17:00
 Date Prepared:
 04/20/2015
 Analyst:
 WRU

 QC- Sample ID:
 506293-021 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVER				
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	9.56	9.94	4	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Version: 1.%

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XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 04/18/2015 01:45:00 PM

Work Order #: 506301,506397

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used:

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		5
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when relind	quished/ received?	Yes
#11 Chain of Custody agrees with sampl	e label(s)?	Yes
#12 Container label(s) legible and intact?	?	Yes
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#14 Samples in proper container/ bottle?		Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicat	. ,	Yes
#18 All samples received within hold time	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	,	N/A
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM- analysts.		N/A
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Checklist completed by:	Kelsey Brooks	Date: <u>04/20/2015</u>
Checklist reviewed by:		Date: 04/20/2015

iddress: 3100 ity: Loving M/Attn: Ben J roject ID: Pallac SRS voice To: Camil ampler Name: teve Taylor	n Environmental Service T Plains Hwy. Ington J. Arguijo Idium 7-1 4-Inch Poly #: 2013-044 Ille Bryant Plains All / Sample ID	American Circle One	State: NM Email:	Phone: Fax: Zip: bjarguijo PO#: Quote #	(575 8826 @basin PAA-		429 om	Cont Type * VC		ys = D -7D) 5H GC	AN.	2D 3D					ie:		PC Plastic Clear Other Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other ** Preservative Type Code		
ity: Loving M/Attn: Ben J roject ID: Pallac SRS voice To: Camil ampler Name: Steve Taylor 1	ngton J. Arguijo Idium 7-1 4-Inch Poly #: 2013-044 ille Bryant Plains All /	Circle One Semi-Annua	Email: Event: Daily al Annual	Zip: bjarguijo PO#: Quote #	8826 @basin PAA-	60 nenv.co	om	Cont Type *			AN					Other_			40ml, 125 ml, 250 ml, 500 ml, 1L, Other		
M/Attn: Ben J roject ID: Pallac SRS rvoice To: Camil ampler Name: steve Taylor 1	J. Arguijo idium 7-1 4-Inch Poly #: 2013-044 ille Bryant Plains All /	Circle One Semi-Annua	Email: Event: Daily al Annual	bjarguijo PO#: Quote #	@basii PAA-	nenv.co		VC	GC	GC	1	ALYSE	ES REC	QUES'	TED				** Preservative Type Code		
roject ID: Pallac SRS voice To: Camil ampler Name: steve Taylor 1	edium 7-1 4-Inch Poly #: 2013-044 ille Bryant Plains All /	Circle One Semi-Annua	Event: Daily	PO#: Quote #	PAA-			VC	GC	GC									** Preservative Type Codes		
SRS voice To: Camil ampler Name: Steve Taylor # Odd EES 1	#: 2013-044 ille Bryant Plains All /	Circle One Semi-Annua	al Annual	Quote #	1:	-C. Brya	ant	Pres Type**			GC I			1					A. None E. HCL I. Ice B. HNO ₃ F, MeOH J. MCAA H ₂ SO ₄ G. Na ₂ S ₂ O ₅ K. ZnAc&NaOH D. NaOH H. NaHSO ₄ L Asbc Acid&NaC O.		
Camil ampler Name: steve Taylor total ampler Name: steve Taylor		Circle One Semi-Annua	al Annual	Weekly					1	1											
	Sample ID	Semi-Annua Collect	al Annual		Mont			06										Run PAH Only if	A Maddy Type Codes		
1	Sample ID		Collect	of territories	Weekly Monthly Quartely N/A			Example Volatiles by 8260	ТРН	втех	Chloride							d Sail	GW Ground Water S Soil/Sediment/So WW Waste Water W Wipe DW Drinking Water A Air		
1			Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Volatile		Ш	Ö					V S S S Stude		SL Sludge			
2 H _3 _4 _5						#Cont Lab Only:										REMARKS					
_3 _4 _5	HA-1 @ 0.5'	4/16/2015	0930	s			1		X	X		Nh									
_3 _4 _5	HA-1 @ 1'	4/16/2015	0945	S			1		Х	X	×	IN		==							
4											417	1115									
_5																					
6				-																	
					-	1															
_7																					
_8							1 1														
_9																					
_0																					
	eg. Program / Clean-up Std STATE for Certs & Regs QA/QC Lev RRP DW NPDES LPST DryCin FL TX GA NG SC NJ PA OK LA 1 2 3 4 CL AL NM Other:		4 CLP	AFCEE QAF							Ċ	Lab Use Only Non-Conformances found? Samples intact upon arrival?									
1 Altan	Relinquished by Affiliation			tion		Date		Time		, Re	Received by			ation	Date Time				Received on Wet Ice? Labeled with proper preservatives?		

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

2

3

C.O.C. Serial #

Custody seals intact?

VOCs rec'd w/o headspace? Proper containers used?

pH verified-acceptable, excl VOCs?

Received on time to meet HTs?

4-19-15

Xenco

YES NO N/A

ea	MANUA
sed	XENCO
70	Laboratories
5	vironmental Asbestos Badiochemist

3100 Plains Hwy.

Lovington

Ben Arguijo

Camille Bryant

Sample ID

HA-1@3'

Reg. Program / Clean-up Std

DW NPDES LPST DryCln

Relinquished by

Basin Environmental Service Technologies, LLC

Palladium 7-1 4-inch Poly SRS #: 2013-044

Plains All American

Company:

ddress:

lty:

M/Attn:

roject ID:

evoice To:

ampler Name:

Steve Taylor

Sample #

2

8 9

Other:

3

HA-1@5'

CHAIN OF CUSTODY RECORD

(575)396-2378

(575)396-1429

PAA-C. Bryant

Quartely

Cont Type

Pres Type

Example atiles by 8260

Volatiles

Cont

GC

TPH

Lab Only:

X

88260

Monthly

bjarguijo@basinenv.com

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Phone:

Fax:

Zip:

PO#:

N/A

Quote #:

Matrix

Code ·

S

S

State: NM

Email:

Circle One Event: Daily Weekly

Collect

Time

1015

1045

STATE for Certs & Reas

FL TX GA NC SC NJ PA OK LA

Affiliation

AL NM Other:

Semi-Annual Annual

Collect

Date

4/16/2015

4/16/2015

Page_1_of_1

LAB W.O#: Field billable Hrs

GC

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other

GC

ANALYSES REQUESTED

GC

Time:

Coolers Temp °C

3

Time

VA	Vial Amber	ES	Encore Sample
VC	Vial Clear	TS	TerraCore Sam
VP	Vial Pre-preserved	AC	Air Canister
GA	Glass Amber	TB	Tedlar Bag
GC	Glass Clear	ZB	Zip Lock Bag
PA	Plastic Amber	PC	Plastic Clear
PC	Plastic Clear		
211			

* Container Type Codes

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other

E. HCL B. HNO₃ F. MeOH

OW Ocean/Sea Water T

Product-Liquid

Product-Solid Sludge

A. None

** Preservative Type Codes

J. MCAA

Urine

REMARKS

RUSH TPH on Surface Samples

H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH D. NaOH H. NaHSO4 L Asbc Acid&NaOH Hold Sample
Run PAH
Pest TPH Only H ^ Matrix Type Codes GW Ground Water S Soil/Sediment/Solid WW Waste Water DW Drinking Water SW Surface Water

HA-1@7' 6"	4/16/2015	1135	S		1	X								
				-	-		HOLD							
							T							
7										-		+		

XLS Other

EDDs

ADaPT SEDD ERPIMS

COC & Labels

Affiliation

xeneo

Absent

Incomplete

Unclear

TAT Work Days = D Need results by:

GC

GC

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

QA/QC Level & Certification

Time

5:00

1 2 3 4 CLP AFCEE QAPP

NELAC DoD-ELAP Other:

Date

C.O.C. Serial #

Lab Use Only

Non-Conformances found?

Samples intact upon arrival?

Received within holding time? custody seals intact?

OCs rec'd w/o headspace?

roper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?

Received on Wet Ice? abeled with proper preservatives?



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Work Order #: 506301, 506397

Date/ Time Received: 04/18/2015 01:45:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used:

, , , , , , , , , , , , , , , , , , , ,	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		5
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when relind	quished/ received?	Yes
#11 Chain of Custody agrees with sampl	e label(s)?	Yes
#12 Container label(s) legible and intact?	?	Yes
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#14 Samples in proper container/ bottle?		Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicate	ed test(s)?	Yes
#18 All samples received within hold time	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HN samples for the analysis of HEM or HEM-		N/A
analysts. #22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Marca of Soll and to	
oncokiist completed by.	Kelsey Brooks	Date: <u>04/20/2015</u>
Checklist reviewed by:		Date: <u>04/20/2015</u>

Analytical Report 507094 for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
08-MAY-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





08-MAY-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 507094

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 507094. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 507094 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @13'	S	04-29-15 11:49		507094-001
TT-1 @20'	S	04-29-15 13:00		507094-002
SP-N	S	04-29-15 14:15		507094-003
SP-S	S	04-29-15 14:05		507094-004
SP-E	S	04-29-15 14:00		507094-005
SP-W	S	04-29-15 14:10		507094-006



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Report Date: 08-MAY-15 Work Order Number(s): 507094 Date Received: 05/01/2015

Sample receipt non conformances and comments per sample:



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: **TT-1** @13'

Matrix: Soil

% Moisture: 7.49

Lab Sample Id: 507094-001

Date Collected: 04.29.15 11.49

Basis: Dry Weight

Date Received: 05.01.15 12.00

Analytical Method: BTEX by EPA 8021

Prep Method: SW5030B

Seq Number

967656

Date Prep: 05.06.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	6.12	mg/kg	05.07.15 15.57		50
Ethylbenzene	100-41-4	4.54	mg/kg	05.07.15 15.57		50
m p-Xylenes	179601-23-1	15.7	mg/kg	05.07.15 15.57		50
o-Xylene	95-47-6	5.56	mg/kg	05.07.15 15.57		50
Xylenes, Total	1330-20-7	21.3	mg/kg	05.07.15 15.57		50
Total BTEX		31.9	mg/kg	05.07.15 15.57		50

Analytical Method: TPH by SW8015 Mod

Seq Number 967301

Prep Method: TX1005P

Date Prep: 05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	3470	mg/kg	05.02.15 11.14		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	8460	mg/kg	05.02.15 11.14		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	260	mg/kg	05.02.15 11.14		5
Total TPH	PHC635	12200	mg/kg	05.02.15 11.14		5



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: TT-1 @20' Matrix: Soil % Moisture: 6.6

Lab Sample Id: 507094-002

Seq Number

Date Collected: 04.29.15 13.00

Basis: Dry Weight

Date Received: 05.01.15 12.00

Analytical Method: BTEX by EPA 8021

967656

Prep Method: SW5030B

Date Prep: 05.06.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	16.4	mg/kg	05.07.15 16.14		100
Ethylbenzene	100-41-4	13.7	mg/kg	05.07.15 16.14		100
m_p-Xylenes	179601-23-1	45.8	mg/kg	05.07.15 16.14		100
o-Xylene	95-47-6	17.0	mg/kg	05.07.15 16.14		100
Xylenes, Total	1330-20-7	62.8	mg/kg	05.07.15 16.14		100
Total BTEX		92.9	mg/kg	05.07.15 16.14		100

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number 967292 Prep Method: E300P

Date Prep: 05.01.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.57	mg/kg	05.02.15 03.37		1

Analytical Method: TPH by SW8015 Mod

Seq Number

967301

Prep Method: TX1005P

Date Prep: 05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	1750	mg/kg	05.02.15 11.35		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	5330	mg/kg	05.02.15 11.35		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	167	mg/kg	05.02.15 11.35		5
Total TPH	PHC635	7250	mg/kg	05.02.15 11.35		5

Sample Id:

Seq Number

SP-N

Matrix:

Soil

% Moisture : 6.06

Lab Sample Id: 507094-003

Date Collected: 04.29.15 14.15

Dry Weight Basis:

Date Received: 05.01.15 12.00

Analytical Method: TPH by SW8015 Mod

967301

Prep Method: TX1005P

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	30.2	mg/kg	05.02.15 11.56		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1600	mg/kg	05.02.15 11.56		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	55.6	mg/kg	05.02.15 11.56		1
Total TPH	PHC635	1690	mg/kg	05.02.15 11.56		1



Hits Summary 507094



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: SP-S

Matrix: Soil % Moisture: 2.4

Lab Sample Id: 507094-004

Date Collected: 04.29.15 14.05

Basis: Dry Weight

Date Received: 05.01.15 12.00

Seq Number

Analytical Method: TPH by SW8015 Mod

967301

Prep Method: TX1005P Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	337	mg/kg	05.02.15 13.00		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4660	mg/kg	05.02.15 13.00		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	226	mg/kg	05.02.15 13.00		1
Total TPH	PHC635	5220	mg/kg	05.02.15 13.00		1

Sample Id:

SP-E

Matrix:

Soil

% Moisture: 3.62

Lab Sample Id: 507094-005

Date Collected: 04.29.15 14.00 Date Received: 05.01.15 12.00 Basis:

Dry Weight

Analytical Method: TPH by SW8015 Mod

Seq Number

967301

Prep Method: TX1005P

Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	66.6	mg/kg	05.02.15 13.21		1
Total TPH	PHC635	66.6	mg/kg	05.02.15 13.21		1

Sample Id:

Seq Number

SP-W

Matrix:

Soil

% Moisture: 11.88

Date Collected: 04.29.15 14.10

Dry Weight

Lab Sample Id: 507094-006

Date Received: 05.01.15 12.00

Basis:

Analytical Method: TPH by SW8015 Mod

967301

Prep Method: TX1005P Date Prep:

05.01.15 16.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	108	mg/kg	05.02.15 13.43		1
Total TPH	PHC635	108	mg/kg	05.02.15 13.43		1



Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 507094

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Fri May-01-15 12:00 pm

Report Date: 08-MAY-15

Project Location: Project Manager: Kelsey Brooks

	Lab Id:	507094-0	001	507094-0	02	507094-0	03	507094-0	004	507094-0	05	507094-00	06
Analusia Daguastad	Field Id:	TT-1 @	13'	TT-1 @2	20'	SP-N		SP-S		SP-E		SP-W	
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-29-15	11:49	Apr-29-15	3:00	Apr-29-15 1	14:15	Apr-29-15	14:05	Apr-29-15 1	4:00	Apr-29-15 1	4:10
BTEX by EPA 8021	Extracted:	May-06-15	16:00	May-06-15	16:00								
	Analyzed:	May-07-15	15:57	May-07-15	16:14								
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0.0540	ND	0.107								
Toluene		6.12	0.108	16.4	0.214								
Ethylbenzene		4.54	0.0540	13.7	0.107								
m_p-Xylenes		15.7	0.108	45.8	0.214								
o-Xylene		5.56	0.0540	17.0	0.107								
Xylenes, Total		21.3	0.0540	62.8	0.107								
Total BTEX		31.9	0.0540	92.9	0.107								
Inorganic Anions by EPA 300/300.1	Extracted:			May-01-15	15:00								
	Analyzed:			May-02-15	03:37								
	Units/RL:			mg/kg	RL								
Chloride				3.57	2.14								
Percent Moisture	Extracted:												
	Analyzed:	May-01-15	17:00	May-01-15	17:00	May-01-15 1	17:00	May-01-15	17:00	May-01-15	17:00	May-01-15 1	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.49	1.00	6.60	1.00	6.06	1.00	2.40	1.00	3.62	1.00	11.9	1.00
TPH by SW8015 Mod	Extracted:	May-01-15	16:00	May-01-15	16:00	May-01-15 1	16:00	May-01-15	16:00	May-01-15	16:00	May-01-15 1	16:00
	Analyzed:	May-02-15	11:14	May-02-15	11:35	May-02-15 1	11:56	May-02-15	13:00	May-02-15	13:21	May-02-15 1	13:43
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		3470	80.7	1750	80.0	30.2	15.9	337	15.4	ND	15.5	ND	17.0
C12-C28 Diesel Range Hydrocarbons		8460	80.7	5330	80.0	1600	15.9	4660	15.4	66.6	15.5	108	17.0
C28-C35 Oil Range Hydrocarbons		260	80.7	167	80.0	55.6	15.9	226	15.4	ND	15.5	ND	17.0
Total TPH		12200	80.7	7250	80.0	1690	15.9	5220	15.4	66.6	15.5	108	17.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Sample: 507094-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 967301

Sample: 507094-0017 51v11

Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 11:14	SURROGATE RECOVERY STUDY				
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			125	99.6	126	70-135	
o-Terphenyl			50.1	49.8	101	70-135	

Units: mg/kg **Date Analyzed:** 05/02/15 11:35 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Recovery Limits **Found** Amount **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 99.6 118 70-135 118 o-Terphenyl 49.9 49.8 100 70-135

Lab Batch #: 967301 Sample: 507094-003 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 05/02/15 11:56 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 967301 Sample: 507094-004 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 13:00	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane			111	99.9	111	70-135		
o-Terphenyl			55.1	50.0	110	70-135		

Lab Batch #: 967301 Sample: 507094-005 / SMP Batch: 1 Matrix: Soil

Units:	Units: mg/kg Date Analyzed: 05/02/15 13:21 SURROGAT					ROGATE RECOVERY STUDY			
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chlorooctane			109	99.8	109	70-135			
o-Terphenyl			54.0	49.9	108	70-135			

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Sample: 507094-006 / SMP

Project ID: SRS#2013-044

Lab Batch #: 967301

Date Analyzed: 05/02/15 13:43

Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 13:43	SURROGATE RECOVERY STUDY				
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			113	99.7	113	70-135	
o-Terphenyl			57.1	49.9	114	70-135	

Lab Batch #: 967656 Sample: 507094-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 05/07/15 15:57 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]		
1,4-Difluorobenzene			0.0315	0.0300	105	80-120	
4-Bromofluorobenzene			0.0300	0.0300	100	80-120	

Lab Batch #: 967656 Sample: 507094-002 / SMP Batch: Matrix: Soil

Date Analyzed: 05/07/15 16:14 **Units:** mg/kg SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 967301 **Sample:** 692051-1-BLK / BLK Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/02/15 04:26	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane			102	100	102	70-135		
o-Terphenyl			52.8	50.0	106	70-135		

Lab Batch #: 967656 Sample: 692215-1-BLK / BLK Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 05/07/15 06:05 SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenzene			0.0300	0.0300	100	80-120	
4-Bromofluorobenzene			0.0313	0.0300	104	80-120	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Sample: 692051-1-BKS / BKS

Project ID: SRS#2013-044

Lab Batch #: 967301 Units:

Date Analyzed: 05/02/15 04:50

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 05	/02/15 04:50 S	SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
Analytes			[2]			
1-Chlorooctane	113	100	113	70-135		
o-Terphenyl	48.7	50.0	97	70-135		

Lab Batch #: 967656 **Sample:** 692215-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 05/07/15 06:22 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]		
1,4-Difluor	1,4-Difluorobenzene			0.0300	107	80-120	
4-Bromofluorobenzene			0.0319	0.0300	106	80-120	

Lab Batch #: 967301 **Sample:** 692051-1-BSD / BSD Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 05/02/15 05:13 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	50.1	50.0	100	70-135	

Lab Batch #: 967656 **Sample:** 692215-1-BSD / BSD Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/07/15 06:38	SURROGATE RECOVERY STUDY									
	BTE	CX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1,4-Difluor	robenzene		0.0323	0.0300	108	80-120						
4-Bromoflu	ıorobenzene		0.0313	0.0300	104	80-120						

Lab Batch #: 967301 **Sample:** 507062-002 S / MS Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 06:20	SURROGATE RECOVERY STUDY									
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chloroocta	ne		121	99.7	121	70-135						
o-Terphenyl			63.0	49.9	126	70-135						

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 507094,

Sample: 507210-003 S / MS

Project ID: SRS#2013-044

Lab Batch #: 967656

Sample: 307210-003 57 Wis

Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/07/15 06:55	SURROGATE RECOVERY STUDY									
BTEX by EPA 8021		Amount Found [A]	Control Limits %R	Flags								
		Analytes			[D]							
1,4-Difluoro	benzene		0.0314	0.0300	105	80-120						
4-Bromofluo	orobenzene		0.0337	0.0300	112	80-120						

Lab Batch #: 967301 Sample: 507062-002 SD / MSD Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/02/15 06:43	SU	RROGATE RE	ECOVERY S	STUDY	
	TPH I	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	ane		111	99.8	111	70-135	
o-Terpheny			48.2	49.9	97	70-135	

Lab Batch #: 967656 Sample: 507210-003 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 05/07/15 07:11	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021	Amount Found [A]	Found Amount Recovery						
Analytes			[D]					
1,4-Difluorobenzene	0.0298	0.0300	99	80-120				
4-Bromofluorobenzene	0.0333	0.0300	111	80-120				

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094

Project ID: SRS#2013-044

Analyst: ARM

Date Prepared: 05/06/2015

Date Analyzed: 05/07/2015

Lab Batch ID: 967656

Sample: 692215-1-BKS

Batch #: 1 Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

			,								
BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Alialytes		` '	` '		٠,		` ′				
Benzene	< 0.00100	0.100	0.0974	97	0.100	0.0977	98	0	70-130	35	
Toluene	< 0.00200	0.100	0.101	101	0.100	0.101	101	0	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.104	104	0.100	0.104	104	0	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.209	105	0.200	0.208	104	0	70-135	35	
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.105	105	0	71-133	35	

Analyst: JUM Date Prepared: 05/01/2015 Date Analyzed: 05/01/2015

Lab Batch ID: 967292 Sample: 692038-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY **Inorganic Anions by EPA 300/300.1** Blank **Spike** Blank Blank Spike Blank Blk. Spk Control Control Spike Spike **RPD** Sample Result Added Spike Dup. Limits Limits Flag Added [A] Result %R **Duplicate** %R % %R %RPD [B] [C] [D] Result [F] [G] [E]**Analytes** Chloride < 2.00 50.0 52.9 50.0 53.2 90-110 20 106 106

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094

Project ID: SRS#2013-044

Analyst: ARM **Date Prepared:** 05/01/2015

Date Analyzed: 05/02/2015

Lab Batch ID: 967301

Matrix: Solid

Sample: 692051-1-BKS

Batch #: 1

Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	905	91	1000	915	92	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	963	96	1000	964	96	0	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes





Form 3 - MS Recoveries

Project Name: Palladium 7-1 4-Inch Poly



Work Order #: 507094

Lab Batch #: 967292 **Date Analyzed:** 05/01/2015

Date Prepared: 05/01/2015

Project ID: SRS#2013-044

Analyst: JUM Matrix: Soil

QC-Sample ID: 506833-011 S uting United mg/kg

Batch #: 1

Reporting Units: mg/kg	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	< 2.06	51.5	56.2	109	80-120	

Lab Batch #: 967292

Date Analyzed: 05/01/2015 **QC- Sample ID:** 506903-001 S **Date Prepared:** 05/01/2015

Analyst: JUM

Batch #: 1

Matrix: Solid

Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY								
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag			
Chloride	23.8	299	308	95	80-120				

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094

967656

QC- Sample ID: 507210-003 S

Batch #:

Matrix: Soil

Project ID: SRS#2013-044

Lab Batch ID:

Date Prepared: 05/06/2015

Date Analyzed:

05/07/2015

Analyst: ARM

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00115	0.115	0.105	91	0.116	0.103	89	2	70-130	35	
Toluene	< 0.00231	0.115	0.102	89	0.116	0.103	89	1	70-130	35	
Ethylbenzene	< 0.00115	0.115	0.107	93	0.116	0.107	92	0	71-129	35	
m_p-Xylenes	< 0.00231	0.231	0.208	90	0.231	0.207	90	0	70-135	35	
o-Xylene	< 0.00115	0.115	0.112	97	0.116	0.112	97	0	71-133	35	

Lab Batch ID:

967301

QC- Sample ID: 507062-002 S

Batch #:

Matrix: Soil

Date Analyzed:

05/02/2015

Date Prepared: 05/01/2015

Analyst: ARM

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1030	93	1110	995	90	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	494	1110	1690	108	1110	1470	88	14	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 507094

Lab Batch #: 967296 **Project ID:** SRS#2013-044

 Date Analyzed:
 05/01/2015 17:00
 Date Prepared:
 05/01/2015
 Analyst:
 WRU

 QC- Sample ID:
 507031-033 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	AMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag		
Percent Moisture	16.6	17.4	5	20			

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/01/2015 12:00:00 PM

Work Order #: 507094

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used:

Sar	mple Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/	cooler? N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Cu	stody? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished	/ received? Yes	
#11 Chain of Custody agrees with sample label(s)? Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain	of Custody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)? Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less th	nan 1/4 inch bubble)? N/A	
#21 <2 for all samples preserved with HNO3,HC samples for the analysis of HEM or HEM-SGT whan analysts.		
#22 >10 for all samples preserved with NaAsO2	+NaOH, ZnAc+NaOH? N/A	

Must be completed for after-hours do	elivery of samples prior to plac	ing in the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:	Kelsey Brooks	Date: <u>05/01/2015</u>
Checklist reviewed by:	Julian Martinez	Date: <u>05/01/2015</u>

Page 1 of 1

VA Vial Amber
VI Vial Clear
VIV Vial Pre-pre

ES Encore Sampler TS TerraCore Sampler

Final 1.001

Released to Imaging: 5/11/2023 1:04:59 PM

	pany: Basin Environmental Service T	echnologies, LL	.C	Phone:	(575)	396-2378	TAT W	ork Da	vs = D	Need re	sults		oillable	Hrs:		me:	1	GC Glass Clear ZB	Tedlar Bag Zip Lock Bag Plastic Clear	
Addr	ess: 3100 Plains Hwy.			Fax:	(575)	396-1429						4D 5D	7D 1/	D 44D				Size(s): 2oz, 4oz, 8oz, 16oz, 32o;	Size(s): 20z, 40z, 80z, 16oz, 32oz, 1Gal	
City:	Lovington		State: NM		88260)									Otne			40ml, 125 ml, 250 ml, 500 ml, 11	., Other	
PM/A	ttn: Ben J. Arguijo		Email:	bjarguijo@basinenv.com		Cont Type	GC	GC	ANALYS		JES KE	QUE	SIED	1	1		** Preservative Type Co			
	ct ID: Palladium 7-1 4-Inch Poly SRS #: 2013-044			PO#:	PO#:		Pres Type**	1	I	GC								H ₂ SO ₄ G. Na ₂ S ₂ O ₅ K. ZnA	ACAA c&NaOH	
	ce To: Camille Bryant Plains All A	merican		Quote #			09									+	AH y IF	D. NaOH H. NaHSO ₄ L A		
	ller Name: Faylor	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Monthl	y Quartel	mple s by 82	ТРН	Chloride	втех							Sample Run PAH PH_Only If	WW Waste Water W W	il/Sediment/Solid	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Fleid	OK (YM) Total#of containers				BI							Hold (CALL)	DW Drinking Water A Ai SW Surface Water O Oi OW Ocean/Sea Water T Tis PL Product-Liquid U Ur PS Product-Solid B Bio SL Sludge	ssue	
							# Cont	Lab Only	0									REMARK	S	
_1	TT-1 @ 13'	4/29/2015	1149	S		1		X										NeedTAtresu		
_2	TT-1 @ 20'	4/29/2015	1300	S		1		X	X											
_3	SP-N	4/29/2015	1415	S		1		X		9								****RUSH	***	
_4	SP-S	4/29/2015	1405	S	7 7	1		X		HOLD		-	=							
_5	SP-E	4/29/2015	1400	S		1		X		-					-					
_6	SP-W	4/29/2015	1410	S		1		X												
7					1111															
8																				
9				- 1											-					
0																-			*	
	Reg. Program / Clean-up Std	STATE	or Certs & F	Reas	QA/	OC Level	& Certifica	ation	r	DDs		0000							Name of the second	
Ls er:	TRRP DW NPDES LPST DryCin	FL TX GA NO	SC NJ PA	OK LA	1 2 3	3 4 CLP	AFCEE QAP	op .	ADaPT S	EDD ERP	MS	COC & I		٦, -	oolers	Temp °(Lab Use Only Ion-Conformances found?	YES NO NA	
	Relinquished by	AL INM OTHER	Affiliation			DoD-ELAP ate	Other: Time		LS Other:	eived by			Unclear	1 v Da	2	3	s	amples intact upon arrivat?		
1	Not to la		Basinew	V	4/29	15,	1700		M			Basin		4/2		170		teceived on Wet Ice? abeled with proper preservatives?		
-			basing Va	nv	4/3	20/15	134	2	STA A	0		111	1	110	-	1100	c	eceived within holding time? ustody seals intact?		
3	Thomas Kung on	2	Basin	ENV	4-3	0-15	1:45	0		M		XIIC	10	50 I	113	100	Y) P	OCs rec'd w/o headspace? roper containers used?		
	Moments-		Ban!		11. 3.	a	3:46		AB.	Mil		M	5	1/2	1	ANI	pr	H verified-acceptable, excl VOCs? eceived on time to meet HTs?		
SS	aboratories: Holeos 575-392-755 ervice Centers: Atlanta 770-449-	Dallas 214-	902-0300	Housto	n 281-	242-4200	Odessa	432-563	-1800 5	an Antor	io 2	10-509-3	334 P	hoenix 6	02-437	-0330		C.O.C. Serial #		

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and al Sast due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/01/2015 12:00:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 507094

Temperature Measuring device used:

	Sample Receipt Checklist	Comments				
#1 *Temperature of cooler(s)?		4				
#2 *Shipping container in good condition?		Yes				
#3 *Samples received on ice?		Yes				
#4 *Custody Seals intact on shipping conta	ainer/ cooler?	N/A				
#5 Custody Seals intact on sample bottles	?	N/A				
#6 *Custody Seals Signed and dated?		N/A				
#7 *Chain of Custody present?		Yes				
#8 Sample instructions complete on Chain	of Custody?	Yes				
#9 Any missing/extra samples?		No				
#10 Chain of Custody signed when relinqu	iished/ received?	Yes				
#11 Chain of Custody agrees with sample	label(s)?	Yes				
#12 Container label(s) legible and intact?		Yes				
#13 Sample matrix/ properties agree with	Chain of Custody?	Yes				
#14 Samples in proper container/ bottle?		Yes				
#15 Samples properly preserved?		Yes				
#16 Sample container(s) intact?		Yes				
#17 Sufficient sample amount for indicated	d test(s)?	Yes				
#18 All samples received within hold time?		Yes				
#19 Subcontract of sample(s)?		No				
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A				
#21 <2 for all samples preserved with HNO		N/A				
samples for the analysis of HEM or HEM-S analysts.	GT which are verified by the					
#22 >10 for all samples preserved with Na	AsO2+NaOH, ZnAc+NaOH?	N/A				
* Must be completed for after-hours deli	very of samples prior to placing in	the refrigerator				
Analyst:	PH Device/Lot#:					
,,						
Checklist completed by: Checklist reviewed by:	Kelsey Brooks	Date: 05/01/2015				
Checklist reviewed by:	F-B	Deta: 05/04/2045				

Julian Martinez

Date: 05/01/2015

Analytical Report 508275 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
26-MAY-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





26-MAY-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 508275

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 508275. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 508275 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 508275



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1@24'	S	05-21-15 13:30		508275-001
TT-1@26'	S	05-21-15 13:45		508275-002



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Report Date: 26-MAY-15 Work Order Number(s): 508275 Date Received: 05/22/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 508275

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Report Date: 26-MAY-15 **Project Manager:** Kelsey Brooks

Date Received in Lab: Fri May-22-15 10:10 am

				 r roject wranager.	Reisey Brooks	
	Lab Id:	508275-001	508275-002			
Analysis Requested	Field Id:	TT-1@24'	TT-1@26'			
Anaiysis Kequesieu	Depth:					
	Matrix:	SOIL	SOIL			
	Sampled:	May-21-15 13:30	May-21-15 13:45			
BTEX by EPA 8021	Extracted:	May-26-15 07:00	May-26-15 07:00			
	Analyzed:	May-26-15 12:19	May-26-15 12:36			
	Units/RL:	mg/kg RL	mg/kg RL			
Benzene		0.245 0.0994	1.20 0.0994			
Toluene		10.6 0.199	18.8 0.199			
Ethylbenzene		8.46 0.0994	10.9 0.0994			
m_p-Xylenes		25.6 0.199	32.7 0.199			
o-Xylene		10.0 0.0994	12.6 0.0994			
Xylenes, Total		35.6 0.0994	45.3 0.0994			
Total BTEX		54.9 0.0994	76.2 0.0994			
Percent Moisture	Extracted:					
	Analyzed:	May-21-15 18:30	May-21-15 18:30			
	Units/RL:	% RL	% RL			
Percent Moisture		16.6 1.00	14.1 1.00			
Total Petroleum Hydrocarbons by	Extracted:	May-26-15 07:00	May-26-15 07:00			
Texas 1005	Analyzed:	May-26-15 10:31	May-26-15 10:55			
	Units/RL:	mg/kg RL	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		1930 125	1920 125			
C12-C28 Diesel Range Hydrocarbons		3990 125	3900 125			
C28-C35 Oil Range Hydrocarbons		160 125	174 125			
Total TPH 1005		6080 125	5990 125			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508275,

Sample: 508275-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 968802

1-Chlorooctane

Date Analyzed: 05/26/15 10:31

Matrix: Soil Batch:

99.6

124

70-130

Units:	mg/kg	Date Analyzed: 05/26/15 10:31	SURROGATE RECOVERY STUDY					
Total	Petroleum	Hydrocarbons by Texas 1005	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
o-Terpheny	1		58.4	50.0	117	70-130		
1-Chlorooc	tane		129	99.9	129	70-130		

Lab Batch #: 968802 Sample: 508275-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 05/26/15 10:55 SURROGATE RECOVERY STUDY Amount True Control **Total Petroleum Hydrocarbons by Texas 1005** Limits Found Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** o-Terphenyl 49.8 124 70-130 61.6

124

Lab Batch #: 968804 Sample: 508275-001 / SMP Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 05/26/15 12:19 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 968804 Sample: 508275-002 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/26/15 12:36	SURROGATE RECOVERY STUDY						
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluor	obenzene		0.0297	0.0300	99	80-120			
4-Bromofluorobenzene			0.0309	0.0300	103	80-120			

Lab Batch #: 968802 Sample: 692968-1-BLK / BLK Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 05/26/15 09:27			SU	RROGATE RE	ECOVERY S	STUDY	
Total Petroleum Hydrocarbons by Texas 1005			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
o-Terpheny	1		55.7	50.0	111	70-130	
1-Chlorooc	tane		109	100	109	70-130	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508275,

Sample: 692965-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 968804

Matrix: Solid Batch:

Units: mg/kg Date Analyzed: 05/26/15 10:24	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene	0.0286	0.0300	95	80-120					
4-Bromofluorobenzene	0.0306	0.0300	102	80-120					

Lab Batch #: 968802 **Sample:** 692968-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 05/26/15 09:48 SURROGATE RECOVERY STUDY Amount True Control **Total Petroleum Hydrocarbons by Texas 1005** Limits **Found** Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** o-Terphenyl 51.0 50.0 102 70-130 1-Chlorooctane 117 100 117 70-130

Lab Batch #: 968804 Sample: 692965-1-BKS / BKS Batch: Matrix: Solid

Units: mg/kg **Date Analyzed:** 05/26/15 10:40 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 968802 Sample: 692968-1-BSD / BSD Matrix: Solid Batch: 1

Units:	mg/kg	Date Analyzed: 05/26/15 10:09	SU	RROGATE RE	ECOVERY S	STUDY	
Total	Petroleum 1	Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terpheny	71	Amarytes	50.2	50.0	100	70-130	
1-Chlorooc			117	100	117	70-130	

Lab Batch #: 968804 Sample: 692965-1-BSD / BSD Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 05/26/15 10:57	SURROGATE RECOVERY STUDY							
	BTF	CX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
		Analytes			[2]					
1,4-Difluorol	benzene		0.0317	0.0300	106	80-120				
4-Bromofluo	orobenzene		0.0319	0.0300	106	80-120				

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508275,

Sample: 508259-001 S / MS

Project ID: SRS#2013-044

Lab Batch #: 968804

Date Analyzed: 05/26/15 11:13

Matrix: Soil Batch:

Units:	mg/kg	Date Analyzed: 05/26/15 11:13	SURROGATE RECOVERY STUDY							
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
		Analytes			[-]					
1,4-Difluorol	benzene		0.0301	0.0300	100	80-120				
4-Bromofluo	robenzene		0.0314	0.0300	105	80-120				

Lab Batch #: 968802 **Sample:** 508259-001 S / MS Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 05/26/15 12:24 SURROGATE RECOVERY STUDY Amount True Control **Total Petroleum Hydrocarbons by Texas 1005** Limits **Found** Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** o-Terphenyl 44.5 49.9 89 70-130 1-Chlorooctane 127 99.7 127 70-130

Lab Batch #: 968804 **Sample:** 508259-001 SD / MSD Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 05/26/15 11:30 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 968802 **Sample:** 508259-001 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 05/26/15 12:46	SURROGATE RECOVERY STUDY						
Total	Petroleum	Hydrocarbons by Texas 1005	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
o-Terpheny	1		56.6	49.9	113	70-130			
1-Chlorooc	tane		128	99.7	128	70-130			

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution

BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508275

Project ID: SRS#2013-044

Analyst: ARM

Date Prepared: 05/26/2015

Date Analyzed: 05/26/2015

Lab Batch ID: 968804

Sample: 692965-1-BKS

Batch #: 1 Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	Blank Spike Blank Spike Blank Blk. Spk Control Control Sample Result Added Spike Spike Added Spike Dup. RPD Limits Limits Flag									Flag	
Analytes	[A]	[B]	Result [C]	%R [D]	[E]	Duplicate Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.00100	0.100	0.0968	97	0.100	0.0992	99	2	70-130	35	
Toluene	< 0.00200	0.100	0.103	103	0.100	0.105	105	2	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.110	110	0.100	0.112	112	2	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.219	110	0.200	0.223	112	2	70-135	35	
o-Xylene	< 0.00100	0.100	0.109	109	0.100	0.111	111	2	71-133	35	

Analyst: ARM **Date Prepared:** 05/26/2015 **Date Analyzed:** 05/26/2015

Lab Batch ID: 968802 Sample: 692968-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Total Patrology Hydrogorbons by Toyos 1005 Rlank Spike Blank Spik

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	1000	920	92	1000	931	93	1	70-130	30	
C12-C28 Diesel Range Hydrocarbons	<25.0	1000	967	97	1000	984	98	2	70-130	30	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508275

968804

QC- Sample ID: 508259-001 S

Batch #:

Matrix: Soil

Project ID: SRS#2013-044

Lab Batch ID: **Date Analyzed:**

05/26/2015

Date Prepared: 05/26/2015

Reporting Units:

mg/kg

Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00118	0.118	0.106	90	0.118	0.104	88	2	70-130	35	
Toluene	< 0.00237	0.118	0.112	95	0.118	0.110	93	2	70-130	35	
Ethylbenzene	< 0.00118	0.118	0.119	101	0.118	0.115	97	3	71-129	35	
m_p-Xylenes	< 0.00237	0.237	0.236	100	0.236	0.229	97	3	70-135	35	
o-Xylene	< 0.00118	0.118	0.118	100	0.118	0.115	97	3	71-133	35	

Lab Batch ID:

968802

QC- Sample ID: 508259-001 S

Batch #:

Matrix: Soil

Date Analyzed:

05/26/2015

Date Prepared: 05/26/2015

Analyst: ARM

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<29.6	1180	1270	108	1180	1180	100	7	70-130	30	
C12-C28 Diesel Range Hydrocarbons	<29.6	1180	1390	118	1180	1280	108	8	70-130	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508275

Lab Batch #: 968731 **Project ID:** SRS#2013-044

 Date Analyzed:
 05/21/2015 18:30
 Date Prepared:
 05/21/2015
 Analyst:
 WRU

 QC- Sample ID:
 508259-009 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	21.2	22.2	5	20	

Lab Batch #: 968731

 Date Analyzed:
 05/21/2015 18:30
 Date Prepared:
 05/21/2015
 Analyst:
 WRU

 QC- Sample ID:
 508275-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	ng Units: % SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	16.6	17.0	2	20	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/22/2015 10:10:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 508275

Temperature Measuring device used :

Sample	e Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cool	er? Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custod	ly? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ rec	eived? Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of C	ustody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less than 1	1/4 inch bubble)? N/A	
#21 <2 for all samples preserved with HNO3,HCL, H samples for the analysis of HEM or HEM-SGT which analysts.	•	
#22 >10 for all samples preserved with NaAsO2+Na	OH, ZnAc+NaOH? N/A	
* Must be completed for after-hours delivery of sa	mples prior to placing in the refrige	erator

* Must be	completed for after-hours de	livery of samples prior to plac	ing in the refrigerator	
Analyst:		PH Device/Lot#:		
	Checklist completed by:	Kuwa Koah Kelsey Brooks	Date: <u>05/22/2015</u>	
	Checklist reviewed by:	Kelsey Brooks	Date: <u>05/22/2015</u>	

* Container Type Codes

TB

ZB

Encore Sampler

Air Canister

Tedlar Bag

Zip Lock Bag

TerraCore Sampler

VA Vial Amber

VC Vial Clear

GC

GA Glass Amber

Glass Clear

VP Vial Pre-preserved AC

40	787	MAN
P.C.		60
Lobe	roi	ories
	_	Radiache mistra

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

LAB W.O#:

Page 1 of 1

Field billable Hrs Plastic Amber Plastic Clear Basin Environmental Service Technologies, LLC (575)396-2378 PC Plastic Clear TAT Work Days = D Need results by: Other Address: 3100 Plains Hwy. Fax: (575)396-1429 Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal Std (5-7D) 5Hrs (1D) 2D 3D 4D 5D 7D 10D 14D Other 40ml, 125 ml, 250 ml, 500 ml, 1L, Other City: State: NM Zip: Lovington 88260 **ANALYSES REQUESTED** ** Preservative Type Codes PM/Attn: Email: Ben J. Arguijo Cont Type bjarguijo@basinenv.com GC GC A. None E. HCL Project ID: Palladium 7-1 4-Inch Poly B. HNO₃ F. MeOH PO#: J. MCAA PAA-C. Bryant Pres Type H₂SO₄ G, Na₂S₂O₃ K. ZnAc&NaOH SRS #: 2013-044 D. NaOH H. NaHSO4 L Asbc Acid&NaOH Invoice To: Quote #: Camille Bryant Plains All American Example atiles by 8260 ^ Matrix Type Codes Sampler Name: Circle One Event: Daily Weekly Monthly Quartely S Soil/Sediment/Solid GW Ground Water Steve Taylor BTEX Semi-Annual Annual N/A TPH WW Waste Water W Wipe Volatiles DW Drinking Water SW Surface Water Oil Field Collect Collect Matrix OW Ocean/Sea Water T Tissue Sample Filterer Integrit OK (YIN Sample ID Product-Liquid Urine (CALL Date Time Code A Product-Solid В Blood SL Sludge # Cont Lab Only: REMARKS 40F TT-1 @ 24' 5/21/2015 S X TT-1@ 26' 5/21/2015 S X 3

5 6 8 9 0

Reg. Program / Clean-up Std STATE for Certs & Reas QA/QC Level & Certification **EDDs** COC & Labels Coolers Temp °C Lab Use Only YES NO N/A TRRP DW NPDES LPST DryCln FL TX GA NC SC NJ PA OK LA 1 2 3 4 CLP AFCEE QAPP ADaPT SEDD ERPIMS Match Incomplete Non-Conformances found? AL NM Other: NELAC DoD-ELAP Other: XLS Other: Absent Unclear Samples intact upon arrival? Relinguished by Affiliation Date Time Received by Affiliation Time Received on Wet Ice? abeled with proper preservatives eceived within holding time? Custody seals intact? 5/22 Krenco /OCs rec'd w/o headspace? Proper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?

A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 S Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and axist due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/22/2015 10:10:00 AM

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Work Order #: 508275

Temperature Measuring device used:

	Sample Receipt Checklist	Comments		
#1 *Temperature of cooler(s)?		2		
#2 *Shipping container in good condition	?	Yes		
#3 *Samples received on ice?		Yes		
#4 *Custody Seals intact on shipping co	ntainer/ cooler?	Yes		
#5 Custody Seals intact on sample bottle	es?	Yes		
#6 *Custody Seals Signed and dated?		Yes		
#7 *Chain of Custody present?		Yes		
#8 Sample instructions complete on Cha	nin of Custody?	Yes		
#9 Any missing/extra samples?		No		
#10 Chain of Custody signed when reline	quished/ received?	Yes		
#11 Chain of Custody agrees with samp	le label(s)?	Yes		
#12 Container label(s) legible and intact	?	Yes		
#13 Sample matrix/ properties agree with	h Chain of Custody?	Yes		
#14 Samples in proper container/ bottle?	?	Yes		
#15 Samples properly preserved?		Yes		
#16 Sample container(s) intact?		Yes		
#17 Sufficient sample amount for indicat	ed test(s)?	Yes		
#18 All samples received within hold tim	e?	Yes		
#19 Subcontract of sample(s)?		Yes		
#20 VOC samples have zero headspace	e (less than 1/4 inch bubble)?	N/A		
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM analysts.		N/A		
#22 >10 for all samples preserved with N	NaAsO2+NaOH, ZnAc+NaOH?	N/A		
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: PH Device/Lot#:				
Checklist completed by: Checklist reviewed by:	Kelsey Brooks	Date: 05/22/2015		
Checklist reviewed by:	Kelsey Brooks	Date: 05/22/2015		

Analytical Report 508871 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
08-JUN-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





08-JUN-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 508871

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 508871. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 508871 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 508871



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
#1 @ 3.5'	S	06-01-15 12:00	- 3.5 ft	508871-001
#2 @ 3.5'	S	06-01-15 12:02	- 3.5 ft	508871-002
#3 @ 3.5'	S	06-01-15 12:04	- 3.5 ft	508871-003
#4 @ 3.5'	S	06-01-15 12:06	- 3.5 ft	508871-004
#5 @ 3.5'	S	06-01-15 12:08	- 3.5 ft	508871-005
#6 @ 3.5'	S	06-01-15 12:10	- 3.5 ft	508871-006
#7 @ 3.5 [']	S	06-01-15 12:12	- 3.5 ft	508871-007
#8 @ 3.5'	S	06-01-15 12:14	- 3.5 ft	508871-008
#9 @ 10'	S	06-01-15 12:16	- 10 ft	508871-009
#10 @ 10'	S	06-01-15 12:18	- 10 ft	508871-010



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 08-JUN-15

 Work Order Number(s):
 508871
 Date Received:
 06/03/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 508871

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Wed Jun-03-15 09:45 am

Report Date: 08-JUN-15

Project Manager: Kelsey Brooks

								1 Toject Iviai	iagei.	Keisey brooks	,		
	Lab Id:	508871-0	001	508871-0	02	508871-0	03	508871-0	04	508871-0	05	508871-0	06
Analusis Daguastad	Field Id:	#1 @ 3.:	5'	#2 @ 3.5	5'	#3 @ 3.5	;'	#4 @ 3.5	,	#5 @ 3.5	5'	#6 @ 3.5	5'
Analysis Requested	Depth:	3.5 ft		3.5 ft		3.5 ft		3.5 ft		3.5 ft		3.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-01-15	Jun-01-15 12:00 Ju		2:02	Jun-01-15 1	2:04	Jun-01-15 1	2:06	Jun-01-15 1	2:08	Jun-01-15 1	2:10
Percent Moisture	Extracted:										Ì		
	Analyzed:	Jun-05-15	Jun-05-15 17:00		Jun-05-15 17:00		Jun-05-15 17:00 Jun-05-15 17:00		7:00	Jun-05-15 17:00		Jun-05-15 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.78	1.00	3.46	1.00	12.6	1.00	15.8	1.00	7.84	1.00	11.7	1.00
TPH by SW8015 Mod	Extracted:	Jun-04-15	15:00	Jun-04-15 15:00		Jun-04-15 15:00		Jun-04-15 15:00		Jun-04-15 15:00		Jun-04-15 15:00	
	Analyzed:	Jun-04-15	21:10	Jun-04-15 2	1:31	Jun-04-15 21:52 Jun-04-15 22:13		Jun-04-15 22:36		Jun-04-15 2	3:39		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		1380	76.1	226	15.5	ND	17.2	ND	17.8	1020	16.2	ND	17.0
C12-C28 Diesel Range Hydrocarbons	-C28 Diesel Range Hydrocarbons		76.1	3170	15.5	86.8	17.2	24.0	17.8	4670	16.2	103	17.0
C28-C35 Oil Range Hydrocarbons	C35 Oil Range Hydrocarbons		76.1	127	15.5	ND	17.2	ND	17.8	172	16.2	ND	17.0
Total TPH		11900	76.1	3520	15.5	86.8	17.2	24.0	17.8	5860	16.2	103	17.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Knis Roah

Kelsey Brooks Project Manager



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 508871

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Wed Jun-03-15 09:45 am

Report Date: 08-JUN-15

Project Manager: Kelsey Brooks

								I Toject Mai	nager.	Keisey Brooks	
	Lab Id:	508871-0	007	508871-0	800	508871-0	09	508871-0	10		
Analysis Requested	Field Id:	#7 @ 3	5'	#8 @ 3.5	5'	#9 @ 10)'	#10 @ 1	0'		
Analysis Requested	Depth:	3.5 ft		3.5 ft		10 ft		10 ft			
	Matrix:	SOIL	SOIL			SOIL		SOIL			
	Sampled:	Jun-01-15	12:12	Jun-01-15 1	12:14	Jun-01-15 1	2:16	Jun-01-15 1	2:18		
Percent Moisture	Extracted:										
	Analyzed:	Jun-05-15	Jun-05-15 17:00 Jun-05-15		17:00 Jun-05-15 17:00		Jun-05-15 17:00				
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		10.5	1.00	10.8	1.00	8.93	1.00	9.45	1.00		
TPH by SW8015 Mod	Extracted:	Jun-04-15	15:00	Jun-04-15 15:00		Jun-04-15 15:00		Jun-04-15 15:00			
	Analyzed:	Jun-05-15	00:01	Jun-05-15 (00:22	Jun-05-15 0	0:44	Jun-05-15 (1:06		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		81.7	16.7	75.9	16.7	2490	82.3	6310	82.7		
C12-C28 Diesel Range Hydrocarbons		478	16.7	1470	16.7	8140	82.3	12700	82.7		
C28-C35 Oil Range Hydrocarbons		ND	16.7	45.4	16.7	268	82.3	448	82.7		
Total TPH		560	16.7	1590	16.7	10900	82.3	19500	82.7		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508871,

... _ /1_ _

Sample: 508871-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 969565 Unites

Data Analyzadi 06/04/15 21:10

Matrix: Soil Batch:

Units: mg/kg Date Analyzed: 06/04/15 21:10 SURROGATE RECOVERY STUDY								
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes	()		[D]					
1-Chlorooctane	129	99.7	129	70-135				
o-Terphenyl	59.0	49.9	118	70-135				

Lab Batch #: 969565 Sample: 508871-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/04/15 21:31 SURROGATE RECOVERY STUDY **Amount** True Control TPH by SW8015 Mod Amount Recovery Limits **Found Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 99.9 70-135 115 115 o-Terphenyl 58.4 50.0 70-135 117

Lab Batch #: 969565 Sample: 508871-003 / SMP Batch: Matrix: Soil

Units: mg/kg Date Analyzed: 06/04/15 21:52 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	61.6	50.0	123	70-135	

Lab Batch #: 969565 Sample: 508871-004 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/04/15 22:13	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooc	tane		103	99.7	103	70-135				
o-Terpheny	1		53.7	49.9	108	70-135				

Lab Batch #: 969565 Sample: 508871-005 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/04/15 22:36	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		130	99.8	130	70-135	
o-Terpheny	/1		62.9	49.9	126	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508871,

ma/1.a

Sample: 508871-006 / SMP

Project ID: SRS#2013-044

Lab Batch #: 969565 Unite.

Date Analyzed: 06/04/15 23:39

1 Matrix: Soil Batch:

Units: mg/kg Date Analyzed: 00/04/13 25:39	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes	()	. ,	[D]				
1-Chlorooctane	111	99.8	111	70-135			
o-Terphenyl	57.3	49.9	115	70-135			

Lab Batch #: 969565 Sample: 508871-007 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/05/15 00:01	SU	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1-Chlorooctane	118	99.7	118	70-135				
o-Terphenyl	60.0	49.9	120	70-135				

Sample: 508871-008 / SMP Lab Batch #: 969565 Batch: Matrix: Soil

Date Analyzed: 06/05/15 00:22 **Units:** mg/kg SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.6	117	70-135	
o-Terphenyl	60.8	49.8	122	70-135	

Lab Batch #: 969565 Sample: 508871-009 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/05/15 00:44	SURROGATE RECOVERY STUDY						
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooc	tane		126	99.9	126	70-135			
o-Terpheny	1		62.6	50.0	125	70-135			

Lab Batch #: 969565 Sample: 508871-010 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/05/15 01:06	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
		Analytes			[التا			
1-Chlorooc	ctane		105	99.9	105	70-135		
o-Terpheny	yl		64.4	50.0	129	70-135		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 508871,

Sample: 693468-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 969565

o-Terphenyl

Batch: 1 Matrix: Solid

50.0

101

Units:	mg/kg	Date Analyzed: 06/04/15 17:29	SURROGATE RECOVERY STUDY					
	TPH	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooct	tane		104	100	104	70-135		
o-Terphenyl	1		54.5	50.0	109	70-135		

Lab Batch #: 969565 **Sample:** 693468-1-BKS / BKS Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/04/15 17:53	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chlorooct	ane		113	100	113	70-135				
o-Terpheny	1		49.9	50.0	100	70-135				

Lab Batch #: 969565 **Sample:** 693468-1-BSD / BSD Matrix: Solid Batch:

Units: mg/kg **Date Analyzed:** 06/04/15 18:16 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits Found Amount Recovery Flags %R %R [A] [B] [D] **Analytes** 1-Chlorooctane 130 100 130 70-135 70-135

50.6

Lab Batch #: 969565 Sample: 508884-001 S / MS **Batch:** Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/04/15 19:01	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
		Analytes			[D]					
1-Chloroocta	ane		129	99.7	129	70-135				
o-Terphenyl			57.8	49.9	116	70-135				

Lab Batch #: 969565 **Sample:** 508884-001 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/04/15 19:23	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chloroocta	ane		129	99.7	129	70-135		
o-Terphenyl			61.3	49.9	123	70-135		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508871

Project ID: SRS#2013-044

Analyst: ARM **Date Prepared:** 06/04/2015

Date Analyzed: 06/04/2015

Lab Batch ID: 969565

Sample: 693468-1-BKS

Matrix: Solid

Units: mg/kg

Batch #: 1

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	899	90	1000	1040	104	15	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	897	90	1000	1060	106	17	70-135	35	



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508871 **Project ID:** SRS#2013-044

 Lab Batch ID:
 969565
 QC- Sample ID:
 508884-001 S
 Batch #:
 1
 Matrix:
 Soil

Date Analyzed: 06/04/2015 **Date Prepared:** 06/04/2015 **Analyst:** ARM

Reporting Units: mg/kg MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.6	1110	1130	102	1110	1200	108	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	131	1110	1180	95	1110	1240	100	5	70-135	35	

 $\label{eq:matrix_pike_property} \begin{array}{l} \mbox{Matrix Spike Percent Recovery} \quad [D] = 100*(C-A)/B \\ \mbox{Relative Percent Difference} \quad RPD = 200*[(C-F)/(C+F)] \end{array}$

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 508871

Lab Batch #: 969689 Project ID: SRS#2013-044

 Date Analyzed:
 06/05/2015 17:00
 Date Prepared:
 06/05/2015
 Analyst:
 WRU

 QC- Sample ID:
 508871-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	nits: % SAMPLE / SAMPLE DUPLICATE RECOVERY					
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag	
Analyte		[2]				
Percent Moisture	1.78	2.11	17	20		

Lab Batch #: 969689

 Date Analyzed:
 06/05/2015 17:00
 Date Prepared:
 06/05/2015
 Analyst:
 WRU

 QC- Sample ID:
 508884-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag	
Percent Moisture	9.78	10.2	4	20		



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/03/2015 09:45:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 508871

Temperature Measuring device used :

Sampl	e Receipt Checklist	Comments				
#1 *Temperature of cooler(s)?	3					
#2 *Shipping container in good condition?	Yes					
#3 *Samples received on ice?	Yes					
#4 *Custody Seals intact on shipping container/ coo	ler? N/A					
#5 Custody Seals intact on sample bottles?	N/A					
#6 *Custody Seals Signed and dated?	N/A					
#7 *Chain of Custody present?	Yes					
#8 Sample instructions complete on Chain of Custo	dy? Yes					
#9 Any missing/extra samples?	No					
#10 Chain of Custody signed when relinquished/ red	ceived? Yes					
#11 Chain of Custody agrees with sample label(s)?	Yes					
#12 Container label(s) legible and intact?	Yes					
#13 Sample matrix/ properties agree with Chain of 0	Custody? Yes					
#14 Samples in proper container/ bottle?	Yes					
#15 Samples properly preserved?	Yes					
#16 Sample container(s) intact?	Yes					
#17 Sufficient sample amount for indicated test(s)?	Yes					
#18 All samples received within hold time?	Yes					
#19 Subcontract of sample(s)?	No					
#20 VOC samples have zero headspace (less than	1/4 inch bubble)? N/A					
#21 <2 for all samples preserved with HNO3,HCL, I samples for the analysis of HEM or HEM-SGT which analysts.						
#22 >10 for all samples preserved with NaAsO2+Na	aOH, ZnAc+NaOH? N/A					
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: PH Device/Lot#:						
Checklist completed by:	Moak Date: 06/0	3/2015				

Date: 06/03/2015

Checklist reviewed by:

TENCO	
Laboratories	
540014(01162	

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Page_	1	of	1	

VA Vial Amber VC Vial Clear Encore Sampler TS TerraCore Sampler Air Canister TB Tedlar Bag ZB Zip Lock Bag Plastic Clear

* Container Type Codes

LAB W.O#: 508871 Vial Pre-preserved GA Glass Amber Field billable Hrs: Glass Clear Company: Basin Environmental Service Technologies, LLC Phone: Plastic Amber (575)396-2378 TAT Work Days = D Need results by: PC Plastic Clear Address: Time: 3100 Plains Hwy Fax: (575)396-1429 Std (5-7D) 5Hrs 1D 2D 3D 4D 5D)7D 10D 14D Other City: Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other Lovington State: NM Zip: 88260 ANALYSES REQUESTED PM/Attn: ** Preservative Type Codes Ben J. Arguijo Email: Cont Type bjarguijo@basinenv.com GC GC Project ID: Palladium 7-1 4-Inch Poly A. None E. HCL PO#: B. HNO₃ F. MeOH J. MCAA SRS #: 2013-044 PAA-C. Bryant Pres Type" H₂SO₄ G. Na₂S₂O₃ K. ZnAc&NaOH Invoice To: D. NaOH H. NaHSO4 L Asbc Acid&NaOH Camille Bryant Quote #: Plains All American Example Volatiles by 8260 Sampler Name: Circle One Event: Daily Weekly ^ Matrix Type Codes Monthly Quartely Cameron Fisher Semi-Annual Annual N/A GW Ground Water S Soil/Sediment/Solid BTEX WW Waste Water W Wipe DW Drinking Water Integrity OK (Y/N) Total # of containers Sample Collect Collect SW Surface Water Sample ID Matrix Oil OW Ocean/Sea Water T Tissue File Date Time Code ^ Product-Liquid U Urine PS Product-Solid B Blood SL Sludge # Cont Lab Only: REMARKS #1 6/1/2015 1200 S X 2 #2 1202 6/1/2015 S X 3 #3 1204 6/1/2015 S 1 X 4 #4 6/1/2015 1206 S X 5 #5 6/1/2015 208 S HOLD X 6 #6 6/1/2015 S 1 X #7 6/1/2015 S 12/2 1 X 8 #8 12/4 6/1/2015 S 1 X 9 #9 12/6 6/1/2015 S 1 #10 6/1/2015 S Reg. Program / Clean-up Std STATE for Certs & Regs QA/QC Level & Certification **EDDs** COC & Labels TRRP DW NPDES LPST DryCin Coolers Temp °C YES NO N/A FL TX GA NC SC NJ PA OK LA Lab Use Only 1 2 3 4 CLP AFCEE QAPP ADaPT SEDD ERPIMS AL NM Other: Match Incomplete NELAC DoD-ELAP Other Von-Conformances found? XLS Other: Absent Unclear Relinquished by Affiliation Date Samples intact upon arrival? Time Received by Affiliation Date Time Received on Wet Ice? 7:00 DIY abeled with proper preservatives? Received within holding time? Custody seals intact? VOCs rec'd w/o headspace? Mail. Servi Proper containers used? pH verified-acceptable, excl VOCs?

E&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

C.O.C. Serial #

Received on time to meet HTs?

Fig. Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/03/2015 09:45:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 508871

Temperature Measuring device used:

	Sample Receipt Checklist	Comments			
#1 *Temperature of cooler(s)?		2			
#2 *Shipping container in good condition	?	Yes			
#3 *Samples received on ice?		Yes			
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A			
#5 Custody Seals intact on sample bottle	es?	N/A			
#6 *Custody Seals Signed and dated?		N/A			
#7 *Chain of Custody present?		Yes			
#8 Sample instructions complete on Cha	in of Custody?	Yes			
#9 Any missing/extra samples?		No			
#10 Chain of Custody signed when relind	quished/ received?	Yes			
#11 Chain of Custody agrees with sampl	e label(s)?	Yes			
#12 Container label(s) legible and intact?	?	Yes			
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes			
#14 Samples in proper container/ bottle?		Yes			
#15 Samples properly preserved?		Yes			
#16 Sample container(s) intact?		Yes			
#17 Sufficient sample amount for indicate	ed test(s)?	Yes			
#18 All samples received within hold time	e?	Yes			
#19 Subcontract of sample(s)?		No			
#20 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A			
samples for the analysis of HEM or HEM-	7	N/A			
,	laAsO2+NaOH, ZnAc+NaOH?	N/A			
#2 *Shipping container in good condition? #3 *Samples received on ice? #4 *Custody Seals intact on shipping container/ cooler? #5 Custody Seals intact on sample bottles? #6 *Custody Seals Signed and dated? #7 *Chain of Custody present? #8 Sample instructions complete on Chain of Custody? #9 Any missing/extra samples? #10 Chain of Custody signed when relinquished/ received? #11 Chain of Custody agrees with sample label(s)? #12 Container label(s) legible and intact? #13 Sample matrix/ properties agree with Chain of Custody? #14 Samples in proper container/ bottle? #15 Samples properly preserved? #16 Sample container(s) intact? #17 Sufficient sample amount for indicated test(s)? #18 All samples received within hold time? #19 Subcontract of sample(s)? #19 Subcontract of sample(s)? #10 Can all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? * Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: **Checklist completed by: **Manake** **Checklist reviewed by: **Manake** **Must **Manake** **Checklist reviewed by: **Manake** **Checklist reviewed by: **Manake** **Must **Manake** **Checklist reviewed by: **Manake** **Checklist reviewed by: **Manake** **Checklist reviewed by: **Manake** **Must **Manake** **Checklist reviewed by: **Manake** **Must **Manake** **Checklist reviewed by: **Manake**					
Checklist completed by:	Kelsey Brooks	Date: <u>06/03/2015</u>			
Checklist reviewed by:	Kelsey Brooks	Date: <u>06/03/2015</u>			

Analytical Report 509511 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
17-JUN-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





17-JUN-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 509511

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 509511. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 509511 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 509511



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
#1b @ 9'	S	06-10-15 11:01	- 9 ft	509511-001
#3b @9'	S	06-10-15 11:15	- 9 ft	509511-002

Version: 1.%



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 17-JUN-15

 Work Order Number(s):
 509511
 Date Received:
 06/11/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 509511

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Thu Jun-11-15 03:05 pm

Report Date: 17-JUN-15

Project Manager: Kelsey Brooks

				Project Manager: Kelsey Brooks
	Lab Id:	509511-001	509511-002	
Analysis Requested	Field Id:	#1b @ 9'	#3b @9'	
Anatysis Requestea	Depth:	9 ft	9 ft	
	Matrix:	SOIL	SOIL	
	Sampled:	Jun-10-15 11:01	Jun-10-15 11:15	
Percent Moisture	Extracted:			
	Analyzed:	Jun-12-15 17:30	Jun-12-15 17:30	
	Units/RL:	% RL	% RL	
Percent Moisture		9.83 1.00	7.76 1.00	
TPH by SW8015 Mod	Extracted:	Jun-12-15 17:00	Jun-12-15 17:00	
	Analyzed:	Jun-13-15 11:27	Jun-13-15 12:40	
	Units/RL:	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 16.6	ND 16.3	
C12-C28 Diesel Range Hydrocarbons		ND 16.6	ND 16.3	
C28-C35 Oil Range Hydrocarbons		ND 16.6	ND 16.3	
Total TPH		ND 16.6	ND 16.3	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Kelsey Brooks Project Manager



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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	Phone	Fax
4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509511,

ma/1.a

Sample: 509511-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 970341

TT--24---

Date Analyzed: 06/13/15 11:27

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 00/15/15 11:2/	SURROGATE RECOVERY STUDY									
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes		. ,	[D]							
1-Chlorooctane	129	99.7	129	70-135						
o-Terphenyl	64.0	49.9	128	70-135						

Lab Batch #: 970341 Sample: 509511-002 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/13/15 12:40	SURROGATE RECOVERY STUDY								
TPH by SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	A	Analytes			[D]						
1-Chlorooct	ane		123	100	123	70-135					
o-Terpheny			57.2	50.0	114	70-135					

Lab Batch #: 970341 Sample: 693927-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/13/15 05:49 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits **Found** Amount Recovery Flags %R %R [A] [B] [D] **Analytes** 1-Chlorooctane 116 100 116 70-135 70-135 o-Terphenyl 56.4 50.0 113

Lab Batch #: 970341 Sample: 693927-1-BKS / BKS Batch: 1 Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/13/15 06:11	SURROGATE RECOVERY STUDY						
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	ane		122	100	122	70-135			
o-Terphenyl			59.7	50.0	119	70-135			

Lab Batch #: 970341 Sample: 693927-1-BSD / BSD Batch: 1 Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/13/15 06:32	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	ane		129	100	129	70-135			
o-Terphenyl			64.5	50.0	129	70-135			

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509511,

Sample: 509511-001 S / MS

Project ID: SRS#2013-044

Matrix: Soil Batch: 1

Lab Batch #: 970341 Units: mg/kg **Date Analyzed:** 06/13/15 11:50 SUPPOCATE RECOVERY STUDY

onits. Highe Dute Mary 200, 10715 11.50	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1-Chlorooctane	127	99.7	127	70-135				
o-Terphenyl	63.9	49.9	128	70-135				

Lab Batch #: 970341 **Sample:** 509511-001 SD / MSD Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/13/15 12:15	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits Flags %R				
		Analytes			[D]					
1-Chlorooct	tane		129	99.8	129	70-135				
o-Terpheny	1		64.6	49.9	129	70-135				

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509511

Project ID: SRS#2013-044

Analyst: ARM **Date Prepared:** 06/12/2015

Date Analyzed: 06/13/2015

Lab Batch ID: 970341

Sample: 693927-1-BKS

Matrix: Solid

Batch #: 1

Unit	s: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
	TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes		[-]	[~]	[-]	[2]	[-]	[[]				
	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	849	85	1000	905	91	6	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	907	91	1000	983	98	8	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509511 **Project ID:** SRS#2013-044

Lab Batch ID:

970341

QC- Sample ID: 509511-001 S

Batch #:

Matrix: Soil

Date Analyzed:

06/13/2015

Date Prepared: 06/12/2015

Analyst: ARM

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.6	1110	1080	97	1110	1160	105	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.6	1110	1120	101	1110	1210	109	8	70-135	35	

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509511

Lab Batch #: 970226 **Project ID:** SRS#2013-044

 Date Analyzed:
 06/12/2015 17:30
 Date Prepared:
 06/12/2015
 Analyst:
 WRU

 QC- Sample ID:
 509471-007 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	23.6	20.7	13	20	

Lab Batch #: 970226

 Date Analyzed:
 06/12/2015 17:30
 Date Prepared:
 06/12/2015
 Analyst:
 WRU

 QC- Sample ID:
 509472-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY								
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag				
Percent Moisture	14.3	17.1	18	20					

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Version: 1.%

Page 11 of 14

Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/11/2015 03:05:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 509511

Temperature Measuring device used :

Sample R	eceipt Checklist	Comments
#1 *Temperature of cooler(s)?	6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received	ed? Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custo	ody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 i	nch bubble)? N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SC samples for the analysis of HEM or HEM-SGT which are analysts.		
#22 >10 for all samples preserved with NaAsO2+NaOH,	ZnAc+NaOH? N/A	

Must be completed for	or after-hours de	livery of samples prior to p	lacing in the refrigerator	
Analyst:		PH Device/Lot#:		
Checklist	completed by:	Mury Moah Kelsey Brooks	Date: <u>06/12/2015</u>	
Checklis	st reviewed by:	Muny froak Kelsey Brooks	Date: <u>06/12/2015</u>	

	-
TO COLOR	₩.
143, 40	В
	M.
Laboratories	90
acol drones	

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800 roool-c

Page 1 of 1

LAB W.O#: 50

VA Vial Amber
VC Vial Clear
VP Vial Pro-preserved
GA Glass Amber
GC Glass Clear

* Container Type Codes

ES TS AC TB Encore Sampler TerraCore Sampler

Air Canister

Tedlar Bag

	Asbestos fadiochemistry												Field b	oillable H	rs:				PA Plastic Amber PC Pla	Lock Bag stic Clear		
Compan	y: Basin Environmental Service Ted	chnologies, LL	С	Phone:	(575)	396-23	378	TAT W	ork Day	s = D	Need r	esults b	y:			Tim	ie:		PC Plastic Clear Other			
Address	3100 Plains Hwy.			Fax:	(575)	396-14	129		Std (5-	7D) 5H	rs 1D 2	2D 3D	4D (D)7D 10E	14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other_			
City:	Lovington		State: NM	Zip:	8826	0					AN	ALYS	ES RE	QUES	TED				** Preservative Typ	e Codes		
PM/Attn:	Ben J. Arguijo		Email:	bjarguijo	@basir	nenv.coi	m (Cont Type *	GC	GC									A. None E. HCL I, Ice			
Project I	D: Palladium 7-1 4-Inch Poly SRS #: 2013-044			PO#:	PAA-	C. Brya	nt F	res Type**	1	1									B. HNO ₃ F. MeOH J. MC/ H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc& D. NaOH H. NaHSO ₄ L Asb O.	NaOH		
Invoice	To: Camille Bryant Plains All An	nerican		Quote #	:			260										e n PAH Only if	^ Matrix Type C	odes		
Sampler Steve Ta		Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Month	nly Qu	uartely	ample as by 82	TPH	ВТЕХ								Hold Sample Run PAH nest TPH Only if	GW Ground Water S Soil/S WW Waste Water W Wipe DW Drinking Water A Air SW Surface Water O Oil	Sediment/Solid		
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260		3								Hold S. (CALL) on Highest TPH	OW Ocean/Sea Water T Tissu PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge Other			
ίĬ		whole						# Cont	Lab Only	1									REMARKS			
1	#1b @ 9'	A COLORS	itet	We			1		X													
_2	#3b @ 9'	611013	11850	S			1		X					-								
3			1100																			
4																						
5										Q												
6										HOLD												
-/				-	-																	
8					100																	
_9																						
0	Reg. Program / Clean-up Std	STATE	for Certs &	Rone	0	AIOC	Laval 8	& Certific	ation		EDDs		coc 8	& Labels		Coolors	Temp °	C	Lab Use Only Y	ES NO N/A		
CTLs T	RRP DW NPDES LPST DryCln		NC SC NJ P		1 <u>2</u>	3 4		FCEE QA		ADaPT XLS Oth	SEDD E	ERPIMS		Incomplete Unclear	16	2	3	_	Non-Conformances found?			
Other:	Relinquished by	AL NW OIL	Affilia	tion	NELA	Date	-ELAF C	Tim	е	time and the same and	eceived	by	The second second	iation		ate		me	Samples intact upon arrival? Received on Wet Ice?			
1	Store, vaylor									1	2/1		broi	nEN	61	1/15	13	500	Labeled with proper preservatives? Received within holding time?			
2	01/16		Ba 451	Tens.	6	hill	5	1/20)	大师	195		XW	60	bli	115	14	58	Custody seals intact? VOCs rec'd w/o headspace?			
3	1 Biel Wooley		Basis		lei	1/-13	5	1505	- 1	N	K	(0)	Xen	nco	6/11	115	150	5	Proper containers used? pH verified-acceptable, excl VOCs?	===		
4											*		1				,		Received on time to meet HTs?			

&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

C.O.C. Serial #

TS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/11/2015 03:05:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 509511

Temperature Measuring device used :

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		6
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when relind	quished/ received?	Yes
#11 Chain of Custody agrees with sample	le label(s)?	Yes
#12 Container label(s) legible and intact	?	Yes
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#14 Samples in proper container/ bottle?		Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicat	ed test(s)?	Yes
#18 All samples received within hold time	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	,	N/A
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM-analysts.	, ,	N/A
#22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de Analyst:	elivery of samples prior to placing in PH Device/Lot#:	the refrigerator
Checklist completed by: Checklist reviewed by:	Kelsey Brooks	Date: <u>06/12/2015</u>
Checklist reviewed by:	Kelsey Brooks	Date: 06/12/2015

Analytical Report 509808 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
30-JUN-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





30-JUN-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 509808

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 509808. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 509808 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 509808



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @ 28'	S	06-15-15 14:00	- 28 ft	509808-001
TT-1 @ 30'	S	06-15-15 14:30	- 30 ft	509808-002
#8b @ 9'	S	06-15-15 10:45	- 9 ft	509808-003



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 30-JUN-15

 Work Order Number(s):
 509808
 Date Received:
 06/17/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Hits Summary 509808



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: TT-1 @ 28' Matrix: Soil % Moisture: 7.89

Lab Sample Id: 509808-001

Date Collected: 06.15.15 14.00

Dry Weight

Sample Depth: 28 ft

Date Received: 06.17.15 13.50

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Seq Number

970762

Date Prep:

Basis:

06.19.15 11.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	7850	mg/kg	06.20.15 22.51		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	12800	mg/kg	06.20.15 22.51		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	542	mg/kg	06.20.15 22.51		5
Total TPH	PHC635	21200	mg/kg	06.20.15 22.51		5

Sample Id:

TT-1 @ 30'

Matrix:

Soil

% Moisture: 10.73

Lab Sample Id: 509808-002

Analytical Method: TPH by SW8015 Mod

Date Collected: 06.15.15 14.30

Basis:

Dry Weight

Sample Depth: 30 ft

Date Received: 06.17.15 13.50

Prep Method: TX1005P

Seq Number

970762

Date Prep:

06.19.15 11.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	4720	mg/kg	06.20.15 23.12		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	9790	mg/kg	06.20.15 23.12		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	387	mg/kg	06.20.15 23.12		5
Total TPH	PHC635	14900	mg/kg	06.20.15 23.12		5

Sample Id:

#8b @ 9'

Matrix:

Cas Number

PHCG1028

PHC635

Soil

Units

mg/kg

mg/kg

% Moisture: 10.05

Lab Sample Id: 509808-003

Date Collected: 06.15.15 10.45

Basis: Dry Weight

Sample Depth: 9 ft

Date Received: 06.17.15 13.50

Result

39.7

39.7

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

06.24.15 11.09

Seq Number Parameter

Total TPH

970993

C12-C28 Diesel Range Hydrocarbons

Date Prep:

Analysis Date Flag Dil 06.24.15 14.51 1 06.24.15 14.51 1



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 509808

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Wed Jun-17-15 01:50 pm

Report Date: 30-JUN-15

Project Manager: Kelsey Brooks



								Project Manager:	Kelsey Brooks	
	Lab Id:	509808-0	01	509808-0	02	509808-0	003			
Analysis Requested	Field Id:	TT-1 @ 2	28'	TT-1 @ 3	30'	#8b @ 9	9'			
Analysis Requested	Depth:	28 ft		30 ft		9 ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Jun-15-15 1	4:00	Jun-15-15 1	4:30	Jun-15-15 1	10:45			
BTEX by EPA 8021	Extracted:					Jun-29-15 1	12:00			
	Analyzed:					Jun-29-15 2	22:10			
	Units/RL:									
Xylenes, Total							0.000992			
Total BTEX						ND	0.000992			
BTEX by EPA 8021	Extracted:					Jun-29-15 1	12:00			
	Analyzed:					Jun-29-15 2	22:10			
	Units/RL:					mg/kg	RL			
Benzene						ND	0.000992			
Toluene							0.00198			
Ethylbenzene							0.000992			
m_p-Xylenes							0.00198			
o-Xylene						ND	0.000992			
Percent Moisture	Extracted:									
	Analyzed:	Jun-22-15 1	5:20	Jun-22-15 1	5:20	Jun-22-15 1	16:40			
	Units/RL:	%	RL	%	RL	%	RL			
Percent Moisture		7.89	1.00	10.7	1.00	10.1	1.00			
TPH by SW8015 Mod	Extracted:	Jun-19-15 1	1:00	Jun-19-15 1	1:00	Jun-24-15 1	11:09			
	Analyzed:	Jun-20-15 2	22:51	Jun-20-15 2	23:12	Jun-24-15 1	14:51			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		7850	81.3	4720	83.8	ND	16.7			
C12-C28 Diesel Range Hydrocarbons		12800	81.3	9790	83.8	39.7	16.7			
C28-C35 Oil Range Hydrocarbons		542	81.3	387	83.8	ND	16.7			
Total TPH		21200	81.3	14900	83.8	39.7	16.7			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Knishoah



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509808, 509808

Project ID: SRS#2013-044 **Lab Batch #:** 970762 Matrix: Soil Sample: 509808-001 / SMP Batch:

Units: mø/kø

Units: mg/kg Date Analyzed: 06/20/15 22:51	SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes			. ,		
1-Chlorooctane	92.1	99.8	92	70-135	
o-Terphenyl	59.9	49.9	120	70-135	

Lab Batch #: 970762 Sample: 509808-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/20/15 23:12 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits **Found** Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 75.0 99.8 75 70-135 o-Terphenyl 49.9 127 70-135 63.6

Lab Batch #: 970993 Sample: 509808-003 / SMP **Batch:** Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/15 14:51 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	51.4	50.0	103	70-135	

Lab Batch #: 971291 Sample: 509808-003 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/29/15 22:10	SURROGATE RECOVERY STUDY				
	ВТЕ	X by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobenzene			0.0270	0.0300	90	80-120	
4-Bromofluorobenzene			0.0337	0.0300	112	80-120	

Lab Batch #: 970762 Sample: 694190-1-BLK / BLK Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 06/20/15 13:45 SURROGATE RECOVERY					ECOVERY S	STUDY	
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes	. ,		[D]		
1-Chlorooctane			123	100	123	70-135	
o-Terphenyl			63.1	50.0	126	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509808, 509808

Sample: 694345-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 970993 IInits.

Date Analyzed: 06/24/15 12:07

Batch: 1 Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/24/15 12:07	SURROGATE RECOVERY STUDY				
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			109	100	109	70-135	
o-Terphenyl			54.9	50.0	110	70-135	

Lab Batch #: 971291 **Sample:** 694408-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/15 18:41 SURROGATE RECOVERY STUDY								
	BTF	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1,4-Difluorobenzene			0.0268	0.0300	89	80-120		
4-Bromofluorobenzene			0.0314	0.0300	105	80-120		

Lab Batch #: 970762 **Sample:** 694190-1-BKS / BKS Batch: Matrix: Solid

Units: mg/kg **Date Analyzed:** 06/20/15 14:10 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 970993 **Sample:** 694345-1-BKS / BKS Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/24/15 13:01	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane			128	100	128	70-135		
o-Terphenyl			58.1	50.0	116	70-135		

Lab Batch #: 971291 **Sample:** 694408-1-BKS / BKS Batch: Matrix: Solid

Units: mg/kg	Date Analyzed: 06/29/15 18:57	SURROGATE RECOVERY STUDY				
BTEX by	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Ana	alytes			[D]		
1,4-Difluorobenzene	0.0279	0.0300	93	80-120		
4-Bromofluorobenzene	0.0349	0.0300	116	80-120		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509808, 509808

Sample: 694190-1-BSD / BSD

Project ID: SRS#2013-044

Lab Batch #: 970762

Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/20/15 14:35	SU	SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
Analytes			(-)			
1-Chlorooctane	122	100	122	70-135		
o-Terphenyl	53.5	50.0	107	70-135		

Lab Batch #: 970993 **Sample:** 694345-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/k	Date Analyzed: 06/24/15 17:03	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1-Chlorooctane		128	100	128	70-135		
o-Terphenyl		53.4	50.0	107	70-135		

Sample: 694408-1-BSD / BSD Lab Batch #: 971291 Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 06/29/15 20:14 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 970762 **Sample:** 509732-004 S / MS Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/20/15 15:48	SURROGATE RECOVERY STUDY					
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane			113	99.7	113	70-135		
o-Terphenyl			49.6	49.9	99	70-135		

Lab Batch #: 970993 **Sample:** 509808-003 S / MS Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/24/15 15:43	SURROGATE RECOVERY STUDY				
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		130	99.9	130	70-135	
o-Terphenyl			60.9	50.0	122	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 509808, 509808

Project ID: SRS#2013-044

Lab Batch #: 971291

Sample: 510179-001 S / MS

Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/29/15 20:31	SURROGATE RECOVERY STUDY					
	BTE	X by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1.4-Difluorol	hanzana	Allalytes	0.0202	0.0200		90 120		
4-Bromofluorobenzene			0.0282	0.0300	94	80-120		
4-Dromonuo	robenzene		0.0339	0.0300	113	80-120		

Lab Batch #: 970993 **Sample:** 509808-003 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/24/15 16:10 SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]		
1-Chlorooctane			128	99.7	128	70-135	
o-Terphenyl			57.5	49.9	115	70-135	

Sample: 510179-001 SD / MSD **Lab Batch #:** 971291 Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/29/15 20:47	SU	RROGATE RE	ECOVERY S	STUDY	
	ВТЕ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes			[ك]		
1,4-Difluoro	benzene		0.0282	0.0300	94	80-120	
4-Bromofluorobenzene			0.0343	0.0300	114	80-120	

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509808, 509808

Project ID: SRS#2013-044

Analyst: ARM

Date Prepared: 06/29/2015

Date Analyzed: 06/29/2015

Lab Batch ID: 971291

Sample: 694408-1-BKS

Batch #: 1

Matrix: Solid

Units:

mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes					` ′						Ļ	
Benzene	< 0.00100	0.100	0.0899	90	0.100	0.0901	90	0	70-130	35		
Toluene	< 0.00200	0.100	0.0894	89	0.100	0.0895	90	0	70-130	35		
Ethylbenzene	< 0.00100	0.100	0.0896	90	0.100	0.0904	90	1	71-129	35		
m_p-Xylenes	< 0.00200	0.200	0.183	92	0.200	0.184	92	1	70-135	35		
o-Xylene	< 0.00100	0.100	0.0944	94	0.100	0.0939	94	1	71-133	35		

Analyst: ARM Date Prepared: 06/19/2015 Date Analyzed: 06/20/2015

Lab Batch ID: 970762 Sample: 694190-1-BKS Batch #: 1 Matrix: Solid

1000

1000

<15.0

<15.0

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY TPH by SW8015 Mod Blank **Spike** Blank Blank Spike Blank Blk. Spk Control Control Spike Spike **RPD** Sample Result Added Spike Dup. Limits Limits Flag Added [A] Result %R **Duplicate** %R % %R %RPD [B] [C] [D] Result [F] [G] [E]**Analytes**

979

1010

98

101

1000

1000

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

994

1020

99

102

2

1

70-135

70-135

35

35



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509808, 509808

Project ID: SRS#2013-044

Analyst: PJB

Date Prepared: 06/24/2015

Date Analyzed: 06/24/2015

Lab Batch ID: 970993

Sample: 694345-1-BKS

Matrix: Solid

Batch #: 1

J	nits	S:		mg/	Kg

Units: mg/kg		BLAN	K /BLANK S	SPIKE / 1	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	Y	
TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	840	84	1000	931	93	10	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1050	105	1000	1140	114	8	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes





Form 3 - MS Recoveries

Project Name: Palladium 7-1 4-Inch Poly



Work Order #: 509808 Lab Batch #: 970762

Date Analyzed: 06/20/2015

Project ID: SRS#2013-044

Date Prepared: 06/19/2015

Analyst: ARM

Reporting Units mg/kg

QC- Sample ID: 509732-004 S

Batch #: 1 Matrix: Soil

Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY							
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag		
Analytes	[]	[10]						
C6-C12 Gasoline Range Hydrocarbons	<17.1	1140	1060	93	70-135			
C12-C28 Diesel Range Hydrocarbons	<17.1	1140	1060	93	70-135			

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509808

QC- Sample ID: 510179-001 S 971291

Project ID: SRS#2013-044

Lab Batch ID:

Batch #:

Matrix: Soil

Date Analyzed:

06/29/2015

Date Prepared: 06/29/2015

Analyst: ARM

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00108	0.108	0.0699	65	0.108	0.0667	62	5	70-130	35	X
Toluene	< 0.00215	0.108	0.0583	54	0.108	0.0602	56	3	70-130	35	X
Ethylbenzene	< 0.00108	0.108	0.0556	51	0.108	0.0575	53	3	71-129	35	X
m_p-Xylenes	< 0.00215	0.215	0.102	47	0.216	0.111	51	8	70-135	35	X
o-Xylene	< 0.00108	0.108	0.0658	61	0.108	0.0646	60	2	71-133	35	X

Lab Batch ID:

970993

QC- Sample ID: 509808-003 S

Batch #:

Matrix: Soil

Date Analyzed:

06/24/2015

Date Prepared: 06/24/2015

Analyst: PJB

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1050	95	1110	978	88	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	39.7	1110	1240	108	1110	1220	106	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 509808

Lab Batch #: 970850 Project ID: SRS#2013-044

 Date Analyzed:
 06/22/2015 15:20
 Date Prepared:
 06/22/2015
 Analyst:
 WRU

 QC- Sample ID:
 509574-016 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY								
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag				
Percent Moisture	21.6	21.5	0	20					

Lab Batch #: 970850

 Date Analyzed:
 06/22/2015 15:20
 Date Prepared:
 06/22/2015
 Analyst:
 WRU

 QC- Sample ID:
 509732-013 D
 Batch #:
 1
 Matrix:
 Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: % Sample Control **Percent Moisture** Parent Sample RPD **Duplicate** Limits Result Flag Result %RPD [A] [B] **Analyte** Percent Moisture 14.5 14.4

Lab Batch #: 970853

 Date Analyzed:
 06/22/2015 16:40
 Date Prepared:
 06/22/2015
 Analyst:
 WRU

 QC- Sample ID:
 509628-010 D
 Batch #:
 1
 Matrix:
 Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: % Sample Control **Percent Moisture** Parent Sample Duplicate RPD Limits Result Flag %RPD Result [A] [B] **Analyte** Percent Moisture 16.1 14.6 10 20

Lab Batch #: 970853

 Date Analyzed:
 06/22/2015 16:40
 Date Prepared:
 06/22/2015
 Analyst: WRU

 QC- Sample ID:
 509808-003 D
 Batch #:
 1
 Matrix:
 Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: % **Percent Moisture** Sample Control Parent Sample RPD **Duplicate** Limits Result Flag Result %RPD [A] [B] **Analyte** 10.1 9.95 Percent Moisture 20

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/17/2015 01:50:00 PM

PM Air and Metal samples Acceptable Range: Ambient

Work Order #: 509808

Temperature Measuring device used :

Acceptable Temperature Range: 0 - 6 degC

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		0
#2 *Shipping container in good condition?)	/es
#3 *Samples received on ice?)	/es
#4 *Custody Seals intact on shipping contain	ner/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	1	N/A
#6 *Custody Seals Signed and dated?	1	N/A
#7 *Chain of Custody present?	١	/es
#8 Sample instructions complete on Chain	of Custody?	/es
#9 Any missing/extra samples?	I	No
#10 Chain of Custody signed when relinquis	shed/received?	/es
#11 Chain of Custody agrees with sample la	abel(s)?	/es
#12 Container label(s) legible and intact?	١	/es
#13 Sample matrix/ properties agree with C	hain of Custody?	íes –
#14 Samples in proper container/ bottle?	١	íes –
#15 Samples properly preserved?	Y	íes –
#16 Sample container(s) intact?	Y	íes –
#17 Sufficient sample amount for indicated	test(s)?	/es
#18 All samples received within hold time?	Y	/es
#19 Subcontract of sample(s)?	I	No
#20 VOC samples have zero headspace (le	ss than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO samples for the analysis of HEM or HEM-SG analysts.		N/A
#22 >10 for all samples preserved with NaA	sO2+NaOH, ZnAc+NaOH?	N/A
* Minet has a small stand for a fitter because 12.12		vafui na vata v
* Must be completed for after-hours delive	ery of samples prior to placing in the	reirigerator
Analyst:	PH Device/Lot#:	

 Laboratories

3100 Plains Hwy.

Lovington

Ben J. Arguijo

SRS #: 2013-044

Camille Bryant

Palladium 7-1 4-Inch Poly

Sample ID

TT-1 @ 28'

TT-1 @ 30'

£196 #76@9'

Basin Environmental Service Technologies, LLC

Plains All American

Company:

Address:

PM/Attn:

Project ID:

Invoice To:

Sampler Name:

Cameron Fisher

Sample :

2

4 5

City:

CHAIN OF CUSTODY RECORD

(575)396-2378

(575)396-1429

PAA-C. Bryant

Quartely

1

Cont Type

Pres Type*

Example Volatiles by 8260

Cont

GC

TPH

Lab Only

X

X

X

88260

bjarguijo@basinenv.com

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Phone:

Fax:

Zip:

PO#:

Quote #:

Matrix

Code 4

S

S

S

State: NM

Circle One Event: Daily Weekly Monthly

Collect

Time

1400

1430

1045

N/A

Email:

Semi-Annual Annual

Collect

Date

6/15/2015

6/15/2015

6/15/2015

LAB W.O#:

* Container Type Codes Page 1 of 1 VA Vial Amber Encore Sampler VC Vial Clear TerraCore Sampler Vial Pre-preserved Air Canister Glass Amber Tedlar Bag GC Glass Clear PA Plastic Amb Field billable Hrs: ZB Zip Lock Bag Plastic Amber PC Plastic Clear PC Plastic Clear Time: Std (5-7D) 5Hrs 1D 2D 3D 4D (D)7D 10D 14D Other Size(s): 20z, 40z, 80z, 160z, 320z , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other ANALYSES REQUESTED ** Preservative Type Codes A. None E. HCL I. Ice J. MCAA B. HNO₃ F. MeOH H2SO4 G. Na2S2O3 K. ZnAc&NaOH D. NaOH H. NaHSO4 L Asbc Acid&NaOH ^ Matrix Type Codes Hold Sample GW Ground Water WW Waste Water S Soil/Sediment/Solid W Wipe DW Drinking Water SW Surface Water OW Ocean/Sea Water T Tissue Product-Liquid U Urine PS Product-Solid SL Sludge REMARKS

_0	,		1 - 1					I 포	Mark N								
_7		1						-									
_8								-									
9								-					-	-			
0								-						_			
	Reg. Program / Clean-up Std	STATE	for Certs & R	legs	QA/QC	Level &	Certification		EDDs		COC &	I shale					
er:	TRRP DW NPDES LPST DryCin	FL TX GA AL NM Oth	NC SC NJ PA (OK LA 1		CLP AF	FCEE QAPP	ADaPT XLS Othe	SEDD E		Match In	complete		oolers T	\sim	Lab Use Only Non-Conformances found?	YES NO N/A
	Relinquished by		Affiliation	n	Date		Time	-	er: eceived b	оу	Absent Affilia	Unclear ition	1 <u> O</u> Dat	***	3(<u>)</u> Time	Samples intact upon arrival? Received on Wet Ice?	===
2	Consert le		Bill		2-15-1	5	17:00	1		1	Brain	Env	6/15/	15,	1700	Labeled with proper preservatives? Received within holding time?	===
	Thomas Con		DESINGA		d/6/1	5	1255	Out	ma	U	1000	Sthe	6/18	6/5	1255	Custody seals intact? VOCs rec'd w/o headspace?	===

0

TAT Work Days = D Need results by:

GC

BTEX

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563/1800 San Antonio 210-509-3334 Phoenix 602-437-0330 Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

roper containers used? pH verified-acceptable, excl VOCs?

Received on time to meet HTs?

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all st due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/17/2015 01:50:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 509808

Temperature Measuring device used :

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		0
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping co	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	nin of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when relin	quished/ received?	Yes
#11 Chain of Custody agrees with samp	le label(s)?	Yes
#12 Container label(s) legible and intact	?	Yes
#13 Sample matrix/ properties agree wit	h Chain of Custody?	Yes
#14 Samples in proper container/ bottle	>	Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicat	ed test(s)?	Yes
#18 All samples received within hold tim	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	e (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM		N/A
analysts. #22 >10 for all samples preserved with N	NaAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	elivery of samples prior to placing in	n the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by: Checklist reviewed by:	Kung Koah Kelsey Brooks	Date: <u>06/17/2015</u>
Checklist reviewed by:	Knir Roah	Date: <u>06/17/2015</u>

Kelsey Brooks

Analytical Report 510038 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
24-JUN-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





24-JUN-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 510038

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 510038. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 510038 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 510038



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
#5b @ 9'	S	06-18-15 14:30	- 9 ft	510038-001



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 24-JUN-15

 Work Order Number(s):
 510038
 Date Received:
 06/19/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Hits Summary 510038



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: #5b @ 9' Matrix:

Soil

% Moisture: 9.66

Lab Sample Id: 510038-001

Date Collected: 06.18.15 14.30

Basis:

Dry Weight

Sample Depth: 9 ft

Date Received: 06.19.15 15.30

Prep Method: TX1005P

Analytical Method: TPH by SW8015 Mod

Seq Number 970861 Date Prep: 06.22.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	1010	mg/kg	06.23.15 11.50		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4620	mg/kg	06.23.15 11.50		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	1020	mg/kg	06.23.15 11.50		5
Total TPH	PHC635	6650	mg/kg	06.23.15 11.50		5



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 510038

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Fri Jun-19-15 03:30 pm

Report Date: 24-JUN-15

Project Manager: Kelsey Brooks

			 	Project Manager:	Kelsey Brooks	
	Lab Id:	510038-001				
Analysis Requested	Field Id:	#5b @ 9'				
Anaiysis Kequesiea	Depth:	9 ft				
	Matrix:	SOIL				
	Sampled:	Jun-18-15 14:30				
Percent Moisture	Extracted:					
	Analyzed:	Jun-22-15 16:40				
	Units/RL:	% RL				
Percent Moisture		9.66 1.00				
TPH by SW8015 Mod	Extracted:	Jun-22-15 15:00				
	Analyzed:	Jun-23-15 11:50				
	Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		1010 82.8				
C12-C28 Diesel Range Hydrocarbons		4620 82.8				
C28-C35 Oil Range Hydrocarbons		1020 82.8				
Total TPH		6650 82.8				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Knishoah



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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	Phone	Fax
4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 510038, 510038

Sample: 510038-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 970861

Date Analyzed: 06/23/15 11:50

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/23/15 11:50	SU	RROGATE RI	ECOVERY S	STUDY	
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.7	130	70-135	
o-Terphenyl	59.7	49.9	120	70-135	

Lab Batch #: 970861 **Sample:** 694228-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/15 17:	:22	SURROGATE R	ECOVERY	STUDY	
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

Sample: 694228-1-BKS / BKS Lab Batch #: 970861 Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 06/22/15 17:46 SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	51.9	50.0	104	70-135	

Lab Batch #: 970861 **Sample:** 694228-1-BSD / BSD Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 06/22/15 18:09	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooc	tane		118	100	118	70-135				
o-Terpheny	1		53.4	50.0	107	70-135				

Lab Batch #: 970861 **Sample:** 510048-001 S / MS Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 06/22/15 18:55	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	etane		132	99.8	132	70-135	
o-Terpheny	/1		56.8	49.9	114	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 510038, 510038 **Project ID**: SRS#2013-044

Units: **Date Analyzed:** 06/22/15 19:18 mg/kg SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Found Amount Recovery Limits Flags [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 135 99.9 135 70-135 o-Terphenyl 62.9 50.0 70-135 126

Surrogate Recovery [D] = 100 * A / B

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 510038, 510038

Project ID: SRS#2013-044

Analyst: PJB **Date Prepared:** 06/22/2015

Date Analyzed: 06/22/2015

Lab Batch ID: 970861

Sample: 694228-1-BKS

Matrix: Solid

Batch #: 1

Units: m	g/kg	BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	Y
						I	I	l		$\overline{}$

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	785	79	1000	785	79	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	975	98	1000	978	98	0	70-135	35	

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 510038

Project ID: SRS#2013-044

Lab Batch ID:

970861

QC- Sample ID: 510048-001 S

Batch #:

Matrix: Soil

Date Analyzed:

06/22/2015

Date Prepared: 06/22/2015

Analyst: PJB

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<19.3	1290	1150	89	1290	1190	92	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<19.3	1290	1440	112	1290	1500	116	4	70-135	35	

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 510038

Lab Batch #: 970853 **Project ID:** SRS#2013-044

 Date Analyzed:
 06/22/2015 16:40
 Date Prepared:
 06/22/2015
 Analyst:
 WRU

 QC- Sample ID:
 509628-010 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: % SAMPLE / SAMPLE DUPLICATE RECOVE						
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag	
Percent Moisture	16.1	14.6	10	20		

Lab Batch #: 970853

 Date Analyzed:
 06/22/2015 16:40
 Date Prepared:
 06/22/2015
 Analyst:
 WRU

 QC- Sample ID:
 509808-003 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.1	9.95	1	20	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/19/2015 03:30:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 510038

Temperature Measuring device used:

Sa	mple Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/	cooler? N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of C	ustody? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished	I/ received? Yes	
#11 Chain of Custody agrees with sample label	(s)? Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chair	of Custody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test	(s)? Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less t	han 1/4 inch bubble)? N/A	
#21 <2 for all samples preserved with HNO3,H0 samples for the analysis of HEM or HEM-SGT wanalysts.	· ·	
#22 >10 for all samples preserved with NaAsO2	?+NaOH, ZnAc+NaOH? N/A	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator						
Analyst:	PH Device/Lot#:					

Checklist completed by:	As B	Date: <u>06/22/2015</u>
	Julian Martinez	
Checklist reviewed by:	Julian Martinez	Date: <u>06/22/2015</u>

40.0	TV1	# C.
44		LU
Labe	irat	ories

3100 Plains Hwy.

Palladium 7-1 4-Inch Poly

Lovington

Ben Arguijo

SRS #2013-044

Camille Bryant

Address:

PM/Attn:

Project ID:

Invoice To:

City:

Basin Environmental Service Technologies, LLC

Plains All American

CHAIN OF CUSTODY RECORD

(575)396-2378

(575)396-1429

PAA-C. Bryant

Cont Type

VC

Pres Type

GC

88260

bjarguijo@basinenv.com

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800 roool-c

Fax:

Zip:

PO#:

Quote #:

State: NM

Email:

Page 1 of 1

LAB W.O#:

VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB Tedlar Bag Field billable Hrs: GC Glass Clear ZB Zip Lock Bag Plastic Clear PA Plastic Amber PC Plastic Clear Time: Other Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal

VA Vial Amber

Container Type Codes

ES

Encore Sampler

TerraCore Sampler Air Canister

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other 40ml, 125 ml, 250 ml, 500 ml, 1L, Other ANALYSES REQUESTED ** Preservative Type Codes

A. None E. HCL B. HNO F. MeOH J. MCAA C. H2SO4 G. Na2S2O3 K. ZnAc&NaOH D. NaOH H. NaHSO L Asbc Acid&NaOH

Sam	pler Name:	Towns or the						8	10					4. O	A Madeire Town	0.1
Sampler Name: Circle One Event: Daily Ben J. Arguijo Quartely Semi-Annual		/ Weekly Monthly Annual N/A			mple	TPH HAT	BTEX			1		Run H				
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code A	Field	Integrity OK (Y/M)	9	Volafill		上ab Only:				Hold Sample (CALL) Run on Highest 19H	DW Drinking Water A Ai SW Surface Water O OI OW Ocean/Sea Water T Tis PL Product-Liquid U Ur	ir II Issue
	110				-		#L	ont Lab O	inly:					_=_	REMARK	(S
$\frac{-1}{2}$	1 #85 @ 9'	6/18/2015	1430	S				X	-						Run BTEX if TPH <=	
3									Æ							
_4																
_5																
_6					F									1 1		
_7											-					
8											+	+-				
_9												-		-		
_0																
37777743300	Reg. Program / Clean-up Std	And the second s	for Certs & I				vel & Cerl			EDDs	COC	& Labels	Coolers	Temp °C	Lab Use Only	YES NO N/A
TLs	TRRP DW NPDES LPST DryCin Other: Relinquished by	FL TX GA N LA AL NM	NC SC NJ PA Other: Affiliation		NELAC	DoD-EL	LP AFCEE (AP Other:		ADaPT XLS Of	ner:	Match Absent	Incomplete Unclear	60		Non-Conformances found? Samples intact upon arrival?	
1 2			besin b			Date 18/15		ime 627	10077	Received by		liation Service	Date	Time	Received on Wet Ice? Labeled with proper preservatives? Received within holding time?	
3						-/			Be	Helina				11:20	Custody seals intact? VOCs rec'd w/o headspace?	

TAT Work Days = D Need results by:

GC

&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 TS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

roper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?

execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all st due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov.12, 2009



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 06/19/2015 03:30:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 510038

Temperature Measuring device used:

Sample Receip	ot Checklist	Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch be	ubble)? N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Esamples for the analysis of HEM or HEM-SGT which are verificanalysts.		
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAo	c+NaOH? N/A	

Analyst:		PH Device/Lot#:	
	Checklist completed by:	Julian Martinez	Date: <u>06/22/2015</u>

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Released to Imaging: 5/11/2023 1:04:59 PM

Checklist reviewed by:

Date: 06/22/2015

Analytical Report 511604 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
16-JUL-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





16-JUL-15

Project Manager: Ben Arguijo PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No(s): 511604

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 511604. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 511604 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Kelsey Brooks

Project Manager

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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 511604



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-2 @ 2'	S	07-13-15 09:00	- 2 ft	511604-001
TT-2 @ 6'	S	07-13-15 09:10	- 6 ft	511604-002
TT-2 @ 10'	S	07-13-15 09:20	- 10 ft	511604-003
TT-2 @ 12'	S	07-13-15 09:25	- 12 ft	511604-004
TT-2 @, 14'	S	07-13-15 09:30	- 14 ft	511604-005



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Report Date: 16-JUL-15 Work Order Number(s): 511604 Date Received: 07/15/2015

Sa	ample receipt non conformances and comments:
Sa	ample receipt non conformances and comments per sample:
N	one



Hits Summary 511604



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly



Project Location:

Project Id: SRS#2013-044

Contact: Ben Arguijo

Certificate of Analysis Summary 511604

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Wed Jul-15-15 03:57 pm

Report Date: 16-JUL-15

Project Manager: Kelsey Brooks

								1 Toject Man	ager.	Keisey Blooks	,	
	Lab Id:	511604-0	01	511604-0	02	511604-0	03	511604-0	04	511604-0	05	
Analysis Paguested	Field Id:	TT-2 @	2'	TT-2 @	6'	TT-2 @ 1	0'	TT-2 @ 1	2'	TT-2 @ 1	4'	
Analysis Requested	Depth:	2 ft		6 ft		10 ft		12 ft		14 ft		
	Matrix:	rix: SOIL		SOIL	SOIL			SOIL		SOIL		
	Sampled:	Jul-13-15 0	9:00	Jul-13-15 0	9:10	Jul-13-15 09	9:20	Jul-13-15 09	9:25	Jul-13-15 0	9:30	
Percent Moisture	Extracted:											
	Analyzed:	Jul-15-15 1	Jul-15-15 17:30		Jul-15-15 17:30		Jul-15-15 17:30		Jul-15-15 17:30		7:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	
Percent Moisture		4.75	1.00	12.4	1.00	12.7	1.00	9.67	1.00	12.2	1.00	
TPH by SW8015 Mod	Extracted:	Jul-15-15 1	8:00	Jul-15-15 1	8:00	Jul-15-15 1	8:00	Jul-15-15 1	8:00	Jul-15-15 1	8:00	
	Analyzed:	Jul-15-15 22:12		Jul-15-15 22:39		Jul-15-15 23:03 Jul-15-		Jul-15-15 23	Jul-15-15 23:26		4:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
C6-C12 Gasoline Range Hydrocarbons		ND	15.7	ND	17.1	ND	17.2	ND	16.5	ND	17.0	
C12-C28 Diesel Range Hydrocarbons		ND	15.7	ND	17.1	ND	17.2	ND	16.5	ND	17.0	
C28-C35 Oil Range Hydrocarbons		ND	15.7	ND	17.1	ND	17.2	ND	16.5	ND	17.0	
Total TPH		ND	15.7	ND	17.1	ND	17.2	ND	16.5	ND	17.0	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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	Phone	Fax
4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 511604,

Sample: 511604-001 / SMP

Project ID: SRS#2013-044

Lab Batch #: 972449

Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 07/15/15 22:12	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	130	99.7	130	70-135			
o-Terphenyl	63.5	49.9	127	70-135			

Lab Batch #: 972449 **Sample:** 511604-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 07/15/15 22:39 SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]		
1-Chlorooctane			111	99.9	111	70-135	
o-Terphenyl			53.9	50.0	108	70-135	

Sample: 511604-003 / SMP **Lab Batch #:** 972449 Batch: Matrix: Soil

Date Analyzed: 07/15/15 23:03 **Units:** mg/kg SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	60.2	50.0	120	70-135	

Lab Batch #: 972449 **Sample:** 511604-004 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 07/15/15 23:26	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	ane		119	99.6	119	70-135			
o-Terphenyl			58.1	49.8	117	70-135			

Lab Batch #: 972449 Sample: 511604-005 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 07/16/15 14:50	Analyzed: 07/16/15 14:50 SURROGATE RECOVERY STUDY								
	ТРН	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
		Analytes			[D]						
1-Chlorooctane		130	99.7	130	70-135						
o-Terpheny	/1		63.7	49.9	128	70-135					

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 511604,

Sample: 695250-1-BLK / BLK

Project ID: SRS#2013-044

Lab Batch #: 972449

Matrix: Solid Batch:

Units: mg/kg Date Analyzed: 07/15/15 21:02	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	107	100	107	70-135			
o-Terphenyl	53.6	50.0	107	70-135			

Lab Batch #: 972449 **Sample:** 695250-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 07/15/15 21:25	SU	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1-Chlorooctane	129	100	129	70-135					
o-Terphenyl	52.1	50.0	104	70-135					

Sample: 695250-1-BSD / BSD **Lab Batch #:** 972449 Batch: Matrix: Solid

Units: mg/kg Date Analyzed: 07/15/15 21:48 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits **Found** Amount Recovery **Flags** %R [A] [B] %R [D] **Analytes**

1-Chlorooctane 127 100 127 70-135 o-Terphenyl 56.3 50.0 113 70-135 Lab Batch #: 972449 Sample: 511243-001 S / MS Matrix: Soil

Units: mg/kg **Date Analyzed:** 07/16/15 06:12 SURROGATE RECOVERY STUDY True Control Amount TPH by SW8015 Mod Flags Found Amount Recovery Limits %R %R [B] [A] **Analytes** 1-Chlorooctane 70-135 109 99.6 109 o-Terphenyl 49.8 94 70-135 46.9

Lab Batch #: 972449 **Sample:** 511243-001 SD / MSD Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 07/16/15 06:37	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooct	ane		123	99.9	123	70-135			
o-Terphenyl			52.3	50.0	105	70-135			

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 511604

Project ID: SRS#2013-044

Analyst: PJB **Date Prepared:** 07/15/2015

Date Analyzed: 07/15/2015

Lab Batch ID: 972449

Sample: 695250-1-BKS

Matrix: Solid

ma/ka

Batch #: 1

Units: mg/kg		BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUL	DY	
TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	760	76	1000	847	85	11	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	857	86	1000	941	94	9	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 511604

972449

QC- Sample ID: 511243-001 S

Batch #:

Matrix: Soil

Lab Batch ID: **Date Analyzed:**

07/16/2015

Date Prepared: 07/15/2015

Project ID: SRS#2013-044

Reporting Units: mg/kg

Analyst: PJB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	760	75	1020	791	78	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.3	1020	861	84	1020	894	88	4	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 511604

Lab Batch #: 972402 **Project ID:** SRS#2013-044

 Date Analyzed:
 07/15/2015 17:30
 Date Prepared:
 07/15/2015
 Analyst:
 WRU

 QC- Sample ID:
 511593-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte		[12]			
Percent Moisture	9.59	9.12	5	20	

Lab Batch #: 972402

 Date Analyzed:
 07/15/2015 17:30
 Date Prepared:
 07/15/2015
 Analyst:
 WRU

 QC- Sample ID:
 511604-005 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	12.2	12.0	2	20	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 07/15/2015 03:57:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 511604

Temperature Measuring device used :

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping conta	iner/ cooler? N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain	of Custody? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinqui	shed/ received? Yes	
#11 Chain of Custody agrees with sample I	abel(s)? Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with 0	chain of Custody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated	test(s)?	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (le	ess than 1/4 inch bubble)? N/A	
#21 <2 for all samples preserved with HNO samples for the analysis of HEM or HEM-S0 analysts.		
#22 >10 for all samples preserved with Na/	AsO2+NaOH, ZnAc+NaOH? N/A	
* Must be completed for after-hours deliv	ery of samples prior to placing in the refr	igerator
Analyst:	PH Device/Lot#:	

Must be completed for after-hours d	elivery of samples prior to placi	ng in the refrigerator	
nalyst:	PH Device/Lot#:		
Checklist completed by:	Kung Koah Kelsey Brooks	Date: <u>07/15/2015</u>	_
Checklist reviewed by:	Kelsey Brooks	Date: <u>07/15/2015</u>	_

10 07	TENCO	
7 36	aboratories	+
	konmentol Asbestos Radiochemistry	*

TT-2 @ 6'

TT-2 @ 10'

3

9

CHAIN OF CUSTODY RECORD

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800 roool-c

0910

0920

7/13/2015

7/13/2015

S

S

Page 1 of 1

LAB W.O#: Field billable Hrs:

* Container Type Codes VA Vial Amber Encore Sampler VC Vial Clear TerraCore Sampler VP Vial Pre-preserved AC Air Canister Glass Amber TB Tedlar Bag GC Glass Clear ZB Zip Lock Bag Plastic Amber PC Plastic Clear

PC Plastic Clear Company: Phone: (575)396-2378 Basin Environmental Service Technologies, LLC TAT Work Days = D Need results by: Time: Other Address: Size(s): 2oz, 4oz, 8oz, 16oz, 32oz, 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other 3100 Plains Hwy. (575)396-1429 Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other State: NM Zip: Lovington 88260

City: ** Preservative Type Codes ANALYSES REQUESTED PM/Attn: Email: Cont Type A. None E. HCL B. HNO₃ F. MeOH Ben J. Arguijo bjarguijo@basinenv.com GC GC I. Ice J. MCAA Project ID: Palladium 7-1 4-Inch Poly H2SO4 G. Na2S2O3 K. ZnAc&NaOH PAA-C. Bryant Pres Type* D. NaOH H. NaHSO, L. Asbc Acid&NaOH SRS #: 2013-044 Invoice To: Quote #: Camille Bryant Plains All American ^ Matrix Type Codes

Sample Steve	er Name: Taylor	Circle One E Semi-Annual			Monthly Quarte	ample s by 82	표	ă l	d Sampl	GW Ground Water S Soll/Sediment/Solid WW Waste Water W Wipe DW Drinking Water A Air
# əldwi	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered Integrity OK (Y/N) Total# of	Exe		Ĭ	Hold (CALL) on Highest T	SW Surface Water O Oil OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Sludge
Se						# Conf	Lab On	y:		REMARKS
_1	TT-2 @ 2'	7/13/2015	0900	S	1		X			

X

X

X TT-2 @ 12' 7/13/2015 0925 S 1 HOLD X 5 S TT-2 @ 14' 0930 1 7/13/2015 6 8

_0										
Reg. Program / Clean-up Std	STATE	for Certs & Regs	QA/QC Level	& Certification	EDDs	COC & Labels	Coolers	Temp °C	Lab Use Only	YES NO N/A
CTLs TRRP DW NPDES LPST DryCln Other:	FL TX GA N AL NM Othe	IC SC NJ PA OK LA	1 2 3 4 CLP NELAC DoD-ELAP	AFCEE QAPP Other:	ADaPT SEDD ERPIMS XLS Other:	Match Incomplete Absent Unclear	1 2	36	Non-Conformances found? Samples intact upon arrival?	
Relinquished by		Affiliation	Date	Time	Received by	Affiliation	Date	Time	Received on Wet Ice?	
1 Store Vaylor		Basin Env.	7/13/2015	1700	Dhh	Basin Env.	7/13/2015	1700	Labeled with proper preservatives? Received within holding time?	
2 6/1		Besin Env	7/45/0045	0720	The sold	1.	1 -		Custody seals intact?	

Basin Env. 1/15/2015 0/30 VOCs rec'd w/o headspace? roper containers used? 3 X2MCO oH verified-acceptable, excl VOCs? Received on time to meet HTs?

&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330 TS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

1

C.O.C. Serial #

secution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1,5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. Revision Date: Nov 12, 2009



Work Order #: 511604

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 07/15/2015 03:57:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used:

Sample	e Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cool	er? N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custoo	dy? Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ rec	eived? Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of C	sustody? Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than ?	1/4 inch bubble)? N/A	
#21 <2 for all samples preserved with HNO3,HCL, H samples for the analysis of HEM or HEM-SGT which analysts.		
#22 >10 for all samples preserved with NaAsO2+Na	OH, ZnAc+NaOH? N/A	

Must be	completed for after-hours de	livery of samples prior to pla	cing in the refrigerator
Analyst:		PH Device/Lot#:	
	Checklist completed by:	Kung frak Kelsey Brooks	Date: <u>07/15/2015</u>
	Checklist reviewed by:	Mms Hoah Kelsey Brooks	Date: <u>07/15/2015</u>

Analytical Report 518681 for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo
Palladium 7-1 4-Inch Poly
SRS#2013-044
11-NOV-15

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





11-NOV-15

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S**1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): 518681

Palladium 7-1 4-Inch Poly

Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 518681. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 518681 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 518681



PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @ 30'	S	10-28-15 10:20	- 30 ft	518681-001
SB-1 @ 50'	S	10-28-15 11:03	- 50 ft	518681-002
SB-1 @ 80'	S	10-28-15 11:23	- 80 ft	518681-003
SB-1 @ 105'	S	10-28-15 12:01	- 105 ft	518681-004
SB-1 @ 135'	S	10-28-15 13:16	- 135 ft	518681-005
SB-1 @ 140'	S	10-28-15 13:20	- 140 ft	518681-006



CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Palladium 7-1 4-Inch Poly

 Project ID:
 SRS#2013-044
 Report Date:
 11-NOV-15

 Work Order Number(s):
 518681
 Date Received:
 11/03/2015

Sample receipt non conformances and comments:	
Sample receipt non conformances and comments.	
Sample receipt non conformances and comments per sample:	





PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id : **SB-1** @ **30'**

Matrix: Soil

% Moisture:

Lab Sample Id: 518681-001

Date Collected: 10.28.15 10.20

Basis: Wet Weight

Sample Depth: 30 ft

Date Received: 11.03.15 14.45

Analytical Method: BTEX by EPA 8021

Prep Method: SW5030B

Seq Number

Seq Number

981002

Date Prep: 11.09.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	3.80	mg/kg	11.10.15 11.50		25
Ethylbenzene	100-41-4	3.64	mg/kg	11.10.15 11.50		25
m p-Xylenes	179601-23-1	15.5	mg/kg	11.10.15 11.50		25
o-Xylene	95-47-6	5.51	mg/kg	11.10.15 11.50		25
Xylenes, Total	1330-20-7	21.0	mg/kg	11.10.15 11.50		25
Total BTEX		28.5	mg/kg	11.10.15 11.50		25

Analytical Method: TPH by SW8015 Mod

980771

Prep Method: TX1005P

Date Prep:

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	412	mg/kg	11.04.15 14.46		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	2270	mg/kg	11.04.15 14.46		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	220	mg/kg	11.04.15 14.46		1
Total TPH	PHC635	2900	mg/kg	11.04.15 14.46		1





PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: SB-1 @ 50' Matrix: Soil % Moisture:

Lab Sample Id: 518681-002

Date Collected: 10.28.15 11.03

Basis:

Wet Weight

Sample Depth: 50 ft

Date Received: 11.03.15 14.45

Prep Method: SW5030B

Seq Number

981002

Analytical Method: BTEX by EPA 8021

Date Prep:

11.09.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0107	mg/kg	11.10.15 09.27		5
Toluene	108-88-3	0.0190	mg/kg	11.10.15 09.27		5
Ethylbenzene	100-41-4	0.00744	mg/kg	11.10.15 09.27		5
m p-Xylenes	179601-23-1	0.102	mg/kg	11.10.15 09.27		5
o-Xylene	95-47-6	0.0310	mg/kg	11.10.15 09.27		5
Xylenes, Total	1330-20-7	0.133	mg/kg	11.10.15 09.27		5
Total BTEX		0.170	mg/kg	11.10.15 09.27		5

Analytical Method: TPH by SW8015 Mod

Seq Number 980771 Prep Method: TX1005P

Date Prep:

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	19.0	mg/kg	11.04.15 15.15		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	321	mg/kg	11.04.15 15.15		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	42.3	mg/kg	11.04.15 15.15		1
Total TPH	PHC635	382	mg/kg	11.04.15 15.15		1





PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: SB-1 @ 80' Matrix: Soil % Moisture:

Basis:

Seq Number

Lab Sample Id: 518681-003

981002

Date Collected: 10.28.15 11.23

Wet Weight

Sample Depth: 80 ft

Date Received: 11.03.15 14.45

Analytical Method: BTEX by EPA 8021

Prep Method: SW5030B

Date Prep:

11.09.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00126	mg/kg	11.10.15 02.50		1
Toluene	108-88-3	0.00378	mg/kg	11.10.15 02.50		1
Ethylbenzene	100-41-4	0.0153	mg/kg	11.10.15 02.50		1
m_p-Xylenes	179601-23-1	0.0920	mg/kg	11.10.15 02.50		1
o-Xylene	95-47-6	0.0496	mg/kg	11.10.15 02.50		1
Xylenes, Total	1330-20-7	0.142	mg/kg	11.10.15 02.50		1
Total BTEX		0.162	mg/kg	11.10.15 02.50		1

Analytical Method: TPH by SW8015 Mod

Seq Number 980771 Prep Method: TX1005P

Date Prep:

11.04.15 13.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	24.2	mg/kg	11.04.15 15.45		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	283	mg/kg	11.04.15 15.45		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	35.7	mg/kg	11.04.15 15.45		1
Total TPH	PHC635	343	mg/kg	11.04.15 15.45		1

Sample Id:

SB-1 @ 105'

Matrix:

Soil

% Moisture:

Lab Sample Id: 518681-004

Date Collected: 10.28.15 12.01

Basis:

Wet Weight

Sample Depth: 105 ft

Date Received: 11.03.15 14.45

Analytical Method: TPH by SW8015 Mod

Seq Number

980771

Prep Method: TX1005P

Date Prep:

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	178	mg/kg	11.04.15 16.17		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	25.1	mg/kg	11.04.15 16.17		1
Total TPH	PHC635	203	mg/kg	11.04.15 16.17		1





PLAINS ALL AMERICAN EH&S, Midland, TX

Palladium 7-1 4-Inch Poly

Sample Id: SB-1 @ 135' Matrix: Soil % Moisture:

Basis:

Lab Sample Id: 518681-005

Date Collected: 10.28.15 13.16

Wet Weight

Sample Depth: 135 ft

Date Received: 11.03.15 14.45

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Seq Number 980771 Date Prep: 11.04.15 13.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	17.3	mg/kg	11.05.15 11.00		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	277	mg/kg	11.05.15 11.00		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	34.9	mg/kg	11.05.15 11.00		1
Total TPH	PHC635	329	mg/kg	11.05.15 11.00		1

Sample Id:

SB-1 @ 140'

Matrix:

Soil

% Moisture:

Lab Sample Id: 518681-006

Date Collected: 10.28.15 13.20

Basis:

Wet Weight

Sample Depth: 140 ft

Date Received: 11.03.15 14.45

Prep Method: TX1005P

Seq Number

980771

Analytical Method: TPH by SW8015 Mod

Date Prep:

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	133	mg/kg	11.05.15 11.36		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	17.5	mg/kg	11.05.15 11.36		1
Total TPH	PHC635	151	mg/kg	11.05.15 11.36		1

Received by OCD: 4/3/2023 3:09:15 PM



Certificate of Analysis Summary 518681

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Palladium 7-1 4-Inch Poly

Date Received in Lab: Tue Nov-03-15 02:45 pm

Report Date: 11-NOV-15 **Project Manager:** Kelsey Brooks

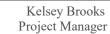
Project Id: SRS#2013-044
Contact: Ben Arguijo

Project Location:

	Lab Id:	518681-	001	518681-	002	518681-	003	518681-	004	518681-	005	518681-	006
	Field Id:	SB-1 @	30'	SB-1 @	50'	SB-1 @ 80'		SB-1 @ 105'		SB-1 @	135'	SB-1 @	140'
Analysis Requested	Depth:	30 ft		50 fi	į	80 ft		105 f		135 ft		140 ft	
	Matrix:	SOIL	,	SOII		SOII	_	SOIL	_	SOIL	_	SOIL	,
	Sampled:	Oct-28-15	10:20	Oct-28-15	11:03	Oct-28-15	11:23	Oct-28-15	12:01	Oct-28-15	13:16	Oct-28-15	13:20
BTEX by EPA 8021	Extracted:	Nov-09-15	15:00	Nov-09-15	15:00	Nov-09-15	15:00	Nov-09-15	15:00	Nov-09-15	15:00	Nov-09-15	15:00
	Analyzed:	Nov-10-15	11:50	Nov-10-15	09:27	Nov-10-15	02:50	Nov-10-15	03:06	Nov-10-15	03:23	Nov-10-15	03:40
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0253	0.0107	0.00503	0.00126	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Toluene		3.80	0.0505	0.0190	0.0101	0.00378	0.00201	ND	0.00200	ND	0.00200	ND	0.00200
Ethylbenzene		3.64	0.0253	0.00744	0.00503	0.0153	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
m_p-Xylenes		15.5	0.0505	0.102	0.0101	0.0920	0.00201	ND	0.00200	ND	0.00200	ND	0.00200
o-Xylene		5.51	0.0253	0.0310	0.00503	0.0496	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Xylenes, Total		21.0	0.0253	0.133	0.00503	0.142	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
Total BTEX		28.5	0.0253	0.170	0.00503	0.162	0.00100	ND	0.00100	ND	0.00100	ND	0.00100
TPH by SW8015 Mod	Extracted:	Nov-04-15	13:00	Nov-04-15	13:00	Nov-04-15	13:00	Nov-04-15	13:00	Nov-04-15	13:00	Nov-04-15	13:00
	Analyzed:	Nov-04-15	14:46	Nov-04-15	15:15	Nov-04-15	15:45	Nov-04-15	16:17	Nov-05-15	11:00	Nov-05-15	11:36
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		412	15.0	19.0	15.0	24.2	15.0	ND	14.9	17.3	15.0	ND	15.0
C10-C28 Diesel Range Hydrocarbons		2270	15.0	321	15.0	283	15.0	178	14.9	277	15.0	133	15.0
C28-C35 Oil Range Hydrocarbons		220	15.0	42.3	15.0	35.7	15.0	25.1	14.9	34.9	15.0	17.5	15.0
Total TPH		2900	15.0	382	15.0	343	15.0	203	14.9	329	15.0	151	15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Work Orders: 518681,

Lab Batch #: 980771 Batch: 1 Matrix: Soil **Sample:** 518681-001 / SMP

Units:	mg/kg	Date Analyzed: 11/04/15 14:46	SURROGATE RECOVERY STUDY							
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chloroocta	ane		96.9	99.9	97	70-135				
o-Terphenyl			42.2	50.0	84	70-135				

Lab Batch #: 980771 **Sample:** 518681-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date An	nalyzed: 11/04/15 15:15	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]				
1-Chlorooctane	88.6	99.7	89	70-135			
o-Terphenyl	41.4	49.9	83	70-135			

Sample: 518681-003 / SMP **Lab Batch #:** 980771 Batch: Matrix: Soil

Units: mg/kg **Date Analyzed:** 11/04/15 15:45 SURROGATE RECOVERY STUDY Control

TPH by SW8015 Mod Analytes	Amount Found [A]	Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.9	105	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 980771 **Sample:** 518681-004 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 11/04/15 16:17	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane			100	99.6	100	70-135			
o-Terphenyl			46.1	49.8	93	70-135			

Lab Batch #: 980771 Batch: Sample: 518681-005 / SMP Matrix: Soil

Units:	mg/kg Date Analyzed: 11/05/15 11:00 SURROGATE RECOVERY STUDY							
	TPH by SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooctane			117	99.7	117	70-135		
o-Terphenyl			53.7	49.9	108	70-135		

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Work Orders: 518681,

Lab Batch #: 980771 Batch: 1 Matrix: Soil **Sample:** 518681-006 / SMP

Units:	mg/kg	Date Analyzed: 11/05/15 11:36	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane			113	99.9	113	70-135		
o-Terphenyl			51.4	50.0	103	70-135		

Lab Batch #: 981002 **Sample:** 518681-003 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/10/15 02:50	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0318	0.0300	106	80-120		
4-Bromofluorobenzene	0.0349	0.0300	116	80-120		

Sample: 518681-004 / SMP Lab Batch #: 981002 Batch: Matrix: Soil

Date Analyzed: 11/10/15 03:06 **Units:** mg/kg SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 981002 Sample: 518681-005 / SMP Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 11/10/15 03:23	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021 Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluor	1,4-Difluorobenzene			0.0300	93	80-120			
4-Bromofluorobenzene			0.0268	0.0300	89	80-120			

Lab Batch #: 981002 Sample: 518681-006 / SMP Batch: Matrix: Soil

Units:	mg/kg	Date Analyzed: 11/10/15 03:40	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorobenzene			0.0328	0.0300	109	80-120			
4-Bromofluorobenzene			0.0308	0.0300	103	80-120			

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



o-Terphenyl

Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Project ID: SRS#2013-044 Work Orders: 518681,

Lab Batch #: 981002 Batch: 1 Matrix: Soil **Sample:** 518681-002 / SMP

Units: mg/kg Date Analyzed: 1	1/10/15 09:27 SU	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
Analytes			(2)					
1,4-Difluorobenzene	0.0300	0.0300	100	80-120				
4-Bromofluorobenzene	0.0294	0.0300	98	80-120				

Lab Batch #: 981002 **Sample:** 518681-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/10/15 11:50 SURROGATE RECOVERY STUDY									
BTEX by EPA 8021		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	A	nalytes			[D]				
1,4-Difluorobenzene			0.0336	0.0300	112	80-120			
4-Bromofluorobenzene			0.0253	0.0300	84	80-120			

Lab Batch #: 980771 **Sample:** 700524-1-BLK / BLK Matrix: Solid Batch:

Units: mg/kg Date Analyzed: 11/05/15 13:57 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits **Found** Amount Recovery Flags %R %R [A] [B] [D] **Analytes** 1-Chlorooctane 98.0 100 98 70-135

44.4

50.0

Lab Batch #: 981002 **Sample:** 700677-1-BLK / BLK Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 11/10/15 02:33	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorobenzene			0.0311	0.0300	104	80-120			
4-Bromofluorobenzene			0.0250	0.0300	83	80-120			

Lab Batch #: 980771 **Sample:** 700524-1-BKS / BKS Batch: Matrix: Solid

Units:	mg/kg	Date Analyzed: 11/05/15 15:03	SURROGATE RECOVERY STUDY				
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		108	100	108	70-135	
o-Terphenyl			40.8	50.0	82	70-135	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

70-135

89

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Batch:

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 518681,

Sample: 700677-1-BKS / BKS

Project ID: SRS#2013-044

Lab Batch #: 981002

Sample. 700077-1-DRS7 DRS

1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/10/15 01:46	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 980771 Sample: 700524-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/05/15 18:48 SURROGATE RECOVERY STUDY Amount True Control TPH by SW8015 Mod Limits Found Amount Recovery **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 121 100 121 70-135 o-Terphenyl 46.7 50.0 93 70-135

Lab Batch #: 981002 Sample: 700677-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 11/10/15 08:53 SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 980771 Sample: 518684-006 S/MS Batch: 1 Matrix: Soil

Units:	mg/kg	Date Analyzed: 11/06/15 03:52	SU	RROGATE RE	ECOVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		124	100	124	70-135	
o-Terpheny	1		49.8	50.0	100	70-135	

Units:	mg/kg	Date Analyzed: 11/10/15 10:55	SU	RROGATE RE	COVERY S	STUDY	
	ВТЕ	EX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoroben	nzene		0.0354	0.0300	118	80-120	
4-Bromofluorob	benzene		0.0313	0.0300	104	80-120	

^{*} Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Palladium 7-1 4-Inch Poly

Work Orders: 518681, **Project ID:** SRS#2013-044

Units:	mg/kg	Date Analyzed: 11/06/15 04:25	SU	RROGATE RE	COVERY S	STUDY	
	ТРН	by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooct	ane		127	99.7	127	70-135	
o-Terphenyl			50.9	49.9	102	70-135	

Lab Batch #: 981002 Sample: 518684-004 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 11/10/15 11:12	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{*} Surrogate outside of Laboratory QC limits

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution

BS / BSD Recoveries



Received by OCD: 4/3/2023 3:09:15 PM

Project Name: Palladium 7-1 4-Inch Poly

Work Order #: 518681 Project ID: SRS#2013-044

Analyst: SYG Date Prepared: 11/09/2015 Date Analyzed: 11/10/2015

Lab Batch ID: 981002 Sample: 700677-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.000996	0.0996	0.0883	89	0.0992	0.0933	94	6	70-130	35	
Toluene	< 0.00199	0.0996	0.0904	91	0.0992	0.101	102	11	70-130	35	
Ethylbenzene	< 0.000996	0.0996	0.0910	91	0.0992	0.111	112	20	71-129	35	
m_p-Xylenes	< 0.00199	0.199	0.186	93	0.198	0.237	120	24	70-135	35	
o-Xylene	< 0.000996	0.0996	0.0875	88	0.0992	0.118	119	30	71-133	35	

Analyst: PJB Date Prepared: 11/05/2015 Date Analyzed: 11/05/2015

Lab Batch ID: 980771Sample: 700524-1-BKSBatch #: 1Matrix: Solid

Units: mg/kg BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY TPH by SW8015 Mod Blank Spike Blank Blank Spike Blank Blk. Spk Control Control Spike **RPD** Sample Result Added Spike Spike Dup. Limits Limits Flag Added [A] Result %R **Duplicate** %R % %R %RPD [B] [C] [D] Result [F] [G] [E]**Analytes** C6-C10 Gasoline Range Hydrocarbons <15.0 70-135 35 1000 967 97 1000 1100 110 13 C10-C28 Diesel Range Hydrocarbons <15.0 1000 1120 112 1000 1270 127 13 70-135 35

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100*(C)/[B]Blank Spike Duplicate Recovery [G] = 100*(F)/[E]All results are based on MDL and Validated for QC Purposes

Received by OCD: 4/3/2023 3:09:15 PM



Form 3 - MS / MSD Recoveries



Project Name: Palladium 7-1 4-Inch Poly

518681 Work Order #:

Project ID: SRS#2013-044

Lab Batch ID:

981002

QC- Sample ID: 518684-004 S

Batch #:

Matrix: Soil

Date Analyzed:

Date Prepared: 11/09/2015

11/10/2015

Analyst: SYG

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.000992	0.0992	0.0960	97	0.100	0.0912	91	5	70-130	35	
Toluene	< 0.00198	0.0992	0.0841	85	0.100	0.0802	80	5	70-130	35	
Ethylbenzene	< 0.000992	0.0992	0.0979	99	0.100	0.0856	86	13	71-129	35	
m_p-Xylenes	<0.00198	0.198	0.213	108	0.200	0.187	94	13	70-135	35	
o-Xylene	< 0.000992	0.0992	0.0968	98	0.100	0.0874	87	10	71-133	35	

Lab Batch ID:

980771

QC- Sample ID: 518684-006 S

Batch #:

Matrix: Soil

Date Analyzed:

11/06/2015

Date Prepared: 11/05/2015

Analyst: PJB

Reporting Units:

mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	1010	101	997	1090	109	8	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1150	115	997	1220	122	6	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/03/2015 02:45:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 518681

Temperature Measuring device used :

	Sample Receipt Checklist	Comments						
#1 *Temperature of cooler(s)?		-3						
#2 *Shipping container in good condition	?	Yes						
#3 *Samples received on ice?		Yes						
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A						
#5 Custody Seals intact on sample bottle	es?	N/A						
#6 *Custody Seals Signed and dated?		N/A						
#7 *Chain of Custody present?		Yes						
#8 Sample instructions complete on Cha	in of Custody?	Yes						
#9 Any missing/extra samples?		No						
#10 Chain of Custody signed when reline	quished/ received?	Yes						
#11 Chain of Custody agrees with sample	le label(s)?	Yes						
#12 Container label(s) legible and intact	?	Yes						
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes						
#14 Samples in proper container/ bottle?		Yes						
#15 Samples properly preserved?		Yes						
#16 Sample container(s) intact?		Yes						
#17 Sufficient sample amount for indicat	ed test(s)?	Yes						
#18 All samples received within hold time	e?	Yes						
#19 Subcontract of sample(s)?		No						
#20 VOC samples have zero headspace	,	N/A						
#21 <2 for all samples preserved with HI samples for the analysis of HEM or HEM-		N/A						
analysts. #22 >10 for all samples preserved with N	laAsO2+NaOH, ZnAc+NaOH?	N/A						
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: PH Device/Lot#:								
Checklist completed by:	Carley Owens	Date: 11/03/2015						
Checklist reviewed by:	Kelsey Brooks	Date: 11/04/2015						

-	
P 4 7 1	
Laborat	ories

Environmental Astrestor Radiochembt

3100 Plains Hwy.

Lovington

Ben J. Arguijo

SRS #: 2013-044

Camille Bryant

Palladium 7-1 4-Inch Poly

SB-1 @ 30'

SB-1 @ 50'

SB-1 @ 80'

SB-1 @ 105'

SB-1 @ 135'

SB-1 @ 140'

CTLs TRRP DW NPDES LPST DryCin Other:

Basin Environmental Service Technologies, LLC

Plains All American

Company:

Address:

PM/Attn:

Project ID:

Invoice To:

5

6

8

0

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3

4

Sampler Name:

Robbie Runnels

City:

CHAIN OF CUSTODY RECORD

(575)396-2378

(575)396-1429

PAA-C. Bryant

88260

bjarguijo@basinenv.com

Fax:

Zip:

PO#:

Quote #:

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1 2 3 4 CLP AFCEE QAPP

NELAC DoD-ELAP Other:

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State: NM

Email:

Circle One Event: Daily Weekly

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FL TX GA NC SC NJ PA OK

LA AL NM Other:

Quartely Semi-Annual Annual

10/28/2015

10/28/2015

10/28/2015

10/28/2015

10/28/2015

10/28/2015

Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

TAT Work Days = D Need results by:

GC

BTEX

GC

TPH

Lab Only:

X

X

X

X

X

X

LAB W.O#:

Std (5-7D) 5Hrs 1D 2D 3D 4D 5D 7D 10D 14D Other

ANALYSES RECUESTED

518681

Time:

Page 1 of 1

GC Glass Clear
PA Plastic Amber
PC Plastic Clear
Other

VA Vial Amber

VC Vial Clear

GA Glass Amber

VP Vial Pre-preserved

stic Clear
202 402 802 1602 3202 1Ga

* Container Type Codes

ES TS AC

TB ZB

PC

Encore Sampler TerraCore Sampler

Air Canister

Tedlar Bag

Zip Lock Bag

Plastic Clear

Size(s): 20z, 40z, 80z, 160z, 32oz, 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other *** Preservative Type Codes

** Preservative Type Code

A Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W lipe
DV Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue

OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge

REMARKS

Run BTEX if TPH < 5000

locelers temp & 1

Non-Conformances found? Samples intact upon arrival? Received on Wet Ice?

Labeled with proper preservatives'
Received within holding time?
Custody seals intact?
VOCs red'd w/o headsoace?

VOCs rec'd w/o headspace? Proper containers used? pH verifled-acceptable, excl V

pH verified-acceptable, excl VOCs? Received on time to meet HTs?

C.O.C. Serial #

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia, 610-955-5649 South Carolina 803-543-8099

ADaPT SEDD ERPIMS

XLS Other:

Match

Absent

Incomplete

Unclear



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/03/2015 02:45:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 518681

Temperature Measuring device used:

	Comments	
#1 *Temperature of cooler(s)?		-3
#2 *Shipping container in good condition	?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	N/A
#6 *Custody Seals Signed and dated?		N/A
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on Cha	in of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when relind	quished/ received?	Yes
#11 Chain of Custody agrees with sampl	e label(s)?	Yes
#12 Container label(s) legible and intact?	?	Yes
#13 Sample matrix/ properties agree with	n Chain of Custody?	Yes
#14 Samples in proper container/ bottle?		Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indicate	ed test(s)?	Yes
#18 All samples received within hold time	e?	Yes
#19 Subcontract of sample(s)?		No
#20 VOC samples have zero headspace	(less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HN		N/A
samples for the analysis of HEM or HEM- analysts.	SGT which are verified by the	
#22 >10 for all samples preserved with N	IaAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	livery of samples prior to placing in	the refrigerator
Analyst:	PH Device/Lot#:	
,, e	2 0	
	Carlo Day 2000	
Checklist completed by:	Cancey ower &	Date: 11/03/2015
	Carley Owens Carley Owens Kelsey Brooks	
	n/ 1/2	
Checklist reviewed by:	Krus Broak	Date: 11/04/2015
	Kelsey Brooks	Date. 11/04/2013

Appendix D Release Notification & Corrective Action (Form C-141)

District 1 1625 N. French Dr., Hobbs, NM 88240 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

Pag

VINOZ D

For

Revised October Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Page 243 of 245

FAB1514737	885 . I	Release Notific	catio	n and Co	rrective A	ction	l	AMEN	DED	
DAB 1514 73	8018			OPERA'	ГOR			ial Report		Final Repor
Name of Company	Plains Pipeline,	LP 340911		Contact	Camille Brya					
Address		4, Denver City, TX 7932	!3		No. (575) 441-1		···			
Facility Name	Palladium 7-1 4-	Inch Poly		Facility Typ	e 4-Inch Poly	Pipelir	1e			
Surface Owner BLN	Л	Mineral (Owner				Lease	No.		
LOCATION OF RELEASE										
Unit Letter Section		nge Feet from the	North	/South Line	Feet from the	East/V	Vest Line	County Eddy		
	243 1 3		1060	001	W 102 000676	Ne .		Louiy		
		Latitude N 32.2				U°				
Type of Release C	rude Oil	NA.	UKE	OF RELI	Release_>5 bbls		Volume	Recovered () bble	
	Inch Poly Pipeline	3,100	***************************************		lour of Occurrenc			Hour of Dis		
				03/01/2013			03/01/20	13 @ 10:51		
Was Immediate Notice		□No 🛛 Not Requi	red	If YES, To	Whom?					
By Whom?				Date and H						
Was a Watercourse Re		es 🛛 No		If YES, Vo	lume Impacting t	he Wate	ercourse.			
If a Watercourse was I	mpacted. Describe F	ully.*				······································				
						•				
] .										•
Describe Cause of Prol		Action Taken.* Pinhol	e develo	ped in 4-inch	poly pipeline. The	e pipelii	ne was de	oiled and the	dama	ged portion
of the pipeline was rep	laced.									
Describe Area Affected										
amended to greater than five barrels and reported to the NMOCD and BLM. The visually impacted area measured approximately 100' x 60'. The impacted area will be remediated as per applicable NMOCD guidelines.										
I hereby certify that the	e information given	above is true and comp	lete to t	he best of my	knowledge and u	nderstar	nd that pu	suant to NM	OCD r	ules and
regulations all operator public health or the env	rs are required to rep vironment. The acce	ort and/or file certain i	reiease r ort by th	iotifications ar	id perform correc arked as "Final Re	tive acti eport" d	ons for re	leases which lieve the oper	may e ator o	ndanger f liability
should their operations	have failed to adequ	ately investigate and r	remedia	e contaminati	on that pose a thre	eat to gr	ound wate	er, surface wa	ter, hu	ıman health
or the environment. In federal, state, or local l	augmon, NMOCD aws and/or regulation	acceptance of a C-141	report o	loes not reliev	e the operator of r	responsi	bility for	compliance w	ith an	y other
	0	Λ	T		OIL CONS	SERV	ATION	DIXISIC	N	
Signature Com (100 Su	, . \					, 1	//		
		<u> </u>		Approved by	District Superviso	or: [hal	h	_	
Printed Name: Camill	le Bryant	J				<u> </u>	1040			
Title: Remediation Co	oordinator		<u>. </u>	Approval Dat	e: 5/26/15	5 1	Expiration	Date: NH	<u>4</u>	
E-mail Address: cjbry	ant@paalp.com	•		Conditions of	Approval:					
- 511 las	715	Phone: (575) 441-10	00	lemediatio	Approval: n per O.C.D. MEDIATION	Rules	& Guid	elinegeched	L	
Attach Additional Sh		rnone: (5/5) 441-10	77 <u>[</u>	SM INNOV	:MEDIA 1019 IN: <u>5/28/</u> /	<u> </u>	UJAL	υ Ψ		, e
			_						2R	P-348

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 August 8, 2011

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											
				C	PERAT	OR	[Initial	Report	\boxtimes	Final Report
	ompany: Plains Pipelii					mille Bryant					
	30 State Hwy. 214, D		, TX 79323			No. (575)441-10					
Facility Nat	ne: Palladium 7-1 4-	nch Poly		F	Facility Typ	e: 4-Inch Poly I	Pipeline	9			
Surface Ow	mer: BLM		Mineral O	wner:				Lease N	No.		
LOCATION OF RELEASE											
Unit Letter C	Section Township 5 24S	Range 31E	Feet from the	North/	South Line	Feet from the	East/\	West Line	County Eddy		
Latitude 32.2519600° North Longitude 103.800570° West											
			NATU	JRE O	F RELE	ASE					
	ase Crude Oil					Release >5 bbls			Recovered		
Source of Re	lease 4-Inch Poly Pipe	line			Date and H 03/01/2013	Iour of Occurrence	e		Hour of Di 13 @ 10:51		у
Was Immedia	ate Notice Given?				If YES, To			03/01/201	13 @ 10:31		
Was minear		Yes [No 🛛 Not Re	quired	11 125, 10	· · · · · · · · · · · · · · · · · · ·					
By Whom?					Date and H	lour					
	course Reached?				If YES, Vo	olume Impacting t	he Wate	ercourse.			
		Yes 🛛	No .								
If a Watercou	urse was Impacted, Desc	ribe Fully.*	*								
	ise of Problem and Rem	edial Action	n Taken.* Pinhole	e develop	ped in 4-inch	poly pipeline. Th	ne pipel	ine was de-	oiled, and	the dam	naged portion
of the pipelin	ne was replaced.										
Describe Are	a Affected and Cleanup	Action Tak	en.* The release	was initi	ally believed	to be 0.5 barrels:	howev	er, on delin	eation acti	vities, t	he release was
amended to g	greater than five barrels	and reported	d to the NMOCD a	and BLM	1. The visua	lly impacted area	measur	ed approxi	mately 100	' x 60'.	. The impacted
amended to greater than five barrels and reported to the NMOCD and BLM. The visually impacted area measured approximately 100' x 60'. The impacted area was remediated per NMOCD recommended guidelines to the extent practicable. Soil samples collected from delineation trenches, a soil boring, and the											
	floor and sidewalls of the excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene and chloride were below the										
recommended remediation action levels (RRAL's) established for the site by the NMOCD. Soil along the eastern extent of the excavation exhibiting TPH concentrations above the RRAL established for the site will be remediated upon decommission and/or abandonment of the currently active natural gas											
pipeline. Please reference the attached Remediation Summary & Risk-Based Site Closure Request for remediation details.											
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											
	nment. In addition, NM, or local laws and/or reg		tance of a C-141 r	report ac	es not reliev	e the operator of i	respons	ibility for c	ompliance	with an	ly other
redetal, state.	1 Court laws and Vi Tee	dia lons.	:			OIL CONS	SERV	ATION	DIVISI	ON	
1	V	T		- And	4	OIL COIL	<u>JLIC (</u>	$\overline{}$			
Signature	mille /		SERV	ATION	a				uttan	Va	\mathcal{U}
Printed Name	e: Camille Bryant	10	ARTESTA DISTRIC	CT A	Approved by	Environmental S ₁	pećialis	t: 1)	wan	7(00	
Title: Remed	diation Coordinator	MINI C	ARTESTA DISTRIC		Approval Dat	e: 4/25/2023		Expiration	Date: N/A	4	
			JOH D						T		
E-mail Addre	ess: cjbryant@paalp.co	n	CETY	ED	Conditions of Approval:		Attache	Attached			
Date:		Phone:	(575)441-1099		none				1000		
Attach Additi	anal Sheets If Nacess	3 44V 7									

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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

CONDITIONS

Action 203559

CONDITIONS

Operator:	OGRID:
PLAINS PIPELINE, L.P.	240911
2000 W Sam Houston Parkway Houston, TX 77042	Action Number: 203559
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By		Condition Date
БУ		Date
bhall	None	4/25/2023