# 3R-1011

# Release Report/ General Correspondence

**Enterprise SJ** 

Date: Jul-Sept 2015

## OIL CONS. DIV DIST. 3

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

State of New Mexico Energy Minerals and Natural Resources

JUL 06 2015

Form C-141 Revised August 8, 2011

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

1220 S. St. Francis Dr., Santa Fe, NM 87505 1220 So Sant					South St. Fra	rvation Division h St. Francis Dr. e, NM 87505			
		F	Releas	e Notific	ation and	Corrective	Actio	n	
					OPERATO	OR		Initial	Report  Final Report
		Enterprise I				Thomas Long			
		Ave, Farmin	gton, NN	1 87401		e No. 505-599		W. C.	
Facility Na	me: Later	al 2C			Facility T	ype: Natural G	as Gath	ering F	ripeline
Surface O	wner: BLN	1		Mineral C	Owner: BLM	ALEXA III		APIN	0.
				LOCA	TION OF RE	LEASE			
Unit Letter D	Section 1	Township 25N	Range 8W	Feet from the 988	North South Line	Feet from the 485	Eas	Vest	County San Juan
Type of Rel	ease: Natur	al Gas and N	latural Ga			_EASE of Release: Est Is Fluids	imated	Volume	Recovered: None
Source of R	elease: Su	spected inter	nal corros	ion		Date and Hour of Occurrence: Date and Hour of Discovery 6/16/2015 @ 4:00 p.m. 6/16/2015 @ 5:45 p.m.			
Was Immed	liate Notice	The second secon	s 🗆 No	Not Req	If YES,	To Whom?		0/10/20	13 @ 3.43 p.m.
By Whom?	Thomas L	ong	15		Date an	d Hour 6/17/201	5 @ 1:31	p.m.	
Was a Wate	ercourse Re		⊠ Yes	□ No	If YES,	Volume Impactir	ng the Wa	tercours	е
If a Waterco		npacted, Des	scribe Full	y.* Fluids relea	ased from the pipe	eline entered a s	small ephe	emeral w	ash and flowed for
					16, 2015, during I, depressurized,				an identified a natural gas
Describe Ar	ea Affected	and Cleanup	Action T	aken:* Fluids r	eleased from the	pipeline ran dov	vn hill app	roximate	ely 75 feet and entered a

Describe Area Affected and Cleanup Action Taken:\* Fluids released from the pipeline ran down hill approximately 75 feet and entered a small ephemeral wash and flowed for approximately 60 feet. Repairs/remediation began June 22, 2015 and will continue the week June 29, 2015. Subsurface impacts are unknown and will be assessed during the repair activities the week of June 29, 2015. A third party corrective action report will be submitted with the "Final" C-141.

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

operator of responsibility for compliance with any other federal, s	tate, or local laws and/or regulations.	
Signature: Truff		ATION DIVISION
Printed Name: Jon E. Fields	Approved by Environmental Speciali	st: Cone din
Title: Director, Environmental	Approval Date: 7/8/15 Ex	xpiration Date:
E-mail Address:jefields@eprod.com	Conditions of Approval:	Attached
Date: 1/26/2015 Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 1518950799



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State of New Mexico Energy Minerals and Natural Resources

JUL 31 2015

Form C-141 Revised August 8, 2011

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

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

Conservation Division

1- 40		F	Releas	e Notifica	ation	and C	orrectiv	e Act	tion		
To the second			والرحرطات		OP	ERATO	2			Report  Fina	al Report
		Enterprise F					homas Lon				
Address: 6 Facility Na			gton, NIV	8/401			No. 505-5			Dineline	
		11 27-4			TEL HEL	543	Je. Ivaturai	Gas G			
Surface Ov	vner: <b>BLM</b>			Mineral O	wner:	BLM		, ,	API N	0.	
		11.6-1				OF RE					
Unit Letter C	Section 24	Township 27N	Range 10W	Feet from the 860'	North	South	Feet from the 1450'	Line	et (Vest)	County San Juan	
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Source of R			iaturai Ga	s Liquius			Hour of Occ			d Hour of Discovery:	C
		THE REAL PROPERTY.					1:30 p.m.		7/13/15	@ 2:05 p.m.	<u> </u>
Was Immed		☐ Yes	s 🗆 No	Not Required     ■ Not Require     ■ No	uired	If YES, To	o Whom? Co	ourtesy N	otification –	- Cory Smith – NMOCI	)
By Whom?							Time 7/24/1				
Was a Wate	ercourse Rea		☐ Yes	⊠ No		If YES, V	olume Impac	cting the	/Vatercours	e	
If a Waterco	urse was In	npacted, Des	scribe Full	y.*	,						
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rules and re which may e relieve the o ground water	gulations all endanger pu operator of li er, surface w	operators a ablic health of ability should ater, human	re required or the envir of their ope of health or	d to report and conment. The a crations have fa	or file accepta ailed to ent. In a	certain rele ance of a C adequately addition, NI	ase notificati -141 report to investigate MOCD accep aws and/or n	ions and by the NM and reme otance of egulation	perform cor 10CD mark ediate conta a C-141 re s.	and that pursuant to NI rrective actions for rele ted as "Final Report" d amination that pose a t port does not relieve th	eases oes not hreat to
Signature:	2/N	tules					OIL CO	ONSEF	RVATION	DIVISION	7/
Printed Nam	ne: Jon E. Fi	ields			,	Approved b	y Environme	ental Spec		mer June	
Title: Directo	or, Field Env	vironmental			/	Approval Da	ate: 8/3	15	Expiration	Date:	
E-mail Addr	ess:jefields@			e: (713)381-66		Conditions	of Approval:			Attached	
Attach Addi				2. (. 10/001 00	7	tucs!	215.	55	302		

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State of New Mexico Energy Minerals and Natural Resources

OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

JUL 0.6 2015 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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

		7 25		Sa	nta F	e, NM 87	<b>'505</b>			
		F	Releas	e Notific	atio	n and C	orrective	Acti	on	
					OF	PERATO	R	E	Initial	Report
Name of C	company:	Enterprise I	Field Ser	vices LLC		Contact: 7	homas Long	- At lab		
		Ave, Farmin					No. 505-599			
Facility Na	me: Madd	ox WN Fed	leral #10			Facility Ty	pe: Natural G	as Gat	hering F	Pipeline
Surface O	wner: BLM			Mineral (	Owner	BLM			API N	0.
				LOCA	ATIOI	N OF RE	IFASE			
Unit Letter	Section	Township	Range	Feet from		South	Feet from	Eas	West	County
М	13	30N	13W	the <b>87</b>	Line		the <b>528</b>	Line		San Juan
			La			_Longitud	de_108.16404			
Type of Rel	ease: Natur	al Gas and N	Natural Ga	s Liquids			of Release: 132 s; 5-10 bbls. flu		Volume	Recovered: None
Source of Release: Internal corrosion					4/23/201	Hour of Occur 5 @ 6:30 p.m.	e i e e e	4/23/20	d Hour of Discovery: 15 @ 6:30 p.m.	
Was Immed	liate Notice	Given?	s 🗌 No	Not Re	quired	If YES, T Ketcham		tesy No	tification to	o Cory Smith NMOCD; Shari
By Whom?	Thomas Lo	ong				Date and	Hour 5/6/2015	@ 9:37	p.m.	
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, V	olume Impactir	ng the W	/atercours	е
		mpacted, De					- Maria - Caral			
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rules and re which may relieve the o ground water	egulations all endanger pu operator of I er, surface v	l operators a ublic health o iability shoul vater, humar	or the envi of the envi of their open of health or	d to report and ronment. The erations have the environm	d/or file acceptailed to ent. In	certain rele tance of a Co adequately addition, N	ease notification c-141 report by y investigate an MOCD accepta aws and/or reg	is and pathe NM0 d remedince of a ulations	erform con DCD mark diate conta C-141 re	and that pursuant to NMOCD rrective actions for releases sed as "Final Report" does not amination that pose a threat to port does not relieve the
Signature:	ne: Jon F F	n Fu	eld			Approved b	OIL CON		/	N DIVISION
Title: Direct						Approval D	ate: 8/2/	15	Expiration	n Date:
	100	@eprod.com					of Approval:			Attached

Date: 7-2-2015 Phone: (713)381-6684

\* Attach Additional Sheets If Necessary #WCS 15 12650 361

(35)



#### **CORRECTIVE ACTION REPORT**

Property:

Maddox WN Federal #10 Pipeline Release SW 1/4, S13 T30N R13W San Juan County, New Mexico

> June 15, 2015 Apex Project No. 7250415007

> > Prepared for:

Enterprise Field Services LLC 614 Reilly Avenue Farmington, NM 87401 Attn: Mr. Thomas Long

Prepared by:

Ranee Deechilly
Environmental Scientist

Kyle Summers, CPG

Branch Manager/Senior Geologist

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		Chair of Castody Documentation	



#### **CORRECTIVE ACTION REPORT**

Maddox WN Federal #10 Pipeline Release SW 1/4, S13 T30N R13W San Juan County, New Mexico

Apex Project No. 7250415007

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Maddox WN Federal #10 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 13 in Township 30 North and Range 13 West in rural San Juan County, New Mexico (36.80630N, 108.16404W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by United States Bureau of Land Management (BLM). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately northeast to southwest.

On April 23, 2015, a natural gas pipeline release was reported by a third party. On March 6, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by distressed vegetation in the immediate vicinity.

A topographic map depicting the location of the Site is included as Figure 1, and a Site Vicinity Map is included as Figure 2 in Appendix A.

#### 1.2 Project Objective

The primary objective of the corrective actions was to reduce the concentration of constituents of concern (COCs) in the on-Site soils to below the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) Remediation Action Levels (RALs) using the EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.

#### 2.0 SITE RANKING

In accordance with the ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



Rankin	Ranking Score			
	<50 feet	20		
Depth to Groundwater	50 to 99 feet	10	0	
	>100 feet	0		
Wellhead Protection Area • <1,000 feet from a water	Yes	20	0	
source, or; <200 feet from private domestic water source.	No	0		
	<200 feet	20		
Distance to Surface Water Body	200 to 1,000 feet	10	20	
II S.	>1,000 feet	0		
Total Ran	king Score		20	

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "20". This ranking is based on the following:

- A cathodic well report for the Maddox D Federal Com #1, located approximately 2,800 feet to the southwest of the Site at a similar elevation, indicates groundwater is present at approximately 240 feet below grade surface (bgs). Three water wells were identified on the OSE website database within approximately one (1) mile of the Site with reported depths to water ranging from approximately 265 to 460 feet bgs. This information supports a ranking of "0" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located approximately 80 feet south of a small ephemeral wash that drains to the wash of Farmington Glade, resulting in a distance to surface water ranking of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On May 6, 2015, Enterprise initiated excavation activities at the Site to repair the pipeline and remediate potential hydrocarbon impact. The pipeline was subsequently repaired. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by distressed vegetation in the immediate vicinity. During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Kyle Summers, an Apex environmental professional, provided environmental support.

Excavation activities were completed at the Site on May 7, 2015. Confirmation soil samples S-1 through S-11 were collected from the sidewalls and base of the excavation for laboratory analysis.

The final excavation was comprised of three (3) general areas – the north, central, and south portions. The north portion measured approximately 16 feet long by 12 feet wide, with a total depth of approximately 10 feet bgs. The central portion measured approximately 16 feet long by 12 feet wide, with a total depth of approximately 17.5 feet bgs. The south portion of the excavation measured approximately 13 feet long by 6 feet wide, with a total depth of approximately 5 feet bgs.

Enterprise Field Services, LLC Corrective Action Report Maddox WN Federal #10 Pipeline Release June 15, 2015



The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand.

A total of approximately 274 cubic yards of hydrocarbon affected soils and 10 barrels (bbls) of saturated soils removed by hydro-vacuum were transported to the JFJ/Industrial Ecosystems, Inc., landfarm near Aztec, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

Figure 3 is a site map that indicates the approximate location of the excavated area in relation to pertinent land features (Appendix A). Photographic documentation of the field activities is included in Appendix C.

#### 3.2 Soil Sampling Program

Apex screened head-space samples of Site soils with a photoionization detector (PID) fitted with a 10.6 eV lamp to evaluate volatile organic compounds (VOCs) and aid in determining the excavation limits.

Advance notification of the sampling schedule was provided to the local BLM and OCD district offices. Ms. Shari Ketcham (BLM representative) was present at the onset of the sampling activity on May 7, 2015, however, no representative from the OCD was in attendance during the collection of samples.

Apex's soil sampling program included the collection of eleven (11) confirmation samples (S-1 through S-11) from the resulting excavation for laboratory analysis. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

The samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

#### 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8021. The soil samples were also analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015.

Laboratory results are summarized in Table 1, included in Appendix D. The executed chain-of-custody form and laboratory data sheets are provided in Appendix E.

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the EMNRD OCD. To address activities related to condensate releases, the EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.



#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples to the OCD *RALs* for sites having a total ranking score of "20".

- The laboratory analyses of confirmation samples collected from soils remaining in place did not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL of 10 milligram per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate total BTEX concentrations ranging from below the laboratory reporting limits to 0.56 mg/kg (S-9), which are below the OCD RAL.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory limits to 17 mg/kg (S-9), which are below the OCD RAL of 100 mg/kg.

Confirmation sample results are provided in Table 1 in Appendix D.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Maddox WN Federal #10 pipeline release site is located within the Enterprise ROW in the SW ¼ of Section 13 in Township 30 North and Range 13 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately northeast to southwest.

On April 23, 2015, a natural gas pipeline release was reported by a third party. On March 6, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by distressed vegetation in the immediate vicinity.

- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the EMNRD OCD RALs using the EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand.
- The final excavation was comprised of three (3) general areas the north, central, and south portions. The north portion measured approximately 16 feet long by 12 feet wide, with a total depth of approximately 10 feet bgs. The central portion measured approximately 16 feet long by 12 feet wide, with a total depth of approximately 17.5 feet bgs. The south portion of the excavation measured approximately 13 feet long by 6 feet wide, with a total depth of approximately 5 feet bgs.
- Eleven (11) confirmation samples were collected from the resulting final excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD RALs for a Site ranking of "20".



A total of approximately 274 cubic yards of hydrocarbon affected soils and 10 bbls of saturated soils removed by hydro-vacuum were transported to the JFJ/Industrial Ecosystem, Inc., landfarm near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action with respect to soil impact appears warranted at this time.

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

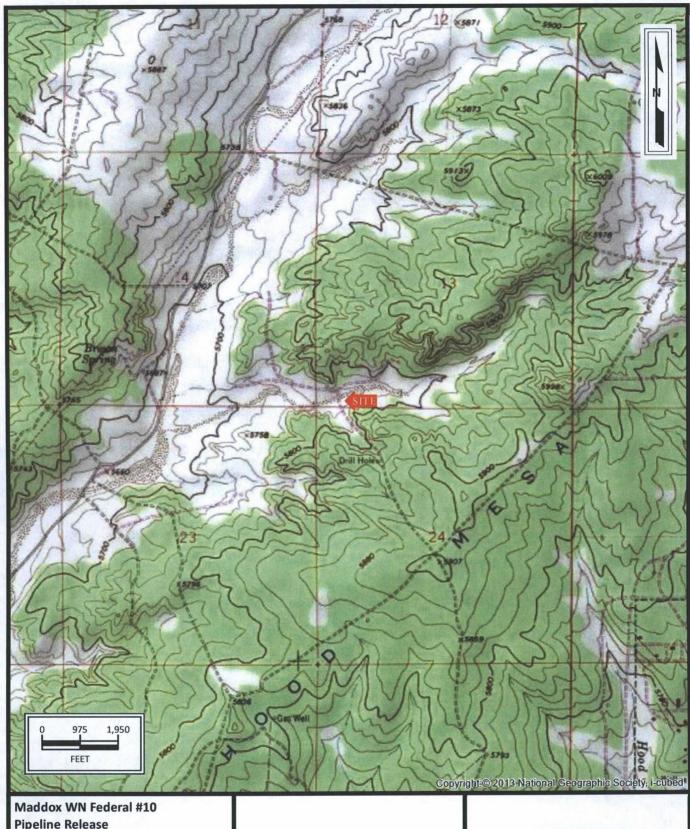
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services.

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.



APPENDIX A

Figures



**Pipeline Release** SW1/4 Sec13 T30N R13W San Juan County, New Mexico 36.8063N, 108.16404W

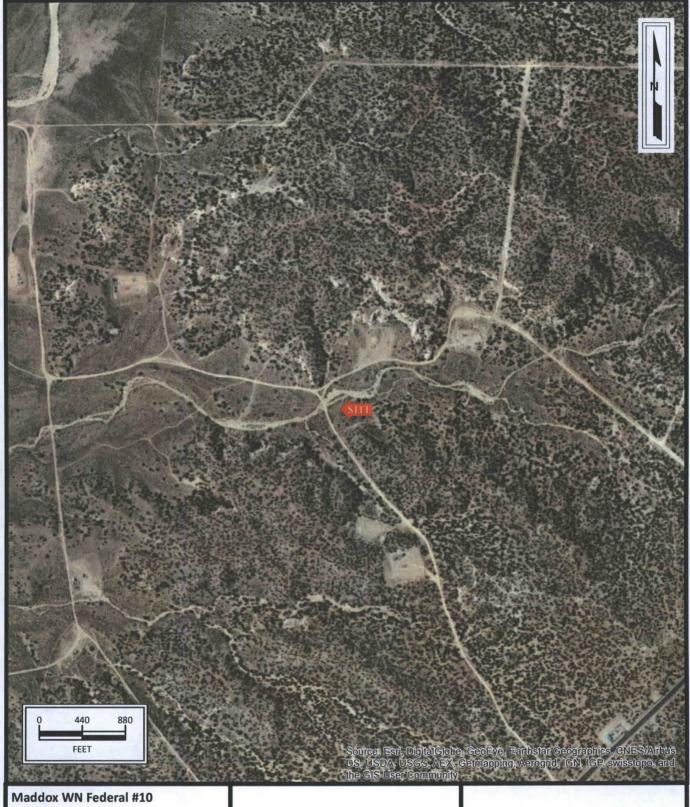
Project No. 7250415007



Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, NM 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

### FIGURE 1

**Topographic Map** Farmington North, NM Quadrangle 1963

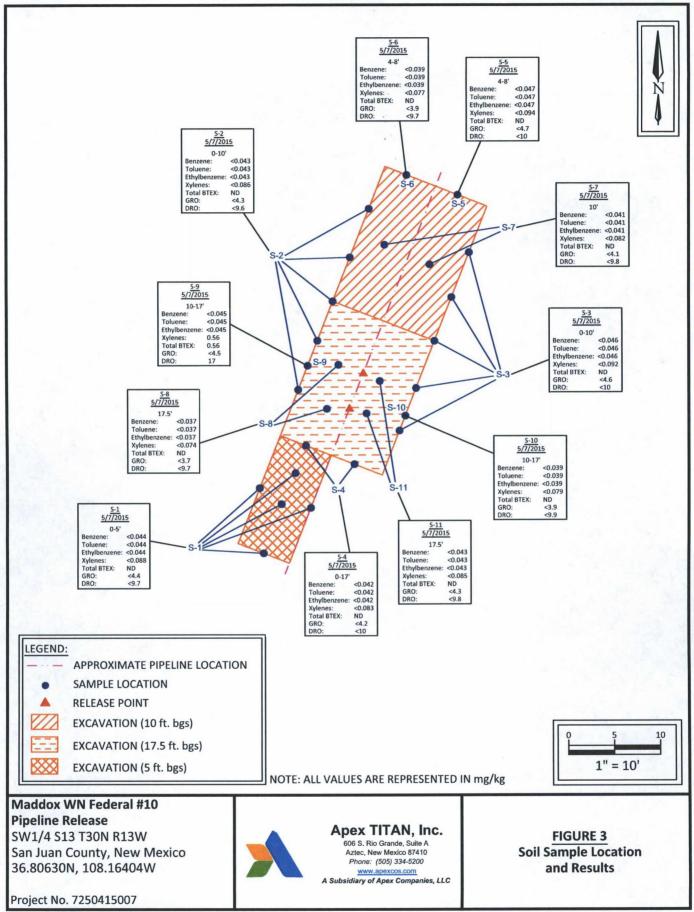


**Pipeline Release** SW1/4 Sec13 T30N R13W San Juan County, New Mexico 36.8063N, 108.16404W

Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, NM 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 2 **Site Vicinity Map** 

Project No. 7250415007



Z:\Houston South\Drafting\New Mexico 04\2015\7250415007\Figure 3.dwg 06/03/15



## APPENDIX B

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
20 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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

#### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Maddox WN Federal #10 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter M Section 13 Township 30 North Range 13 West; 36.80630, -108.16404, San Juan County
4. Source and Description of Waste:
Source: A release from a Natural Gas Gathering Line
Description: Hydrocarbon impacted soil associated with a pipeline release.  Estimated Volume 50 vd³ bbls Known Volume (to be entered by the operator at the end of the haul) vd³ bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long , representative or authorized agent for Enterprise Products Operating do hereby  Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agent regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mix exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**  **Tenders**  **Description**  **Tenders**  **Description**  **Descripti
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waster characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFF, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazare the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
GENERATOR 17.13.30.13 WASTE TESTING CERTIFICATION STATEMENT FOR EARDFARMS
Throw Long
I, Thomas Long 5-6-15, representative for Enterprise Products Operating authorize to complete  Generator Signature
Generator Signature the required testing/sign the Generator Waste Testing Certification.
the required testing sign the Generator waste resting Certification.
I Men B , representative for IEI, Inc. do hereby certify that
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: TBD
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. * Permit #: NM 01-0010B
Address of Facility: #49 CR 2150 Aztec, New Mexico
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfill ☐ Other  ☐ CU-ZIO
Waste Acceptance Status:
APPROVED DENIED (Must Be Maintained As Permanent Record)
SIGNATURE: Surface Waste Management Pacifity Authorized Agent  SURface Waste Management Pacifity Authorized Agent  505-632-1782

5/10/15



## APPENDIX C

Photographic Documentation



#### Photograph 1

View of vegetation affected by soil gas, facing northeast.



#### Photograph 2

View of damaged coating at point of release.



#### Photograph 3

View of line repair in process, facing north.





#### SITE PHOTOGRAPHS

Maddox WN Federal #10 Pipeline Release

### Photograph 4

View excavation in process, facing south.



#### Photograph 5

View of the final excavation showing vertical extent, facing south.





APPENDIX D

Table



## TABLE 1

## Maddox WN Federal #10 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Number of Aliqouts in Composite Sample	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
		Natural Resources D Remediation Action		10	NE	NE	NE	50	1	00
	A COMPANY			Exca	vation Confirmation	n Samples	The State of the S		The State of	
S-1	5/7/2015	0 to 5	5	<0.044	<0.044	<0.044	<0.088	ND	<4.4	<9.7
S-2	5/7/2015	0 to 10	5	<0.043	< 0.043	<0.043	<0.086	ND	<4.3	<9.6
S-3	5/7/2015	0 to 10	5	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<10
S-4	5/7/2015	0 to 17	4	<0.042	<0.042	<0.042	<0.083	ND	<4.2	<10
S-5	5/7/2015	4 to 8	2	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<10
S-6	5/7/2015	4 to 8	2	< 0.039	<0.039	<0.039	< 0.077	ND	<3.9	<9.7
S-7	5/7/2015	10	2	<0.041	<0.041	<0.041	<0.082	ND	<4.1	<9.8
S-8	5/7/2015	17.5	2	< 0.037	< 0.037	<0.037	< 0.074	ND	<3.7	<9.7
S-9	5/7/2015	10 to 17	2	<0.045	<0.045	<0.045	0.56	0.56	<4.5	17
S-10	5/7/2015	10 to 17	2	<0.039	<0.039	<0.039	< 0.079	ND	<3.9	<9.9
S-11	5/7/2015	17.5	2	< 0.043	< 0.043	<0.043	<0.085	ND	<4.3	<9.8

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established



## APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 15, 2015

Kyle Summers
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (903) 821-5603

FAX

RE: Maddox WN Fed #10

OrderNo.: 1505355

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 11 sample(s) on 5/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Maddox WN Fed #10

Lab ID: 1505355-001

Project:

Client Sample ID: S-1

Collection Date: 5/7/2015 10:00:00 AM

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/9/2015 12:49:12 AM	19137
Surr: DNOP	95.8	57.9-140	%REC	1	5/9/2015 12:49:12 AM	19137
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	5/14/2015 1:27:18 AM	R26157
Surr: BFB	97.2	80-120	%REC	1	5/14/2015 1:27:18 AM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.044	mg/Kg	1	5/14/2015 1:27:18 AM	R26157
Toluene	ND	0.044	mg/Kg	1	5/14/2015 1:27:18 AM	R26157
Ethylbenzene	ND	0.044	mg/Kg	1	5/14/2015 1:27:18 AM	R26157
Xylenes, Total	ND	0.088	mg/Kg	1	5/14/2015 1:27:18 AM	R26157
Surr: 4-Bromofluorobenzene	111	80-120	%REC	1	5/14/2015 1:27:18 AM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Maddox WN Fed #10

Lab ID: 1505355-002

Client Sample ID: S-2

Collection Date: 5/7/2015 10:15:00 AM

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	E ORGANICS	and the same	h a		Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/9/2015 1:53:13 AM	19137
Surr: DNOP	102	57.9-140	%REC	1	5/9/2015 1:53:13 AM	19137
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	5/14/2015 1:55:57 AM	R26157
Surr: BFB	95.7	80-120	%REC	1	5/14/2015 1:55:57 AM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.043	mg/Kg	1	5/14/2015 1:55:57 AM	R26157
Toluene	ND	0.043	mg/Kg	1	5/14/2015 1:55:57 AM	R26157
Ethylbenzene	ND	0.043	mg/Kg	1	5/14/2015 1:55:57 AM	R26157
Xylenes, Total	ND	0.086	mg/Kg	1	5/14/2015 1:55:57 AM	R26157
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	5/14/2015 1:55:57 AM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: S-3

Project: Maddox WN Fed #10

**Collection Date:** 5/7/2015 10:25:00 AM

Lab ID: 1505355-003

**CLIENT: APEX TITAN** 

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS			NY	Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/9/2015 2:14:42 AM	19137
Surr: DNOP	102	57.9-140	%REC	1	5/9/2015 2:14:42 AM	19137
<b>EPA METHOD 8015D: GASOLINE RA</b>	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	5/14/2015 10:39:26 AM	19184
Surr: BFB	89.7	80-120	%REC	1	5/14/2015 10:39:26 AM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.046	mg/Kg	1	5/14/2015 10:39:26 AM	19184
Toluene	ND	0.046	mg/Kg	1	5/14/2015 10:39:26 AM	19184
Ethylbenzene	ND	0.046	mg/Kg	1	5/14/2015 10:39:26 AM	19184
Xylenes, Total	ND	0.092	mg/Kg	1	5/14/2015 10:39:26 AM	19184
Surr: 4-Bromofluorobenzene	99.8	80-120	%REC	1	5/14/2015 10:39:26 AM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Maddox WN Fed #10

Lab ID:

Project:

1505355-004

Client Sample ID: S-4

Collection Date: 5/7/2015 2:30:00 PM

Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/9/2015 2:36:02 AM	19137
Surr: DNOP	90.8	57.9-140	%REC	1	5/9/2015 2:36:02 AM	19137
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	5/14/2015 11:08:08 AM	1 19184
Surr: BFB	92.4	80-120	%REC	- 1	5/14/2015 11:08:08 AM	1 19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.042	mg/Kg	1	5/14/2015 11:08:08 AM	1 19184
Toluene	ND	0.042	mg/Kg	1	5/14/2015 11:08:08 AM	1 19184
Ethylbenzene	ND	0.042	mg/Kg	1	5/14/2015 11:08:08 AM	1 19184
Xylenes, Total	ND	0.083	mg/Kg	1	5/14/2015 11:08:08 AM	1 19184
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/14/2015 11:08:08 AM	1 19184

Matrix: MEOH (SOIL)

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit

Page 4 of 14

- Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Maddox WN Fed #10

Project: Lab ID:

1505355-005

Client Sample ID: S-5

Collection Date: 5/7/2015 10:35:00 AM

Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/9/2015 3:18:46 AM	19137
Surr: DNOP	94.7	57.9-140	%REC	1	5/9/2015 3:18:46 AM	19137
<b>EPA METHOD 8015D: GASOLINE RA</b>	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/14/2015 11:36:53 AM	19184
Surr: BFB	93.7	80-120	%REC	1	5/14/2015 11:36:53 AM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	5/14/2015 11:36:53 AM	19184
Toluene	ND	0.047	mg/Kg	1	5/14/2015 11:36:53 AM	19184
Ethylbenzene	ND	0.047	mg/Kg	1	5/14/2015 11:36:53 AM	19184
Xylenes, Total	ND	0.094	mg/Kg	1	5/14/2015 11:36:53 AM	19184
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	5/14/2015 11:36:53 AM	19184

Matrix: MEOH (SOIL)

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-6

 Project:
 Maddox WN Fed #10
 Collection Date: 5/7/2015 10:45:00 AM

 Lab ID:
 1505355-006
 Matrix: MEOH (SOIL)
 Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS					Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/9/2015 3:40:08 AM	19137
Surr: DNOP	94.8	57.9-140		%REC	1	5/9/2015 3:40:08 AM	19137
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/14/2015 12:05:40 PM	19184
Surr: BFB	92.4	80-120		%REC	1	5/14/2015 12:05:40 PM	19184
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	NSB
Benzene	ND	0.039		mg/Kg	1	5/14/2015 12:05:40 PM	19184
Toluene	ND	0.039		mg/Kg	1	5/14/2015 12:05:40 PM	19184
Ethylbenzene	ND	0.039		mg/Kg	1	5/14/2015 12:05:40 PM	19184
Xylenes, Total	ND	0.077		mg/Kg	1	5/14/2015 12:05:40 PM	19184
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	5/14/2015 12:05:40 PM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 6 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: S-7

Project: Maddox WN Fed #10

**Collection Date:** 5/7/2015 11:20:00 AM

Lab ID: 1505355-007

**CLIENT: APEX TITAN** 

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/9/2015 4:01:24 AM	19137
Surr: DNOP	93.3	57.9-140	%REC	1	5/9/2015 4:01:24 AM	19137
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	5/14/2015 12:34:27 PM	1 19184
Surr: BFB	90.1	80-120	%REC	1	5/14/2015 12:34:27 PM	1 19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.041	mg/Kg	1	5/14/2015 12:34:27 PM	1 19184
Toluene	ND	0.041	mg/Kg	1	5/14/2015 12:34:27 PM	1 19184
Ethylbenzene	ND	0.041	mg/Kg	1	5/14/2015 12:34:27 PM	1 19184
Xylenes, Total	ND	0.082	mg/Kg	1	5/14/2015 12:34:27 PM	1 19184
Surr: 4-Bromofluorobenzene	99.3	80-120	%REC	1	5/14/2015 12:34:27 PM	1 19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 7 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: S-8

Project: Maddox WN Fed #10

Collection Date: 5/7/2015 12:00:00 PM

Lab ID: 1505355-008

**CLIENT: APEX TITAN** 

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analyst	: КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/9/2015 4:22:46 AM	19137
Surr: DNOP	93.6	57.9-140	%REC	1	5/9/2015 4:22:46 AM	19137
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	5/14/2015 1:03:13 PM	19184
Surr: BFB	95.5	80-120	%REC	1	5/14/2015 1:03:13 PM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.037	mg/Kg	1	5/14/2015 1:03:13 PM	19184
Toluene	ND	0.037	mg/Kg	1	5/14/2015 1:03:13 PM	19184
Ethylbenzene	ND	0.037	mg/Kg	1	5/14/2015 1:03:13 PM	19184
Xylenes, Total	ND	0.074	mg/Kg	1	5/14/2015 1:03:13 PM	19184
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	5/14/2015 1:03:13 PM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: S-9

 Project:
 Maddox WN Fed #10
 Collection Date: 5/7/2015 1:00:00 PM

 Lab ID:
 1505355-009
 Matrix: MEOH (SOIL)
 Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analys	: КЈН
Diesel Range Organics (DRO)	17	9.9	mg/Kg	1	5/9/2015 4:44:02 AM	19137
Surr: DNOP	98.0	57.9-140	%REC	1	5/9/2015 4:44:02 AM	19137
<b>EPA METHOD 8015D: GASOLINE RAN</b>	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	5/14/2015 1:31:57 PM	19184
Surr: BFB	110	80-120	%REC	1	5/14/2015 1:31:57 PM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.045	mg/Kg	1	5/14/2015 1:31:57 PM	19184
Toluene	ND	0.045	mg/Kg	1	5/14/2015 1:31:57 PM	19184
Ethylbenzene	ND	0.045	mg/Kg	1	5/14/2015 1:31:57 PM	19184
Xylenes, Total	0.56	0.091	mg/Kg	1	5/14/2015 1:31:57 PM	19184
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	5/14/2015 1:31:57 PM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 9 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: S-10

Project: Maddox WN Fed #10

Collection Date: 5/7/2015 1:20:00 PM

Lab ID: 1505355-010

**CLIENT: APEX TITAN** 

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	: КЈН
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/9/2015 5:05:24 AM	19137
Surr: DNOP	93.2	57.9-140	%REC	1	5/9/2015 5:05:24 AM	19137
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	5/14/2015 2:00:38 PM	19184
Surr: BFB	94.8	80-120	%REC	1	5/14/2015 2:00:38 PM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.039	mg/Kg	1	5/14/2015 2:00:38 PM	19184
Toluene	ND	0.039	mg/Kg	1	5/14/2015 2:00:38 PM	19184
Ethylbenzene	ND	0.039	mg/Kg	1	5/14/2015 2:00:38 PM	19184
Xylenes, Total	ND	0.079	mg/Kg	1	5/14/2015 2:00:38 PM	19184
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	5/14/2015 2:00:38 PM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 10 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505355

Date Reported: 5/15/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-11

Project: Maddox WN Fed #10

Collection Date: 5/7/2015 1:45:00 PM

Lab ID: 15

1505355-011

Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/9/2015 5:26:36 AM	19137
Surr: DNOP	92.1	57.9-140	%REC	1	5/9/2015 5:26:36 AM	19137
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	5/14/2015 2:29:20 PM	19184
Surr: BFB	90.5	80-120	%REC	1	5/14/2015 2:29:20 PM	19184
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.043	mg/Kg	1	5/14/2015 2:29:20 PM	19184
Toluene	ND	0.043	mg/Kg	1	5/14/2015 2:29:20 PM	19184
Ethylbenzene	ND	0.043	mg/Kg	1	5/14/2015 2:29:20 PM	19184
Xylenes, Total	ND	0.085	mg/Kg	1	5/14/2015 2:29:20 PM	19184
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	5/14/2015 2:29:20 PM	19184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 11 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

## **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1505355

15-May-15

Client:

APEX TITAN

Project:	Maddox '	WN Fed #10	)								
Sample ID	MB-19116	SampTy	oe: MI	BLK	Tes	tCode: E	PA Method	8015D: Dies	el Range C	Organics	B tar
Client ID:	PBS	Batch I	D: <b>19</b>	116	F	RunNo: 2	6059				
Prep Date:	5/7/2015	Analysis Da	te: <b>5</b> /	8/2015	8	SeqNo: 7	73936	Units: %RE	c		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		10		10.00		101	57.9	140	1.57		
Sample ID	LCS-19116	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8015D: Dies	el Range C	Organics	147
Client ID:	LCSS	Batch I	D: <b>19</b>	116	F	RunNo: 2	6059				
Prep Date:	5/7/2015	Analysis Da	te: <b>5</b> /	8/2015	5	SeqNo: 7	73937	Units: %RE	c		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		6.1		5.000		123	57.9	140	1		
Sample ID	MB-19137	SampTy	pe: Mi	BLK	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	By St.
Client ID:	PBS	Batch I	D: <b>19</b>	137	F	RunNo: 2	6059				
Prep Date:	5/8/2015	Analysis Da	te: 5/	9/2015	8	SeqNo: 7	73961	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	ND	10							7	
Surr: DNOP		7.3		10.00		72.9	57.9	140			
Sample ID	LCS-19137	SampTy	pe: LC	s	Tes	TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch	D: <b>19</b>	137	F	RunNo: 2	6059				
Prep Date:	5/8/2015	Analysis Da	te: 5	9/2015	5	SeqNo: 7	73962	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	43	10	50.00	0	86.3	67.8	130		4	
Surr: DNOP		5.5	-	5.000		109	57.9	140	3 - 35		27
Sample ID	1505355-001AMS	SampTy	pe: M	S	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	S-1	Batch	D: <b>19</b>	137	F	RunNo: 2	6059				
Prep Date:	5/8/2015	Analysis Da	te: 5	/9/2015		SeqNo: 7	73964	Units: mg/l	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	40	9.7	48.40	0	83.6	42.3	146			
Surr: DNOP		5.4		4.840		112	57.9	140	Tex Yes		100
Sample ID	1505355-001AMSI	) SampTy	pe: M	SD	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	Na. W.
Client ID:	S-1	Batch	D: 19	137	F	RunNo: 2	6059				
Prep Date:	5/8/2015	Analysis Da	te: 5	/9/2015		SeqNo: 7	73965	Units: mg/l	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	45	9.7	48.59	0	93.3	42.3	146	11.3	28.9	BL N

#### Qualifiers:

Surr: DNOP

Value exceeds Maximum Contaminant Level.

5.7

- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

57.9

140

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

117

Page 12 of 14

P Sample pH Not In Range

4.859

RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505355 15-May-15

Client:

**APEX TITAN** 

Project:

Maddox WN Fed #10

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: R26157

PQL

5.0

RunNo: 26157

%REC

Analysis Date: 5/13/2015

SeqNo: 776429

Units: mg/Kg

Prep Date: Analyte

80

LowLimit

%RPD

Qual

Gasoline Range Organics (GRO)

ND 960

Result

1000

25.00

SPK value SPK Ref Val

95.5

HighLimit 120 **RPDLimit** 

Surr: BFB

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: R26157

PQL

5.0

RunNo: 26157

Units: mg/Kg

Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776430

%REC HighLimit LowLimit

64

%RPD **RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Result 23 1000

1000

92.5 100

80 120

Sample ID MB-19184

SampType: MBLK

SPK value SPK Ref Val

RunNo: 26208

TestCode: EPA Method 8015D: Gasoline Range

130

Client ID: PBS

Batch ID: 19184

Result

ND

930

Analysis Date: 5/14/2015

SeqNo: 777553

Units: mg/Kg

Analyte

Prep Date: 5/12/2015

SPK value SPK Ref Val %REC

LowLimit HighLimit

80

**RPDLimit** 

Gasoline Range Organics (GRO)

**PQL** 5.0

92.7

120

Qual

Surr: BFB

Sample ID LCS-19184

5/12/2015

SampType: LCS

Analysis Date: 5/14/2015

1000

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: 19184

RunNo: 26208

Analyte

Prep Date:

SPK value SPK Ref Val PQL 5.0

%REC

0

SeqNo: 777554

Units: mg/Kg

%RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

24 1000

Result

25.00 1000 96.0 102

64 80

LowLimit

HighLimit 130 120

# Qualifiers:

0

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range

RSD is greater than RSDlimit

- Analyte detected below quantitation limits
- RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 13 of 14

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1505355

15-May-15

Client:

APEX TITAN

Project:

Maddox WN Fed #10

Sample ID 5ML RB Client ID: PBS	Tes									
Prep Date:	Analysis D	Date: 5/	13/2015	8	SeqNo: 7	76458	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050						The T	bar a la company	
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID 100NG BTEX LO	SampT	Type: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: R2	6157	F	RunNo: 2	6157				
Prep Date:	Analysis D	Date: 5/	13/2015	5	SeqNo: 7	76459	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	76.6	128			
Toluene	1.0	0.050	1.000	0	101	75	124			
Ethylbenzene	1.0	0.050	1.000	0	103	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID MB-19184	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 19	184	F	RunNo: 2	6208				
Prep Date: 5/12/2015	Analysis [	Date: 5/	14/2015	5	SeqNo: 7	77657	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID LCS-19184		Type: LC			tCode: El	35 4	8021B: Vola	tiles		
Client ID: LCSS Prep Date: 5/12/2015	Analysis D		14/2015		SeaNo: 7		Units: mg/k	(a		
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	76.6	128		-41.4	
Toluene	0.99	0.050	1.000	0	98.7	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	100	78.8	124			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	80	120			

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit ND

Page 14 of 14

- Sample pH Not In Range
- Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquergue, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: APEX AZTEC	Work Order Number:	15053	55		RcptNo	o: 1
Received by/date:	15 holi-			12		
1 4	05/100/15			of while on		
Logged By: Lindsay Mangin	5/8/2015 7:00:00 AM			Omen Marie		4
Completed By: Lindsay Mangin	5/8/2015 8:37:15 AM			Stronby Houge		
Reviewed By:	05/08/15					
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No 🗆	Not Present	
2. Is Chain of Custody complete?		Yes		No 🗌	Not Present	
3. How was the sample delivered?		Cour	ier			
<u>Log In</u>						
4. Was an attempt made to cool the sample	s?	Yes		No 🗆	NA [	
5. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes		No 🗆	NA 🗆	
6. Sample(s) in proper container(s)?		Yes		No 🗆		
7. Sufficient sample volume for indicated tes	t(s)?	Yes		No 🗆		
8. Are samples (except VOA and ONG) prop		Yes		No 🗆		
9. Was preservative added to bottles?	,	Yes		No 🖃	NA 🗆	
10.VOA vials have zero headspace?		Yes		No 🗆	No VOA Vials	
11. Were any sample containers received bro	oken?	Yes		No 🕏	# of preserved	
12 Deep paragraph motels bettle labels?		Yes		No 🗆	bottles checked for pH:	
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)		105		140		2 or >12 unless noted)
13. Are matrices correctly identified on Chain	of Custody?	Yes		No 🗌	Adjusted?	
14. Is it clear what analyses were requested?		Yes		No 🗆		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes		No 📙	Checked by	
Special Handling (if applicable)						
16. Was client notified of all discrepancies wit	h this order?	Yes		No 🗆	NA 🗹	3
Person Notified:	Date:					
By Whom:	Via:	eMa	di 🔲	Phone Fax	In Person	
Regarding:	recording to the second contract of the second					
Client Instructions:					the section of the se	
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Condition	Seal Intact   Seal No	Seal Da	ate	Signed By		
1 1.6 Good )	/es	······································				

																	(	CHAIN	VOF	CUSTODY RECOR	D
-4							,	, ,					AN	ALYSIS	//	//	1	11	/	Lab use only	1
31					Laboratory:	1	tal	11					RE	QUESTED	///	//	//	//	//	Due Date:	
APEX			,		Address: _	AL	10	4	The second					K	//	//	//	/	//	Temp. of coolers : ,	1
Office Location	n Az	zt	ec	-			,							6	//	//	/	//	//	when received (C°):	e
				I Like	Contact:	ind	V	ra	em	191	,			4	/ /	//	/	//	/	1 2 3 4 5	1
					Phone:				12	19.		se.	=	. 60/	//	/ /	//	/		Page / of 3	
Project Mana	ger /	ی,	UN	nmer 5	PO/SO #:	723	F84	11-5	00	7		Bell	ow	7	//	//	/ /	/ /	/		١
Sampler's Name	5	un	n	ners	Sampler's Signa	ure	1			_				5 802 668/01	//	//		//			
Proj. No. 725041	5007	Proje	7a	dos	WNE	14	10	No/Ty	pe of C	Contain	ers		Tr.	i X			//				
Matrix Date	Time	CoEp	Grab		rks of Sample(s)		End	VOA	A/G	250 m	Glass	D/0	B	K	/ /_				Lab S	ample ID (Lab Use Only)	
5 5/7/15	1000	C		5-1	2 100					7	1		X	X				15	05	355-001	
	1015			2-3							1									-00Z	
	1025			2-3																-003	
	1430			5-4																-004	
	1035		1	5-5								9								-005	
	1045			5-6							1									-006	
	1120			5-7																-007	
	1200			5-8				7												-008	
	1300			5-9																-009	
VV	1320			5-10				Maj			A		Y	Y						-010	
Turn around time			02			100%					D-1		_	NOTE	0				1-10	7 77 7	4
Religionished by	(Signature)	_	45	79/15 181	Time: Receiv	th	M.	460	1	- 5	Date 171	15	191	ime: NOTE	Non	-AF	E	#N	21-	233	
Relinquished by	(Signature)		-		Time: Receiv	ed by:	(Signa	ture)	14	6	Date	115		ime:	,	,				1	
Relinquished by	(Signature)			Date:	Time: Receiv	ed by:	(Slane	ture)			Date	1	T	ime: 2	day	VTA	rr			(EFS)	
Relinquished by	(Signature)		- 3	5/1/5 2/0 Date:	Time: Receiv	ed by:	(Signa	ature)		DE	Date	3/13		70) [	Time	et l	3:1	1 Te	om &	ona (EFS)	
U				W Wa		1	/		Ai- F		^	Ch	ena el 4								
Matrix W	W - Wastewa	ater		W - Water S	S - Soil SD - Sol	id V	- Liqui	U A	- Air Ba	ag	0	- Una	rcoal t	ube SL-slu	uge	O - Oil					

	de Calling				Ý														C	HAIN (	OF C	USTODY R	ECORD
A	PEX	•				Laboratory:	A	tai	11					ANALY		11		/	//			Lab use only Due Date:	
Offic	e Locatio	A	ex	-		7.00000			85	A A	Y. In					8	3	/ /				Temp. of coolers when received (C	oille
Olik	e Locado		-3/5	.2		Contact:					7				/	100	/ /	/	/ /	/ /		1 2 3	4 5
															1	to	//		/ /			Page 2 of	2
Proi	ect Manag	per K	Su	im	mens	Phone:	Von-	AF	EV	12	12	.3	3		~	0		//	/ /	//		-	
Samo	jer's Name					Sampler's Signa									8	27	//	$^{\prime}$ $^{\prime}$					
Proj. I	04150	707			ddor	WN F	2/4	+10	No/Ty	pe of C	Contain	ers			To The			//	/ /				
Matrix	Date	Time	COED	Grab	Identifying Mar	ks of Sample(s)	Start	End	VOA	A/G	m 250	Glass	P/0	0	1	/ /	//	//			Lab Sa	ample ID (Lab Use	Only)
3	5/7/12	1345	×	D	5-1	7						1		P	V					150	26	355-0	DIT
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Turn a	round time	□ Nor	mal	<b>D</b> 2	5% Rush	50% Rush 🗆	100%	Rush															
	wished by				Dete:/_ T	ime: Receiv			ture)	601	2 3	Date 5/7		Time: 18/9	N	OTES:	La	/	,	7. //	,	- 55	
Relind	athu	Signature)	000	1-5	Date: 19	ime: Receiv	red by:	(Signa	ture)		5	Date	15	Time: 2035		0	re	27	4 6	5111	1	EF5	
/	athr phished by Mst	IN CHE	43	2	1/15 210	Receiv	1	TX	1		05		15		2	7	OK	1 4	-0	491	Bra	ndon Sull	ins
	quished by	A. A.				ime: Receiv	1	1		- Air P		Date		Time:	ŞI	- sludge		- Oil					
Matrix	VVV	V - Wastewa	TIE!		AA - AASTEL	- 301 30 - 30	wu i	ded	01	- rul Di	and a			rcoal tube	OL.	Siduge		VII					

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 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural** Resources

JUL 06 2015

OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

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

Oil Conservation Division 1220 South St. Francis Dr.

			Since H	Sa	nta F	e, NM 87	505					
		F	Releas	e Notific	atio	n and C	orrective	Acti	on			
Sa. 32 1 16					OF	PERATO	R		] Initial	Report		
		Enterprise					homas Long					
		Ave, Farmir	ngton, NN	187401	1		No. 505-599		the fact.			
Facility Na	me: Later	al 3B-33				Facility Ty	pe: Natural C	Bas Gat	hering F	Pipeline		
Surface O	wner: BLN	1		Mineral C	Owner	BLM	162 75		API N	0.		
				LOCA	ATIOI	N OF RE	LEASE					
Unit Letter	Section	Township	Range	Feet from		th South	Feet from	East	West	County		
N	2	29N	12W	the 903	Line		the 1397	Line		San Juan		
			L	atitude 36.7	750320	_Longitue	de <u>-108.0725</u>	76				
				NAT	URE	OF REL	EASE					
Type of Re	lease: Natur	ral Gas and I	Natural Ga				f Release 23.1	5 MCF	Volume	Recovered: None		
		MAT THE		MILE L			0 bbls. fluids					
Source of F	Release: Inte	ernal corrosio	on				Hour of Occur	rence:		d Hour of Discovery:		
Was Immed	diate Notice	Given?					<b>9:25 a.m.</b> o Whom? Cory	Smith -		@ 12:30 p.m.		
vvao iliilio			s 🗌 No	Not Red	quired	, 20, ,	o vinom. con	Ommun				
By Whom?	Thomas Lo	ong				Date and	Time 4/25/15	at 11:04	a.m.			
Was a Wat	ercourse Re	eached?				If YES, V	olume Impactii	ng the W	atercours	e		
				∐ No								
If a Watero	ourse was I	mpacted, De	scribe Full	ly.* The releas	se is loc	cated in a sr	nall ephemeral	wash. N	No surface	e impacts observed.		
33. At 9:41	am Enterpri	se employee	s were dis		ak site.	The release				e pipeline leak on Lateral 3B- as isolated, depressurized,		
approximat	ely 22 feet l	ong by 22.5 ansported to	feet wide i	ranging from 8	to 17 1	feet deep. A	pproximately 6	660 cubic	yards of	The final excavation measured hydrocarbon impacted soil orrective action report is		
rules and re which may relieve the ground wat	egulations a endanger p operator of er, surface	II operators a ublic health o liability shoul water, humai	are require or the envi d their open n health or	ed to report and ronment. The erations have to the environment	d/or file accept failed to ent. In	certain rele tance of a Co adequately addition, N	ase notification -141 report by investigate ar MOCD accepta aws and/or reg	ns and po the NMO nd remed ance of a gulations	erform co DCD mark liate conta C-141 re	and that pursuant to NMOCD rective actions for releases ted as "Final Report" does not amination that pose a threat to port does not relieve the		
Signature:		1	on	Fuld						N DIVISION		
Printed Nar	me: Jon E. F	Fields				Approved b	y Environment	al Specia	alist:	and ( )		
Title: Direct	or, Environ	mental				Approval D	ate: 8/12/	15	Expiration	n Date:		
E-mail Add	ress:jefields	@eprod.com	1			Conditions	of Approval:			Attached		
Date:	7-2.	- 2015	Phor	ne: (713)381-6	684							

HACS 15132 37509

\* Attach Additional Sheets If Necessary



#### **CORRECTIVE ACTION REPORT**

Property:

Lateral 3B-33 Pipeline Release SW 1/4, S2 T29N R12W San Juan County, New Mexico

June 12, 2015 Apex Project No. 7250415006

Prepared for:

Enterprise Field Services LLC 614 Reilly Avenue Farmington, NM 87401 Attn: Mr. Thomas Long

Prepared by:

Ranee Deechilly
Environmental Scientist

Kyle Summers, CPG

Branch Manager/Senior Geologist

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#### CORRECTIVE ACTION REPORT

Lateral 3B-33 Pipeline Release SW 1/4, S2 T29N R12W San Juan County, New Mexico

Apex Project No. 7250415006

#### 1.0 INTRODUCTION

## 1.1 Site Description & Background

The Lateral 3B-33 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 2 in Township 29 North and Range 12 West in rural San Juan County, New Mexico (36.75032N, 108.07258W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west and an associated line drip extending from the pipeline to the north.

On April 25, 2015, a natural gas pipeline release was reported by a third party. On April 29, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The release was identified on the line drip which was subsequently removed, and the pipeline was repaired by replacing approximately 22 feet of the pipe. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by an area of distressed vegetation in the vicinity of the release.

A topographic map depicting the location of the Site is included as Figure 1, and a Site Vicinity Map is included as Figure 2 in Appendix A.

#### 1.2 Project Objective

The primary objective of the corrective actions was to reduce the concentration of constituents of concern (COCs) in the on-Site soils to below the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) Remediation Action Levels (RALs) using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.

#### 2.0 SITE RANKING

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



Rankin	g Criteria		Ranking Score
	<50 feet	20	The second second second
Depth to Groundwater	50 to 99 feet	10	0
4	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water	Yes	20	0
source, or; <200 feet from private domestic water source.	No	0	
	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	20
	>1,000 feet	0	
Total Ran	king Score		20

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "20". This ranking is based on the following:

- Two water wells (SJ 03410 and SJ 01839) were identified on the Office of the State Engineer website database slightly over one mile from the Site. Well SJ 03410, located to the south with a total reported well depth of 75 feet below grade surface (bgs), is approximately 169 feet lower in elevation than the Site. Well SJ 01839, located to the southwest with a total reported depth to groundwater of 175 feet bgs, is approximately 127 feet lower in elevation than the Site. Based on this information, the anticipated depth to groundwater at the Site is in excess of 200 feet bgs. This information supports a ranking of "0" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located within the channel of a small ephemeral wash, resulting in a distance to surface water ranking of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On April 29, 2015, Enterprise initiated excavation activities at the Site to repair the subsurface leak, and remediate potential hydrocarbon impact. The release was identified on the line drip which was subsequently removed, and the pipeline was repaired by replacing approximately 22 feet of the pipe. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was identified by an area of distressed vegetation in the vicinity of the release. During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Heather Woods, an Apex environmental professional, provided environmental support.

Corrective action activities resumed at the Site on May 6, 2015 and were completed on May 8, 2015. On May 7, 2015, confirmation soil samples C-1 through C-5 were collected from the sidewalls and base of the southern portion of the repair excavation. Subsequent to the expansion of the excavation on May 8, 2015, to accommodate the drip line removal (which included the removal of sample locations C-3 through C-5 by excavation), confirmation samples C-6 through C-17 were collected from the sidewalls and bases of the excavation for laboratory analysis. In addition, stockpile soil samples SP-1 through SP-3 were collected to determine the potential to reuse a portion of the soils as backfill material.

Enterprise Field Services LLC Corrective Action Report Lateral 3B-33 Pipeline Release June 12, 2015



The main (south) portion of the final excavation measured approximately 22 feet long by 22.5 feet wide, with a total depth of approximately 17 feet bgs. The north portion of the final excavation measured approximately 22 feet long by 8.5 feet wide, with a total depth of approximately eight (8) feet bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand.

A total of approximately 660 cubic yards of hydrocarbon affected soils were transported to the JFJ/Industrial Ecosystems, Inc., landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean imported fill and the sample-verified reusable portion of the stockpiled soils, then contoured to surrounding grade.

Figure 3 is a site map that indicates the approximate location of the excavated area in relation to pertinent land features (Appendix A). Photographic documentation of the field activities is included in Appendix C.

#### 3.2 Soil Sampling Program

Apex screened head-space samples of Site soils with a photoionization detector (PID) fitted with a 10.6 eV lamp to evaluate volatile organic compounds (VOCs) and aid in determining the excavation limits.

Apex's soil sampling program included the collection of a three (3) stockpile soil samples (SP-1 through SP-3), and a total of seventeen (17) confirmation samples (C-1 through C-17) from the resulting excavation for laboratory analysis, however, the sample locations for C-3 through C-5 were removed by excavation and were not analyzed. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

The samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

#### 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8021. The soil samples were also analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015.

Laboratory results are summarized in Table 1, included in Appendix D. The executed chain-of-custody form and laboratory data sheets are provided in Appendix E.

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks*, *Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance



documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples (C-1 through C-2 and C-6 through C-17) collected from the excavated area to the OCD *RALs* for sites having a total ranking score of "20". Confirmation soil samples C-3 through C-5 were removed by excavation and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place did not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL of 10 milligram per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place did not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RAL of 100 mg/kg for a Site ranking of "20".

The laboratory analyses of stockpile samples SP-1 through SP-3 did not indicate benzene or total BTEX concentrations above the laboratory reporting limits. Additionally, laboratory analysis of stockpile samples SP-1 through SP-3 indicated combined TPH GRO/DRO concentrations ranging from below the laboratory limits to 14 mg/kg (SP-3), which are below the OCD *RAL* for a Site ranking of "20". The stockpiled soils resulting from the excavation that were not suitable for use as backfill were transported to the JFJ/Industrial Ecosystems, Inc., landfarm near Aztec, New Mexico for disposal/remediation.

Confirmation sample results are provided in Table 1 in Appendix D.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 3B-33 pipeline release site is located within the Enterprise ROW in the SW ½ of Section 2 in Township 29 North and Range 12 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west and an associated line drip extending from the pipeline to the north.

On April 25, 2015, a natural gas pipeline release was reported by a third party. On April 29, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The release was identified on the line drip which was subsequently removed, and the pipeline was repaired by replacing approximately 22 feet of the pipe. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by an area of distressed vegetation in the vicinity of the release.



- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand.
- The main (south) portion of the final excavation measured approximately 22 feet long by 22.5 feet wide, with a total depth of approximately 17 feet bgs. The north portion of the final excavation measured approximately 22 feet long by 8.5 feet wide, with a total depth of approximately 8 feet bgs
- Prior to backfilling, fourteen (14) confirmation samples and three (3) stockpile soil samples were collected from the resulting final excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD RALs for a Site ranking of "20".
- A total of approximately 660 cubic yards of hydrocarbon affected soils were transported to the JFJ/Industrial Ecosystems, Inc., landfarm near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with stockpiled soil (laboratory analyzed with COC concentrations below OCD RALs) and clean imported fill, then contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action with respect to soil impact appears warranted at this time.

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

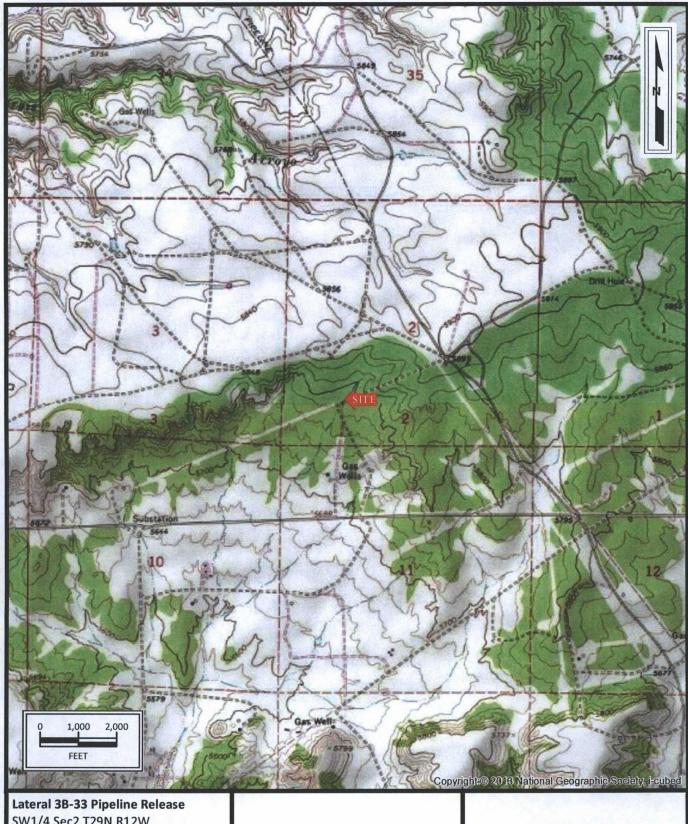
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services.

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.



APPENDIX A

Figures



SW1/4 Sec2 T29N R12W Rural San Juan County, New Mexico 36.75032N, 108.07258W

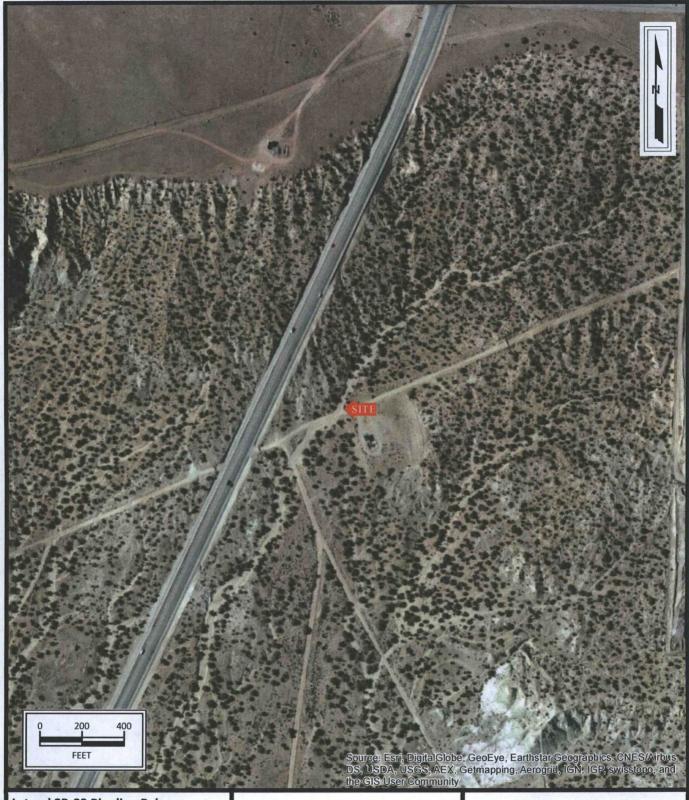


# Apex TITAN, Inc.

606 South Rio Grande, Suite A Aztec, NM 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

## FIGURE 1 **Topographic Map** Flora Vista, NM Quadrangle 1963

Project No. 7250415006



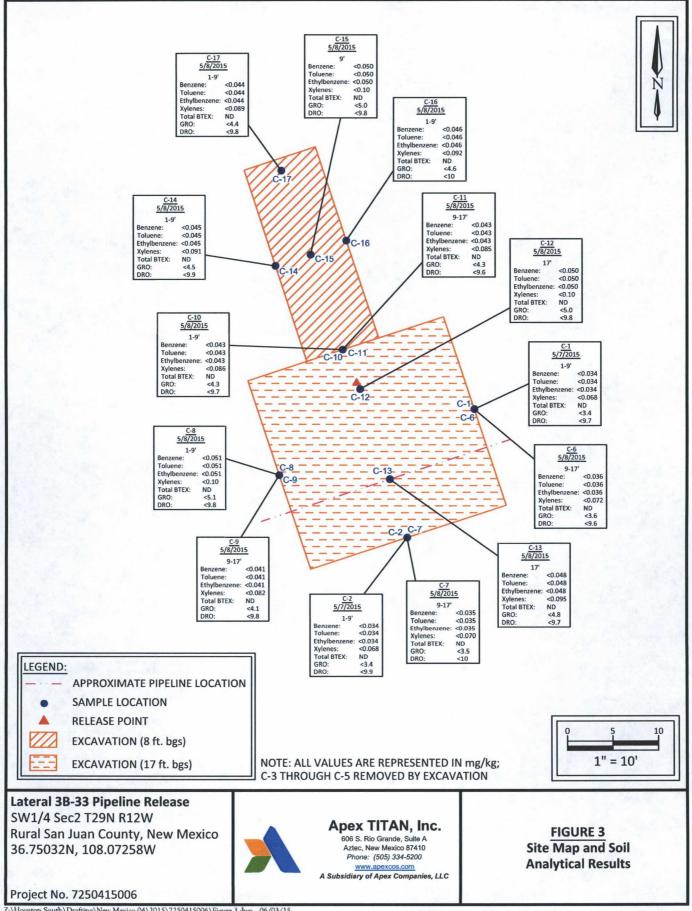
Lateral 3B-33 Pipeline Release SW1/4 Sec2 T29N R12W Rural San Juan County, New Mexico 36.75032N, 108.07258W



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Aztec, NM 87410
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FIGURE 2 **Site Vicinity Map** 

Project No. 7250415006





# APPENDIX B

Executed C-138 Solid Waste Acceptance Forms

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
Pistrict IV
220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

. Generator Name and Address: Interprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
Originating Site: Lateral 3B-33 Pipeline
Location of Material (Street Address, City, State or ULSTR): Unit Letter N Section 2 T29N R12W, San Juan County, NM; 36.750320, -108.072576
Source and Description of Waste:  ource: A release from a Natural Gas Gathering Line  description: Hydrocarbon impacted soil associated with a pipeline release.  stimated Volume 50 (yd3) bbls Known Volume (to be entered by the operator at the end of the haul)
GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby  Generator Signature ertify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July egulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with exempt waste.  Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazard characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 2 subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. the appropriate items)
MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS  Thomas Long 4-29-15, representative for Enterprise Products Operating authorize to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
h world hold representative for IEI, Inc. do hereby certify that
presentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the save been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The resums of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 9.15.36 NMAC.
Transporter: TBD
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. * Permit #: NM 01-0010B
Address of Facility: #49 CR 2150 Aztec, New Mexico
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Dandfill Other
Waste Acceptance Status:
APPROVED DENIED (Must Be Maintained As Permanent Reco
PRINT NAME: Must get a TITLE: Land Farm Administrator DATE: 43015  SIGNATURE: Surface Waste Management Pacifity Authorized Agent 505-632-1782

4/29/15



APPENDIX C

Photographic Documentation



# Photograph 1

View of the fully exposed Lateral 3B-33 pipeline and associated line drip, facing northwest.



# Photograph 2

View of the repaired pipeline, facing northeast.



# Photograph 3

View of the former line drip location and repaired pipeline, facing south.





# Photograph 4

View of the south portion of the final excavation and repaired pipeline, facing west.



# Photograph 5

View of the north portion of the final excavation and repaired pipeline, facing northwest.





APPENDIX D

Table



# TABLE 1 Lateral 3B-33 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
		latural Resources ision, Remediation	10	NE	NE	NE	50	10	00
Sandy College				Stockpi	ile Samples		EL MEDITOR DE		
SP-1	5/8/2015	Stockpile	<0.031	<0.031	<0.031	<0.061	ND	<3.1	<9.9
SP-2	5/8/2015	Stockpile	<0.035	<0.035	<0.035	<0.071	ND	<3.5	<9.6
SP-3	5/8/2015	Stockpile	<0.033	<0.033	<0.033	<0.066	ND	<3.3	14
				Samples Remo	ved By Excavation	Section 1999			
C-3	5/7/2015	1 to 9	NA	NA	NA	NA	NA	NA	NA
C-4	5/7/2015	1 to 9	NA	NA	NA	NA	NA	NA	NA
C-5	5/7/2015	9	NA	NA	NA	NA	NA	NA	NA
				Excavation Cor	nfirmation Samples	THE REAL PROPERTY.			
C-1	5/7/2015	1 to 9	<0.034	<0.034	<0.034	<0.068	ND	<3.4	<9.7
C-2	5/7/2015	1 to 9	<0.034	<0.034	<0.034	<0.068	ND	<3.4	<9.9
C-6	5/8/2015	9 to 17	<0.036	<0.036	<0.036	< 0.072	ND	<3.6	<9.6
C-7	5/8/2015	9 to 17	<0.035	< 0.035	<0.035	<0.070	ND	<3.5	<10
C-8	5/8/2015	1 to 9	<0.051	<0.051	<0.051	<0.10	ND	<5.1	<9.8
C-9	5/8/2015	9 to 17	<0.041	<0.041	<0.041	<0.082	ND	<4.1	<9.8
C-10	5/8/2015	1 to 9	< 0.043	<0.043	<0.043	<0.086	ND	<4.3	<9.7
C-11	5/8/2015	9 to 17	<0.043	<0.043	<0.043	<0.085	ND	<4.3	<9.6
C-12	5/8/2015	17	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<9.8
C-13	5/8/2015	17	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.7
C-14	5/8/2015	1 to 9	<0.045	<0.045	<0.045	<0.091	ND	<4.5	<9.9
C-15	5/8/2015	9	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<9.8
C-16	5/8/2015	1 to 9	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<10
C-17	5/8/2015	1 to 9	<0.044	<0.044	<0.044	<0.089	ND	<4.4	<9.8

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

ND = Not Detected above the Laboratory Reporting Limits

NA = Not analyzed NE = Not Established



# APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 19, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (505) 716-2787

**FAX** 

RE: 3B-33 OrderNo.: 1505354

#### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1505354

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-1

Project: 3B-33 Collection Date: 5/7/2015 5:13:00 PM

Lab ID: 1505354-001 Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/8/2015 10:15:36 AM	19128
Surr: DNOP	126	57.9-140	%REC	1	5/8/2015 10:15:36 AM	19128
<b>EPA METHOD 8015D: GASOLINE R</b>	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	5/8/2015 9:54:47 AM	19119
Surr: BFB	94.0	80-120	%REC	1	5/8/2015 9:54:47 AM	19119
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.034	mg/Kg	1	5/8/2015 9:54:47 AM	19119
Toluene	ND	0.034	mg/Kg	1	5/8/2015 9:54:47 AM	19119
Ethylbenzene	ND	0.034	mg/Kg	1	5/8/2015 9:54:47 AM	19119
Xylenes, Total	ND	0.068	mg/Kg	1	5/8/2015 9:54:47 AM	19119
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	5/8/2015 9:54:47 AM	19119

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

#### **Analytical Report**

Lab Order 1505354

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-2

**Project:** 3B-33 **Collection Date:** 5/7/2015 5:22:00 PM

Lab ID: 1505354-002 Matrix: MEOH (SOIL) Received Date: 5/8/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/8/2015 10:36:54 AM	19128
Surr: DNOP	119	57.9-140	%REC	1	5/8/2015 10:36:54 AM	19128
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	5/8/2015 10:23:31 AM	19119
Surr: BFB	91.8	80-120	%REC	1	5/8/2015 10:23:31 AM	19119
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.034	mg/Kg	1	5/8/2015 10:23:31 AM	19119
Toluene	ND	0.034	mg/Kg	1	5/8/2015 10:23:31 AM	19119
Ethylbenzene	ND	0.034	mg/Kg	1	5/8/2015 10:23:31 AM	19119
Xylenes, Total	ND	0.068	mg/Kg	1	5/8/2015 10:23:31 AM	19119
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	5/8/2015 10:23:31 AM	19119

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505354

19-May-15

Client:

**APEX TITAN** 

Project:

3B-33

Project: 3B-33		The second secon
Sample ID MB-19128	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: PBS	Batch ID: 19128	RunNo: 26027
Prep Date: 5/8/2015	Analysis Date: 5/8/2015	SeqNo: 772490 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
Surr: DNOP	10 10.00	101 57.9 140
Sample ID LCS-19128	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 19128	RunNo: 26027
Prep Date: 5/8/2015	Analysis Date: 5/8/2015	SeqNo: 772491 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	51 10 50.00	0 101 67.8 130
Surr: DNOP	5.4 5.000	108 57.9 140
Sample ID MB-19116	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: PBS	Batch ID: 19116	RunNo: 26059
Prep Date: 5/7/2015	Analysis Date: 5/8/2015	SeqNo: 773936 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	10 10.00	101 57.9 140
Sample ID LCS-19116	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 19116	RunNo: 26059
Prep Date: 5/7/2015	Analysis Date: 5/8/2015	SeqNo: 773937 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	6.1 5.000	123 57.9 140

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505354

19-May-15

Client:

**APEX TITAN** 

Project:

3B-33

S	aı	n	pl	е	IL	)	M	В	-1	9	1	1

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 19119

RunNo: 26061

%RPD

%RPD

Prep Date: 5/7/2015 Analysis Date: 5/8/2015

SeqNo: 773617

Units: mg/Kg HighLimit

Analyte

PQL Result

SPK value SPK Ref Val %REC

Qual

Gasoline Range Organics (GRO)

ND

89.8

**RPDLimit** 

Surr: BFB

900

1000

80 120

Sample ID LCS-19119

SampType: LCS Batch ID: 19119

5.0

RunNo: 26061

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Prep Date: 5/7/2015

Analysis Date: 5/8/2015

LowLimit

LowLimit

Units: mg/Kg

Gasoline Range Organics (GRO)

Result PQL

SPK value SPK Ref Val %REC

25.00

SeqNo: 773618

HighLimit

Surr: BFB

Client ID:

Prep Date:

990

1000

96.5 98.9 80 120 **RPDLimit** 

Qual

Sample ID 5ML RB

24

SampType: MBLK Batch ID: R26234

Analysis Date: 5/15/2015

5.0

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 26234 SeqNo: 778560

LowLimit

Units: mg/Kg

HighLimit

Qual

Qual

Analyte Gasoline Range Organics (GRO)

Client ID: LCSS

PBS

Result **PQL** 5.0 ND

SPK value SPK Ref Val %REC

1000

85.2

80

%RPD

**RPDLimit** 

Surr: BFB Sample ID 2.5UG GRO LCS

850

SampType: LCS Batch ID: R26234

Analysis Date: 5/15/2015

TestCode: EPA Method 8015D: Gasoline Range RunNo: 26234

64

80

120

120

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

Surr: BFB

Prep Date:

Result 24 930

SPK value SPK Ref Val PQL 5.0 25.00 1000

SeqNo: 778561 %REC

94.4

93.2

0

LowLimit

HighLimit

%RPD **RPDLimit** 130

Qualifiers:

0

Value exceeds Maximum Contaminant Level.

Spike Recovery outside accepted recovery limits

Value above quantitation range

Analyte detected below quantitation limits

RSD is greater than RSDlimit RPD outside accepted recovery limits Analyte detected in the associated Method Blank

Η Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

Page 4 of 6

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

1.0

WO#:

1505354 19-May-15

Client:

APEX TITAN

Project:

Surr: 4-Bromofluorobenzene

3B-33

Sample ID MB-19119	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		4 192	
Client ID: PBS	Batch	n ID: 19	119	F	RunNo: 2	6061					
Prep Date: 5/7/2015	Analysis D	ate: 5/	8/2015		SeqNo: 7	73623	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									

102

80

120

1.000

Sample ID LCS-19119	Samp	ype: LC	S	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batc	h ID: 19	119	F	RunNo: 2							
Prep Date: 5/7/2015	Analysis [	Date: 5/	8/2015		SeqNo: 7	73624	Units: mg/h	<b>C</b> g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	1.0	0.050	1.000	0	105	76.6	128			2775		
Toluene	1.0	0.050	1.000	0	103	75	124					
Ethylbenzene	1.0	0.050	1.000	0	105	79.5	126					
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124					
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120					

Sample ID LCSD-19119 Client ID: LCSS02 Prep Date:		Type: LC		F	tCode: E RunNo: 2 SegNo: 7	6061	8021B: Vola Units: mg/F			
Analyte	Result	PQL	SPK value		%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	105	76.6	128	0.205	20	- Suite
Toluene	1.1	0.050	1.000	0	105	75	124	2.14	20	
Ethylbenzene	1.1	0.050	1.000	0	106	79.5	126	1.61	20	
Xylenes, Total	3.1	0.10	3.000	0	104	78.8	124	0.698	20	
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120	0		

Sample ID 100NG BTEX LC	S Samp	Type: LC	S	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Bato	h ID: R2	6234	F								
Prep Date:	Analysis	Date: 5/	15/2015	5	SeqNo: 7	79483	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	1.0	0.050	1.000	0	104	76.6	128					
Toluene	1.1	0.050	1.000	0	106	75	124					
Ethylbenzene	1.1	0.050	1.000	0	106	79.5	126					
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124					
Surr: 4-Bromofluorobenzene	0.94		1.000		94.3	80	120					

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- D. Completel Not In Dance

Page 5 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1505354

19-May-15

Client:

**APEX TITAN** 

Project:

3B-33

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

Analyte

PBS

Surr: 4-Bromofluorobenzene

Batch ID: R26234

RunNo: 26234

%RPD

Prep Date:

Analysis Date: 5/15/2015

Result

SeqNo: 779486

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg HighLimit

**RPDLimit** 

Qual

Benzene Toluene Ethylbenzene

Xylenes, Total

0.050 ND ND 0.050 ND ND

0.92

0.050 0.10

1.000

**PQL** 

92.1

120

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range

J Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

Reporting Detection Limit

Page 6 of 6



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuqucrque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: APEX AZTEC	Work Order Number:	15053	54		RcptN	o: 1
Received by/date:	05/08/15					
Logged By: Lindsay Mangin	5/8/2015 7:00:00 AM			Junely Holy	<b>2</b> 0 .	
Completed By: Lindsay Mangin	5/8/2015 7:39:14 AM			Simely Hay	<b>2</b> 0	
Reviewed By:	5/8/15					
Chain of Custody		ŕ.,				
1. Custody seals intact on sample bottles?		Yes		No 🗔	Not Present	2
2. Is Chain of Custody complete?		Yes		No 🗆	Not Present	]
3. How was the sample delivered?		Couri	er			
Log In						
4. Was an attempt made to cool the samples?		Yes		No 🗀	NA [	
5. Were all samples received at a temperature	of >0° C to 6.0°C	Yes		No 🗆	NA [	
6. Sample(s) in proper container(s)?		Yes		No 🗆	1	
7. Sufficient sample volume for indicated test(s	s)?	Yes		No 🗔		
8. Are samples (except VOA and ONG) proper		Yes		No 🗌	Turnet S	
9. Was preservative added to bottles?		Yes		No 🗷	NA [	
10.VOA vials have zero headspace?		Yes		No 🗆	No VOA Vials	
11. Were any sample containers received broke	en?	Yes		No 🗹	I (	
					# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes		No		0 10 1 0
(Note discrepancies on chain of custody)	Overton de O	Vac		No 🗆	A division of T	<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of 14. Is it clear what analyses were requested?	Custody?	Yes		No [		
15. Were all holding times able to be met?		Yes		No 🗆	Checked b	y:
(If no, notify customer for authorization.)						
Special Handling (if applicable)						
16. Was client notified of all discrepancies with	this order?	Yes		No [	NA F	
NAME OF THE PROPERTY OF THE PR	ye.					
Person Notified:	Date:		—			
By Whom:	Via:	eMa		Phone Fa	x In Person	•
Regarding:			m Manufill Hillians			w-
Client Instructions:   17. Additional remarks:		to boots				
18. Cooler Information	singer to the fi	015	. 1	01	1	
Cooler No Temp °C Condition S	A self-Manife mirror from the self-self-self-self-self-self-self-self-	Seal Da	ate	Signed By	-	
1.0						

																				CHAIN	OF	CUSTO	DDY RE	CORD
	PEX e Location		۷,	M		Laboratory: Address:	Ubu	quev	900	, N/		hal		-	ALYSIS QUESTI	akozoko di						Temp. of when re		5
						Phone:	(	3					_		/	0	//		/ /			Page_	of_	1
	ect Manag	ger H.	Wo	$\infty$		PO/SO #: _						_			/ .	3/		//		//	/			
Samp	ler's Name					Sampler's Signa									3/0	Ī/ /		/ /	/	/ /				
H	earther	Wood	5_			Heathe	11	4. W	000	6					BOIS THE	/ /	/ /	/	//	/ /				
Proj. 1				ect Na					No/T	ype of (	Contain	ers					/ /	//	/ /					
725	04150	06		B-3			+ 5		4	-		Ø		S	50	//	/	//						
Matrix	Date	Time	ರಾತಂ೧	Grab	Identifying Ma	arks of Sample(s)	Star	End	VOA		250 ml	Glas	P/C	0	2	//	/	/ /		/			(Lab Use C	Inly)
5	5/7/15	1713			C-1				多州			1	1	X	X					15	05	354	1-0	01
5	5/7/15	1722			C-2				Z.			1	1	X	X								-00	12
5	5/7/15	1719			c-3							1	1	×	×								-a	13
S	5/7/15	1716			C-4							Ì	1	X	X								-00	XI
S	5/7/15	1724			C-5							1	1	X	X								-CC	5
					HES_	the s																		
						1360	-																	
											1													
Turn a	round time	Q Nor	mal	02	25% Rush	Time: Receiv	(100%	Rush (Signa	Say	ne	Par	hate	9: 1	Tir	me:	NOTES:								
11	quished by ( puished by (	M. UK	200	65	1/15/2	035 / Uh	Mes	5.12	اما	le	. 6	517	118	20	38		114	ect	bill	40 (	Ente	rpris	Q	
Reline	puished by (	Signature)	o h	-	Date:	Time: Receiv	Ag par	Signa	ture)			Date	8/15		me:		Add	m. T	em	Long	9 1B	rando	n Sull	ins
	quished by (			-	Date:	Time: Receiv	ed by	Signa	ture)			Date			me:		No	n-Af	E :	N2	123	0		
Relin	quished by (	(Signature)			Date:	Time: Receiv	ved by:	(Signa	ature)			Date	9:	Tis	me:									
Matrix Conta		V - Wastewa A - 40 ml via				S - Soil SD - So Or Glass 1 Liter		L - Liquio 250 ml -				C	- Cha	rcoal tu	ibe S	L - sludg	K; L	O - Oil	- 7					



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 14, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410

TEL: (505) 716-2787

FAX

RE: 3B-33

OrderNo.: 1505413

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/9/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1505413

Date Reported: 5/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-6 **Project:** 3B-33 Collection Date: 5/8/2015 3:04:00 PM

Received Date: 5/9/2015 7:50:00 AM Lab ID: 1505413-001 Matrix: MEOH (SOIL)

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/11/2015 10:54:43 AM	19155
Surr: DNOP	95.7	57.9-140	%REC	1	5/11/2015 10:54:43 AM	19155
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	5/13/2015 2:27:20 PM	R26157
Surr: BFB	95.8	80-120	%REC	1	5/13/2015 2:27:20 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.036	mg/Kg	1	5/13/2015 2:27:20 PM	R26157
Toluene	ND	0.036	mg/Kg	1	5/13/2015 2:27:20 PM	R26157
Ethylbenzene	ND	0.036	mg/Kg	1	5/13/2015 2:27:20 PM	R26157
Xylenes, Total	ND	0.072	mg/Kg	1	5/13/2015 2:27:20 PM	R26157
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	5/13/2015 2:27:20 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit

Page 1 of 15

- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-7

Project: 3B-33 Collection Date: 5/8/2015 2:17:00 PM

Lab ID: 1505413-002 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/11/2015 11:21:15 AM	19155
Surr: DNOP	104	57.9-140	%REC	1	5/11/2015 11:21:15 AM	19155
<b>EPA METHOD 8015D: GASOLINE RA</b>	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/13/2015 2:56:02 PM	R26157
Surr: BFB	96.8	80-120	%REC	1	5/13/2015 2:56:02 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.035	mg/Kg	. 1	5/13/2015 2:56:02 PM	R26157
Toluene	ND	0.035	mg/Kg	1	5/13/2015 2:56:02 PM	R26157
Ethylbenzene	ND	0.035	mg/Kg	1	5/13/2015 2:56:02 PM	R26157
Xylenes, Total	ND	0.070	mg/Kg	1	5/13/2015 2:56:02 PM	R26157
Surr: 4-Bromofluorobenzene	112	80-120	%REC	1	5/13/2015 2:56:02 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 15

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: C-8

**CLIENT: APEX TITAN** Project: 3B-33 Collection Date: 5/8/2015 3:49:00 PM

1505413-003 Received Date: 5/9/2015 7:50:00 AM Lab ID: Matrix: MEOH (SOIL)

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS			100		Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/11/2015 11:47:51 AM	19155
Surr: DNOP	104	57.9-140		%REC	1	5/11/2015 11:47:51 AM	19155
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	5.1		mg/Kg	1	5/13/2015 3:24:41 PM	R26157
Surr: BFB	95.3	80-120		%REC	1	5/13/2015 3:24:41 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.051		mg/Kg	1	5/13/2015 3:24:41 PM	R26157
Toluene	ND	0.051		mg/Kg	1	5/13/2015 3:24:41 PM	R26157
Ethylbenzene	ND	0.051		mg/Kg	1	5/13/2015 3:24:41 PM	R26157
Xylenes, Total	ND	0.10		mg/Kg	1	5/13/2015 3:24:41 PM	R26157
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	5/13/2015 3:24:41 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 15

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

an aa

3B-33

Lab ID: 1505413-004

Project:

Client Sample ID: C-9

Collection Date: 5/8/2015 3:21:00 PM

**Collection Date:** 5/8/2015 3:21:00 PM **Received Date:** 5/9/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS					Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/11/2015 12:14:34 PM	19155
Surr: DNOP	99.7	57.9-140		%REC	1	5/11/2015 12:14:34 PM	19155
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	5/13/2015 3:53:29 PM	R26157
Surr: BFB	94.4	80-120		%REC	1	5/13/2015 3:53:29 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.041		mg/Kg	1	5/13/2015 3:53:29 PM	R26157
Toluene	ND	0.041		mg/Kg	1	5/13/2015 3:53:29 PM	R26157
Ethylbenzene	ND	0.041		mg/Kg	1	5/13/2015 3:53:29 PM	R26157
Xylenes, Total	ND	0.082		mg/Kg	1	5/13/2015 3:53:29 PM	R26157
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	5/13/2015 3:53:29 PM	R26157

Matrix: MEOH (SOIL)

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-10

Project: 3B-33

Collection Date: 5/8/2015 12:00:00 PM

Lab ID: 1505413-005

Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analyst	KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/11/2015 12:41:10 PM	19155
Surr: DNOP	104	57.9-140	%REC	1	5/11/2015 12:41:10 PM	19155
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	5/13/2015 4:22:10 PM	R26157
Surr: BFB	94.8	80-120	%REC	1	5/13/2015 4:22:10 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.043	mg/Kg	1	5/13/2015 4:22:10 PM	R26157
Toluene	ND	0.043	mg/Kg	1	5/13/2015 4:22:10 PM	R26157
Ethylbenzene	ND	0.043	mg/Kg	1	5/13/2015 4:22:10 PM	R26157
Xylenes, Total	ND	0.086	mg/Kg	1	5/13/2015 4:22:10 PM	R26157
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	5/13/2015 4:22:10 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: C-11

**CLIENT: APEX TITAN** Project: 3B-33 Collection Date: 5/8/2015 12:02:00 PM

Lab ID: 1505413-006 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS					Analyst	: КЈН
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/11/2015 1:08:03 PM	19155
Surr: DNOP	105	57.9-140		%REC	1	5/11/2015 1:08:03 PM	19155
EPA METHOD 8015D: GASOLINE RANGE						Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/13/2015 9:37:47 PM	R26157
Surr: BFB	92.2	80-120		%REC	1	5/13/2015 9:37:47 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	: NSB
Benzene	ND	0.043		mg/Kg	1	5/13/2015 9:37:47 PM	R26157
Toluene	ND	0.043		mg/Kg	1	5/13/2015 9:37:47 PM	R26157
Ethylbenzene	ND	0.043		mg/Kg	1	5/13/2015 9:37:47 PM	R26157
Xylenes, Total	ND	0.085		mg/Kg	1	5/13/2015 9:37:47 PM	R26157
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	5/13/2015 9:37:47 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- Sample pH Not In Range P
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-12

Project: 3B-33

Collection Date: 5/8/2015 12:27:00 PM

Lab ID: 1505413-007

Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL	Qual U	nits	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS					Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.8	m	ıg/Kg	1	5/11/2015 11:05:27 AM	19155
Surr: DNOP	107	57.9-140	%	REC	1	5/11/2015 11:05:27 AM	19155
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	5.0	m	ıg/Kg	1	5/13/2015 10:06:28 PM	R26157
Surr: BFB	91.1	80-120	%	REC	1	5/13/2015 10:06:28 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.050	m	ıg/Kg	1	5/13/2015 10:06:28 PM	R26157
Toluene	ND	0.050	m	ıg/Kg	1	5/13/2015 10:06:28 PM	R26157
Ethylbenzene	ND	0.050	m	ıg/Kg	1	5/13/2015 10:06:28 PM	R26157
Xylenes, Total	ND	0.10	m	ıg/Kg	1	5/13/2015 10:06:28 PM	R26157
Surr: 4-Bromofluorobenzene	102	80-120	%	REC	1	5/13/2015 10:06:28 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-13

**Project:** 3B-33 **Collection Date:** 5/8/2015 2:22:00 PM

Lab ID: 1505413-008 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/11/2015 11:26:49 AM	19155
Surr: DNOP	112	57.9-140	%REC	1	5/11/2015 11:26:49 AM	19155
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/13/2015 10:35:08 PM	R26157
Surr: BFB	92.4	80-120	%REC	1	5/13/2015 10:35:08 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.048	mg/Kg	1	5/13/2015 10:35:08 PM	R26157
Toluene	ND	0.048	mg/Kg	1	5/13/2015 10:35:08 PM	R26157
Ethylbenzene	ND	0.048	mg/Kg	1	5/13/2015 10:35:08 PM	R26157
Xylenes, Total	ND	0.095	mg/Kg	1	5/13/2015 10:35:08 PM	R26157
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/13/2015 10:35:08 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-14

Project: 3B-33

Collection Date: 5/8/2015 4:00:00 PM

Lab ID: 1505413-009

Matrix: MEOH (SOIL)

Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Q	ial Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/11/2015 11:48:12 AM	19155
Surr: DNOP	113	57.9-140	%REC	1	5/11/2015 11:48:12 AM	19155
EPA METHOD 8015D: GASOLINE R.	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	5/13/2015 11:03:51 PM	R26157
Surr: BFB	92.2	80-120	%REC	1	5/13/2015 11:03:51 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.045	mg/Kg	1	5/13/2015 11:03:51 PM	R26157
Toluene	ND	0.045	mg/Kg	1	5/13/2015 11:03:51 PM	R26157
Ethylbenzene	ND	0.045	mg/Kg	1	5/13/2015 11:03:51 PM	R26157
Xylenes, Total	ND	0.091	mg/Kg	1	5/13/2015 11:03:51 PM	R26157
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/13/2015 11:03:51 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-15

**Project:** 3B-33 **Collection Date:** 5/8/2015 4:05:00 PM

Lab ID: 1505413-010 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL C	Qual Ui	nits	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS		V			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.8	m	ıg/Kg	1	5/11/2015 12:09:28 PM	19155
Surr: DNOP	113	57.9-140	%	REC	1	5/11/2015 12:09:28 PM	19155
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	5.0	m	ıg/Kg	1	5/13/2015 11:32:35 PM	R26157
Surr: BFB	93.6	80-120	%	REC	1	5/13/2015 11:32:35 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.050	m	ıg/Kg	1	5/13/2015 11:32:35 PM	R26157
Toluene	ND	0.050	m	ıg/Kg	1	5/13/2015 11:32:35 PM	R26157
Ethylbenzene	ND	0.050	m	ıg/Kg	1	5/13/2015 11:32:35 PM	R26157
Xylenes, Total	ND	0.10	m	ıg/Kg	1	5/13/2015 11:32:35 PM	R26157
Surr: 4-Bromofluorobenzene	105	80-120	%	REC	1	5/13/2015 11:32:35 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit D.
  - Page 10 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-16

**Project:** 3B-33 **Collection Date:** 5/8/2015 4:03:00 PM

Lab ID: 1505413-011 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/11/2015 12:30:49 PM	19155
Surr: DNOP	114	57.9-140	%REC	1	5/11/2015 12:30:49 PM	19155
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	5/14/2015 12:01:12 AM	R26157
Surr: BFB	96.3	80-120	%REC	1	5/14/2015 12:01:12 AM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.046	mg/Kg	1	5/14/2015 12:01:12 AM	R26157
Toluene	ND	0.046	mg/Kg	1	5/14/2015 12:01:12 AM	R26157
Ethylbenzene	ND	0.046	mg/Kg	1	5/14/2015 12:01:12 AM	R26157
Xylenes, Total	ND	0.092	mg/Kg	1	5/14/2015 12:01:12 AM	R26157
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	5/14/2015 12:01:12 AM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505413

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: C-17

**CLIENT: APEX TITAN** Project: 3B-33 Collection Date: 5/8/2015 4:09:00 PM

Lab ID: 1505413-012 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/11/2015 12:52:04 PM	19155
Surr: DNOP	112	57.9-140	%REC	1	5/11/2015 12:52:04 PM	19155
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	5/14/2015 12:29:50 AM	R26157
Surr: BFB	95.6	80-120	%REC	1	5/14/2015 12:29:50 AM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.044	mg/Kg	1	5/14/2015 12:29:50 AM	R26157
Toluene	ND	0.044	mg/Kg	1	5/14/2015 12:29:50 AM	R26157
Ethylbenzene	ND	0.044	mg/Kg	1	5/14/2015 12:29:50 AM	R26157
Xylenes, Total	ND	0.089	mg/Kg	1	5/14/2015 12:29:50 AM	R26157
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	5/14/2015 12:29:50 AM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- Sample pH Not In Range P
- Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1505413

14-May-15

Client:

APEX TITAN

Project:

Client ID:

3B-33

Sample ID MB-19155

SampType: MBLK

TestCode: EPA Method 8015D: Diesel Range Organics

Batch ID: 19155

RunNo: 26099

Prep Date: 5/11/2015

PBS

Analysis Date: 5/11/2015

SeqNo: 774167

Units: mg/Kg

Analyte

SPK value SPK Ref Val %REC

SPK value SPK Ref Val

HighLimit

**RPDLimit** Qual

Diesel Range Organics (DRO)

Result PQL ND

92.2 57.9

LowLimit

140

Surr: DNOP

9.2

10.00

%RPD

SampType: LCS

10

TestCode: EPA Method 8015D: Diesel Range Organics

Sample ID LCS-19155

Client ID: LCSS

Batch ID: 19155

Units: mg/Kg

Prep Date:

5/11/2015

Analysis Date: 5/11/2015

SeqNo: 774168

HighLimit

%RPD **RPDLimit** 

Qual

Diesel Range Organics (DRO)

39 5.1

50.00 5.000 %REC 79.0 103

67.8 57.9

LowLimit

130 140

Surr: DNOP

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range

RSD is greater than RSDlimit

- Analyte detected below quantitation limits J
- RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Sample pH Not In Range
- RL Reporting Detection Limit

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 14-May-15

1505413

Client:

**APEX TITAN** 

Project:

3B-33

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: R26157

PQL

5.0

RunNo: 26157

Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776429

Units: mg/Kg

SPK value SPK Ref Val

LowLimit

LowLimit

**HighLimit** 

Qual

Gasoline Range Organics (GRO)

Result ND

95.5

%REC

120

**RPDLimit** 

Analyte Surr: BFB

960

1000

80

Sample ID 2.5UG GRO LCS

SampType: LCS Batch ID: R26157 TestCode: EPA Method 8015D: Gasoline Range

%REC

RunNo: 26157

Client ID: LCSS Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776430

Units: mg/Kg HighLimit

130

120

**RPDLimit** 

Gasoline Range Organics (GRO)

23

SPK value SPK Ref Val 25.00

92.5

%RPD

%RPD

Qual

Surr: BFB

1000

1000

100

80

# Qualifiers:

E

- Value exceeds Maximum Contaminant Level.
- Analyte detected below quantitation limits 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits

Value above quantitation range

- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH Not In Range

RL

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## Hall Environmental Analysis Laboratory, Inc.

WO#:

1505413

14-May-15

Client:

**APEX TITAN** 

Project:

3B-33

Sample ID 5ML RB Client ID: PBS

SampType: MBLK

**PQL** 

0.050

TestCode: EPA Method 8021B: Volatiles

Batch ID: R26157

RunNo: 26157

Units: mg/Kg

Prep Date:

Analysis Date: 5/13/2015

Result

ND

SeqNo: 776458

HighLimit

%RPD

%RPD

**RPDLimit** 

Qual

Qual

**RPDLimit** 

Analyte Benzene Toluene Ethylbenzene Xylenes, Total

Surr: 4-Bromofluorobenzene

Sample ID 100NG BTEX LCS

Client ID: LCSS

Prep Date:

ND 0.050 ND 0.050 ND 0.10

SampType: LCS

1.000

109

80 120

TestCode: EPA Method 8021B: Volatiles

SPK value SPK Ref Val %REC LowLimit

Batch ID: R26157 Analysis Date: 5/13/2015 RunNo: 26157 SeqNo: 776459

Units: mg/Kg

Result PQL SPK value SPK Ref Val %REC HighLimit Analyte LowLimit Benzene 1.0 0.050 1.000 0 101 76.6 128 Toluene 1.0 0.050 1.000 0 101 75 124 1.000 126 1.0 0.050 0 103 Ethylbenzene 79.5 Xylenes, Total 3.1 0.10 3.000 0 102 78.8 124 Surr: 4-Bromofluorobenzene 1.1 1.000 113 80 120

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- Reporting Detection Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

01-0-601-			
Construct building			
Received by/date: 05.109//3		4/1/1/0	
Logged By: Lindsay Mangin 5/9/2015 7:50:00 AM		Company Mary D	
Completed By: Lindsay Mangin 5/9/2015 10:08:38 AM		Junely Allery D	
Reviewed By: 51 6/9/15			
Chain of Custody			
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗌	Not Present
2. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🐼	No 🗌	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🖈	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🕏	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes	No 🗆	
9. Was preservative added to bottles?	Yes	No 🗹	NA 🗆
10.VOA vials have zero headspace?	Yes 🗌	No 🗆	No VOA Vials
11. Were any sample containers received broken?	Yes	No 🖈	# of preserved
	F773		bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🖈	No □	for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🐼	No 🗆	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	No 🗆	Checked by:
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No 🗆	NA 🕝
2000 A STATE OF THE STATE OF TH	165	140	NA SE
Person Notified: Date:		Dhana 🗆 Fau	□ In Passas
By Whom: Via: [ Regarding:	eMail [	Phone Fax	In Person
Client Instructions:			as an extraordinate and a state of the state
17. Additional remarks:	**		
18. Cooler Information  Cooler No   Temp °C   Condition   Seal Intact   Seal No   \$	Seal Date	Signed By	
1 1.8 Good Yes			

CHAIN OF CUSTODY RECORD Lab use only ANALYSIS Due Date: REQUESTED Laboratory: Hall Environmental APEX Address: Albuquerque NM Temp. of coolers when received (C°): 1,5% Office Location Azter NM Contact: Andy Freeman 60010RD Project Manager H. Wood S PO/SO#: Direct Bill to Enterprise Sampler's Name Sampler's Signature 802, BTEX Healthe M. Woods Heather Woods Proi. No. **Project Name** 38-33 7250415006 Bois Start Depth End Depth A/G 1Lt. 250 ml Glass Jar P/O VOA Identifying Marks of Sample(s) Matrix Date Time Lab Sample ID (Lab Use Only) 5/8/15 1504 C-6 XX C-7 X X 5/8/15 1417 5/8/15 1549 X × C-8 5/8/15 1521 X X C-9 k X 5/8/15 1200 C-10 -006 5/8/15 1202 X C-11 X XX 5/8/15 1227 C -12 5/8/15 1422 C-13 × x x -009 5/8/15 1600 C-14 X 5/8/15 1605 × × C-15 \$100% Rush Same Day ☐ 25% Rush ☐ Normal ☐ 50% Rush Turn around time Received by: (Signature) Date: 5/8//5 Relinquished by (Signature) NOTES: Date: 1815 Time: Direct Bill to Enterprise 1815 Relinquished by (Signature) 5815 Time: Received by (Signature) Attn: Tom Long / Brandon Sullins Non-AFE: N21230 1935 0750 Received by: (Signature) Relinquished by (Signature) Time: Received by: (Signature) Time: Date: Date: Time: Relinquished by (Signature) C - Charcoal tube O - Oil W - Water S - Soil SD - Solid L - Liquid SL - sludge Matrix WW - Wastewater A - Air Bag A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other VOA - 40 ml vial Container

CHAIN OF CUSTODY RECORD Lab use only ANALYSIS Due Date: REQUESTED Laboratory: Hall Environmental **APEX** Address: Albuquerque, NM Temp. of coolers when received (C°): 18 Office Location Aztec NM Contact: Andy Freemen GRO 1DA PO/SO#: Direct Bill to Enterprise Project Manager H. Woods Sampler's Signature Sampler's Name Heather M. Woon 8021 BTEX Heather Woods Project Name Proj. No. 3B-33 7250415006 Start Depth End Depth A/G 1 Lt. 250 250 Aar Jar P/O VOA Identifying Marks of Sample(s) Matrix Date Time Lab Sample ID (Lab Use Only) 4 + 1505413 5/8/15 1603 C-16 + 5/8/15 1609 C-17 Turn around time ☐ Normal ☐ 25% Rush 2100% Rush Same Day ☐ 50% Rush Date: 5/8/15 NOTES: Direct Bill to Enterprise Received by: (Signature) Relinquished by (Signature) Time: Hearth. M. Word 1815 1815 Attn. Tom Long / Brandon Sullins Date: 5815 Diate: Relinquished by (Signature) Received by: (Signature) Time: Time: Mistriballer 0750 1935 Non- AFE: N21230 Relinquished by (Signature) Time: Received by: (Signature) Time: Received by: (Signature) Date: Relinquished by (Signature) Date: Time: C - Charcoal tube SL - sludge O - Oil W - Water S - Soil SD - Solid L - Liquid A - Air Bag Matrix WW - Wastewater A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other Container VOA - 40 ml vial



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 14, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410
TEL: (505) 716-2787

**FAX** 

RE: 3B-33

OrderNo.: 1505412

#### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/9/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505412

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: SP-1

 Project:
 3B-33
 Collection Date: 5/8/2015 2:10:00 PM

 Lab ID:
 1505412-001
 Matrix: MEOH (SOIL)
 Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/11/2015 10:01:42 AM	19155
Surr: DNOP	95.6	57.9-140	%REC	1	5/11/2015 10:01:42 AM	19155
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	5/13/2015 1:01:14 PM	R26157
Surr: BFB	96.2	80-120	%REC	1	5/13/2015 1:01:14 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.031	mg/Kg	1	5/13/2015 1:01:14 PM	R26157
Toluene	ND	0.031	mg/Kg	1	5/13/2015 1:01:14 PM	R26157
Ethylbenzene	ND	0.031	mg/Kg	1	5/13/2015 1:01:14 PM	R26157
Xylenes, Total	ND	0.061	mg/Kg	1	5/13/2015 1:01:14 PM	R26157
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	5/13/2015 1:01:14 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505412

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SP-2

**CLIENT: APEX TITAN Project:** 3B-33 Collection Date: 5/8/2015 2:34:00 PM

Lab ID: 1505412-002 Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS	St. Carrie			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/11/2015 10:23:02 AM	19155
Surr: DNOP	99.3	57.9-140	%REC	1	5/11/2015 10:23:02 AM	19155
<b>EPA METHOD 8015D: GASOLINE RAN</b>	IGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/13/2015 1:29:58 PM	R26157
Surr: BFB	96.7	80-120	%REC	1	5/13/2015 1:29:58 PM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.035	mg/Kg	1	5/13/2015 1:29:58 PM	R26157
Toluene	ND	0.035	mg/Kg	1	5/13/2015 1:29:58 PM	R26157
Ethylbenzene	ND	0.035	mg/Kg	1	5/13/2015 1:29:58 PM	R26157
Xylenes, Total	ND	0.071	mg/Kg	1	5/13/2015 1:29:58 PM	R26157
Surr: 4-Bromofluorobenzene	111	80-120	%REC	1	5/13/2015 1:29:58 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit

Page 2 of 6

- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1505412

Date Reported: 5/14/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SP-3

**CLIENT: APEX TITAN Project:** 3B-33 Collection Date: 5/8/2015 2:42:00 PM

1505412-003 Lab ID: Matrix: MEOH (SOIL) Received Date: 5/9/2015 7:50:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	14	9.8	mg/Kg	1	5/11/2015 10:44:12 AM	19155
Surr: DNOP	99.9	57.9-140	%REC	1	5/11/2015 10:44:12 AM	19155
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	5/13/2015 1:58:35 PM	R26157
Surr: BFB	101	80-120	%REC	1	5/13/2015 1:58:35 PM	R26157
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.033	mg/Kg	1	5/13/2015 1:58:35 PM	R26157
Toluene	ND	0.033	mg/Kg	1	5/13/2015 1:58:35 PM	R26157
Ethylbenzene	ND	0.033	mg/Kg	1	5/13/2015 1:58:35 PM	R26157
Xylenes, Total	ND	0.066	mg/Kg	1	5/13/2015 1:58:35 PM	R26157
Surr: 4-Bromofluorobenzene	112	80-120	%REC	1	5/13/2015 1:58:35 PM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 6

- P Sample pH Not In Range
- Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

39

5.1

10

50.00

5.000

WO#: 1505412

14-May-15

Client:

APEX TITAN

Project:

Diesel Range Organics (DRO)

Surr: DNOP

3B-33

Sample ID MB-19155 Client ID: PBS	SampType: MBLK Batch ID: 19155	TestCode: EPA Method RunNo: 26099	8015D: Diesel Range C	Organics
Prep Date: 5/11/2015	Analysis Date: 5/11/2015	SeqNo: 774167	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	ND 10			
Surr: DNOP	9.2 10.00	92.2 57.9	140	
Sample ID LCS-19155	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range C	Organics
Client ID: LCSS	Batch ID: 19155	RunNo: 26099		
Prep Date: 5/11/2015	Analysis Date: 5/11/2015	SeqNo: 774168	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual

Sample ID 1505412-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: SP-1	Batch	1D: 19	155	F	RunNo: 2	6099				
Prep Date: 5/11/2015	Analysis D	ate: 5/	11/2015	8	SeqNo: 7	74315	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.9	49.41	0	86.9	42.3	146		the letter of	4-30
Surr: DNOP	5.4		4.941		109	57.9	140			

79.0

103

67.8

57.9

130

140

Sample ID 15054	12-001AMSD	SampT	/pe: MS	SD	Tes	tCode: El	PA Method	8015D: Diese	el Range (	Organics	
Client ID: SP-1		Batch	ID: 19	155	F	RunNo: 2	6099				
Prep Date: 5/11	/2015	Analysis D	ate: 5/	11/2015	8	SeqNo: 7	74316	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics	(DRO)	44	9.9	49.46	0	88.9	42.3	146	2.34	28.9	
Surr: DNOP		5.5		4.946		112	57.9	140	0	0	

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 4 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1505412

14-May-15

Client:

**APEX TITAN** 

**Project:** 

3B-33

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

80

Client ID: PBS

Gasoline Range Organics (GRO)

Batch ID: R26157

**PQL** 

5.0

5.0

RunNo: 26157

Prep Date:

Analysis Date: 5/13/2015

Result

ND

960

SeqNo: 776429

Units: mg/Kg

Analyte

120

HighLimit

Qual

Surr: BFB

SampType: LCS

95.5 TestCode: EPA Method 8015D: Gasoline Range

%RPD

Sample ID 2.5UG GRO LCS Client ID: LCSS

Batch ID: R26157

RunNo: 26157

SPK value SPK Ref Val %REC

Units: mg/Kg

Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776430

Gasoline Range Organics (GRO)

Result PQL

SPK value SPK Ref Val 25.00

92.5

%REC LowLimit HighLimit 120

Surr: BFB

23 1000

1000

1000

100

80

%RPD **RPDLimit** 

**RPDLimit** 

Qual

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- Reporting Detection Limit

Page 5 of 6

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1505412 14-May-15

Client:

APEX TITAN

Project:

3B-33

Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: PBS Batch ID: R26157 RunNo: 26157 Prep Date: Analysis Date: 5/13/2015 SeqNo: 776458 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** HighLimit Qual Benzene ND 0.050 ND Toluene 0.050 0.050 ND Ethylbenzene Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 1.000 109 80 120 1.1

Sample ID 100NG BTEX LCS

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS

Batch ID: R26157

RunNo: 26157

Prep Date:	Analysis Date: 5/13/2015			SeqNo: 7	76459	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.050	1.000	0	101	76.6	128	19 19	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 1	
Toluene	1.0	0.050	1.000	0	101	75	124				
Ethylbenzene	1.0	0.050	1.000	0	103	79.5	126				
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124				
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120				

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Sample pH Not In Range Reporting Detection Limit Page 6 of 6



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC	Work Order Number:	1505412		RcptNo:	1
Received by/date:	05/09/15				
Logged By: Lindsay Mangin	5/9/2015 7:50:00 AM		Jumby Harry		
Completed By: Lindsay Mangin	5/9/2015 10:03:36 AM		Simby Hopes		
Reviewed By: 52~	519115		000		
Chain of Custody					
1. Custody seals intact on sample bottles?		Yes	No 🗆	Not Present	
2. Is Chain of Custody complete?		Yes 🖈	No 🗆	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the samp	les?	Yes 🐼	No 🗆	NA 🗆	
5. Were all samples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in proper container(s)?		Yes 🗭	No 🗆		
7. Sufficient sample volume for indicated to	est(s)?	Yes 🐼	No 🗆		
8. Are samples (except VOA and ONG) pro	operly preserved?	Yes	No 🗌		
9. Was preservative added to bottles?		Yes	No 🐼	NA 🗆	
10.VOA vials have zero headspace?		Yes 🗌	No 🗆	No VOA Vials	
11. Were any sample containers received to	oroken?	Yes 🗆	No 🐼	# of preserved	
12.Does paperwork match bottle labels?		Yes	No 🗆	bottles checked for pH:	
(Note discrepancies on chain of custody	)		J. T.		>12 unless noted)
13. Are matrices correctly identified on Char	n of Custody?	Yes 🖃	No 🗆	Adjusted?	
14. Is it clear what analyses were requested	1?	Yes 🗹	No 🗆	Observation	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🖈	No L	Checked by:	
Special Handling (if applicable)					
16. Was client notified of all discrepancies v	with this order?	Yes 🗌	No 🗆	NA 🖝	
		165	NO		
Person Notified:	Date:				1.10
By Whom:	Via:	eMail	Phone  Fax	☐ In Person	
Regarding: Client Instructions:					
17. Additional remarks:					
18. Cooler Information  Cooler No Temp °C Condition		Seal Date	Signed By		
1 1.8 Good	Yes	. 144 - 1504 (1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 1945 - 194			

																	CHAIN OF CUSTODY RE	:CORD
A	PEX					Laboratory:						tal		1	ALYSIS QUESTE		Lab use only Due Date:	
	e Locatio		A	M					•								when received (C°	:1,8
	o zoodao					Contact: A							-		300		1 2 3 4 Page 1 of	5
Proi	ect Manag	ger H.	Wo	od.	5	PO/SO#: D	livec	+ bil	1 40	En	terp	ris	2		/3			
	ler's Name					Sampler's Signa									8	'		
11	added i	1 2				Heather	A	1 11	1- 1	5					3/ 70			
Proj.	No.	N0003	Proje	ect Na	ame	areann	_ "	- n	No/Ty	pe of C	ontain	ners			2 2			
	504150		3	B-	33										1/10/	/ / / / /		-
Matrix		Time	COED	Grab	Identifying Mar	rks of Sample(s)	Start	End	VOA	A/G	250 ml	Glass	D/0	Bro	BOIS THE		Lab Sample ID (Lab Use C	Only)
5	5/8/15	1410			58-1		4					1		X	X	a Yu	1505412-0	100
S	5/8/15	1434			SP-2	Ÿ						l		×	×		-01	77
	5/8/15				50-3							ı		X	~		-0	2
-					0,					2								
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					W. K.		,	r de						7				
The state of the s	round time	Signature)				150% Rush 🔏	100% ed by:	(Sigha	Sam	e De	y	Date	a. 1	Ti	me: No	OTES:		
He	quished by (	1. ube	0	- 5	18/18/18/	15 / m	stre	Ma	ele		5	Date	15	18	15	Divect hil	11 to Enterprise	
Relin	quished by (	Signature)		4		Time: / Receiv	ed by:	(Signa	iture)			Date			me: 750	Attn. To	om long/Brandon Sul : N21230	tins
Relin	Nustra quished by (	Signature)	10x			Time: Receiv	ed by	Signa	iture)		25/1	Date			me:	Non-AFE	: N21230	
Relin	quished by (	(Signature)			Date:	Time: Receiv	red by:	(Signa	ture)			Date	9:	Ti	me:			
Matrix	WV	V - Wastewa	ter		W - Water	S - Soil SD - Soi	lid I	L - Liqui	d A	- Air Ba	ag	С	- Cha	rcoal tu	ibe SL	sludge O - Oil		

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

### State of New Mexico **Energy Minerals and Natural** Resources

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

Form C-141 Revised August 8, 2011

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

#### **Release Notification and Corrective Action OPERATOR** Initial Report Name of Company: Enterprise Field Services LLC Contact: Thomas Long Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Lateral 2A-4 Facility Type: Natural Gas Gathering Pipeline API No. Surface Owner: BLM Mineral Owner: BLM **LOCATION OF RELEASE Unit Letter** Section North/South Township Range Feet from Feet from Eas West County F/M 24 27N 10W Line Line San Juan 1602/3943 1484/805 OIL CONS. DIV DIST. 3 Latitude 36.563485 Longitude 107.850967 Latitude 36.557018 Longitude 107.853125 JUL 27 2015 NATURE OF RELEASE Type of Release: Natural Gas and Condensate Volume of Release: 43.24 Volume Recovered: None MCF Gas; Estimated 10-15 bbls. Condensate Source of Release: Internal Corrosion Date and Hour of Occurrence: Date and Hour of Discovery: 4/23/2015 @ 1:05 p.m. 4/23/2015 @ 2:00 p.m. Was Immediate Notice Given? If YES, To Whom? Courtesy Notification - Corry Smith, NMOCD and Shari Ketcham, BLM ☐ Yes ☐ No ☒ Not Required By Whom? Thomas Long Date and Hour May 11, 2015 @ 7:19 a.m. Was a Watercourse Reached? If YES. Volume Impacting the Watercourse ☐ Yes ☒ No If a Watercourse was Impacted, Describe Fully.\* Describe Cause of Problem and Remedial Action: On April 23, 2015, during routine operations a field operation technician identified a two natural gas releases on Lateral 2A-4 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were completed by May 21, 2015. Describe Area Affected and Cleanup Action Taken.\* The contaminant masses were removed by mechanical excavation. The northern excavation measured approximately 23 feet long by 19 feet wide by 20 feet deep. Approximately 323 cubic yards of hydrocarbon impacted soil were excavated. The southern excavation measured approximately 25 feet long by 14 feet wide by 9 feet deep. Approximately 116 cubic yards of hydrocarbon impacted soil were excavated. All impacted soil was transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141 I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION Signature: Approved by Environmental Specialist: Printed Name: Jon E. Fields Approval Date: Title: Director, Environmental **Expiration Date** E-mail Address:jefields@eprod.com Conditions of Approval: Attached | Date: 7 - 22 - 2015 F \* Attach Additional Sheets If Necessary Phone: (713)381-6684

#NCS 151323 7838

Enterprise Products
Lateral 2A-4 North Pipeline Release
Latitude North 36.563485°, Longitude West -107.850967°
SE/NW (Unit F), Section 24, T27N, R10W
San Juan County, New Mexico
June 10, 2015



Submitted To: Enterprise Products Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401 Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535

OIL CONS. DIV DIST. 3



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### 1.0 Executive Summary

From May 13, through May 21, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Lateral 2A-4 North natural gas pipeline. The release was initially reported to SMA on April 24, 2015 and is a result of internal corrosion of the six-inch natural gas pipeline. The table below summarizes information about the pipeline remediation activities.

Name	THE BYE	Lateral 2A-4 North Pipeline Release									
THE RESERVE OF THE PERSON OF T	Latitude	/Longitude			ship, Range						
Location	36.563485°	-107.850967°   SE/NW   Section   T			T 27N, R 10W						
Date Reported to SMA	April 24, 2015										
Reported by	Tom Long										
Land Owner	Bureau of Land	d Management (B	LM)								
Reported To	NM Oil Conser	vation Division (N	MOCD) an	d BLM							
Diameter of Pipeline	6 inches										
Source of Release	Internal Corros	sion									
Release Contents	Natural Gas Li	quids/Condensate									
Release Volume	Unknown		62	1 4 2 5 1 67 1							
Nearest Waterway		175' east of an ur iated with the Sar			enta Canyon, a						
Depth to Groundwater	Estimated to b	e less than 50 fee	t	THE REAL PROPERTY.							
Nearest Domestic Water Source	Greater than 1	,000 feet									
NMOCD Ranking	30										
SMA Response Dates	May 13, 14, 15	and 21, of 2015	E. A.								
Subcontractors	West States Er	nergy Contractors									
Disposal Facility	Envirotech										
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	323 (Reported	on Completed C-	138)								

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Lateral 2A-4 North pipeline release site. The site is located in SE/NW (Unit F), Section 24, T27N, R10W, 36.563485°, -107.850967°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

Lateral 2A-4 North
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG21

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located approximately 175 feet east of an unnamed ephemeral wash of the San Juan River, in an area owned by the BLM with an elevation of approximately 6,180 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and eighteen wells were found within a one mile radius of the site. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 30 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### 4.0 Summary of Field Activities

On May 13, 2015, SMA responded to a hydrocarbon release associated with the Lateral 2A-4 pipeline. West States Energy Contractors (WSEC) was already on site with a rubber tired backhoe excavating the pipeline for inspection and repair. The release was determined to be a result of internal corrosion of the 6" diameter spiral weld pipe, and a clamp was installed. SMA guided the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). The extent of the excavation was increased to approximately 18 feet long, 8' wide and 6' deep. Field screening determined that more excavation was required. The extent of the excavation was increased to approximately 23' x 16' x 12' deep, however the base and the west wall still showed elevated PID readings. It was determined that a larger excavator was necessary so all parties demobilized.

SMA returned to the site on May 14, 2015 to continue oversight and guidance of the remedial excavation. An extended-reach track mounted excavator was on site and SMA continued to guide the excavation activities by collecting composite soil samples for field screening with a calibrated PID. Field screening results indicated the extents of the contamination had been removed and sampling activities where scheduled with the BLM.

SMA returned to site on May 15, 2015 to collect final samples for laboratory analysis. Five point composite samples were collected with a track mounted excavator. No representatives were present to monitor the sampling activities. The final excavation measured approximately 23 feet long by 19 feet wide with a depth of 20 feet, covering an area of approximately 437 square feet. A detailed excavation map is enclosed as Figure 3. In total approximately 323 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soil was transported to Envirotech Landfarm, near Bloomfield, NM. Soil disposal documentation is included in Appendix B.

At the request of the BLM, SMA returned to site on May 21, 2015 to collect a sample from the area beneath where the excavated material was stockpiled to verify no contamination from the stockpile leached in to the surface soils.

Lateral 2A-4 North Pipeline Release San Juan County, New Mexico SMA Reference # 51236999 BG21

A total of six soil samples were submitted for laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the release point, the extent of the excavation, laboratory soil sample locations, and laboratory results.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). All sample analytes were below laboratory detection limits with the exception of SC-1 N Wall @ 0-20' and SC-3 E Wall @ 0-20'. These samples had results of 0.12 mg/kg and 0.18 mg/kg total xylenes respectively.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action at the Lateral 2A-4 North pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

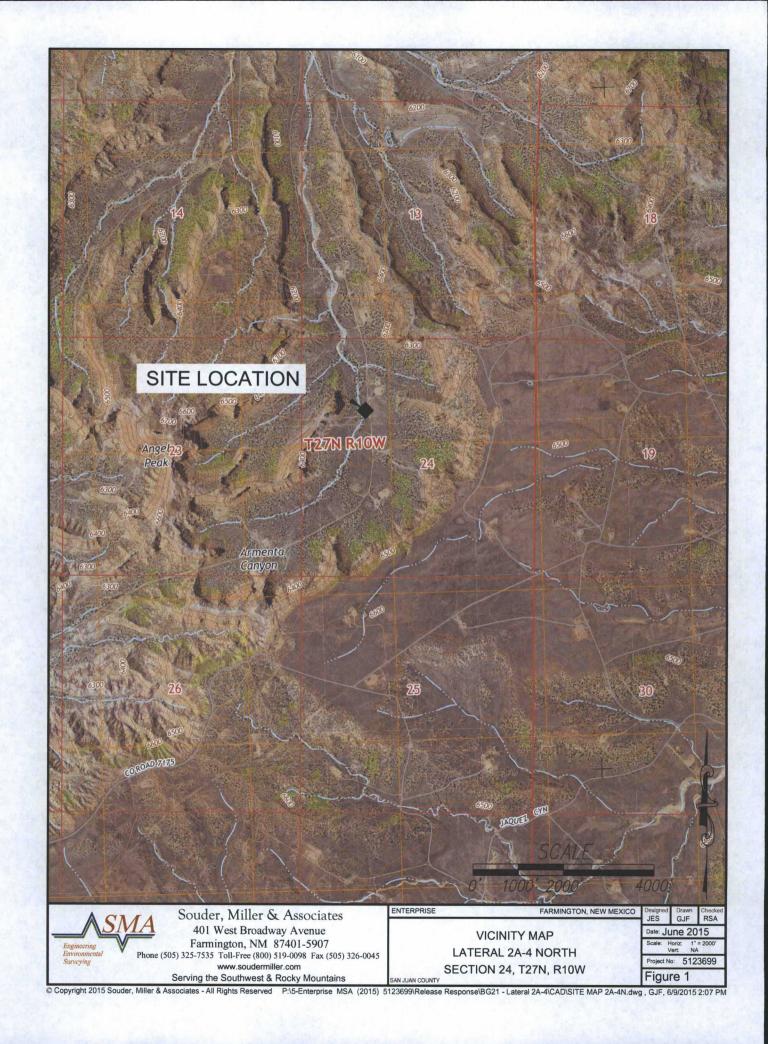
Reviewed by:

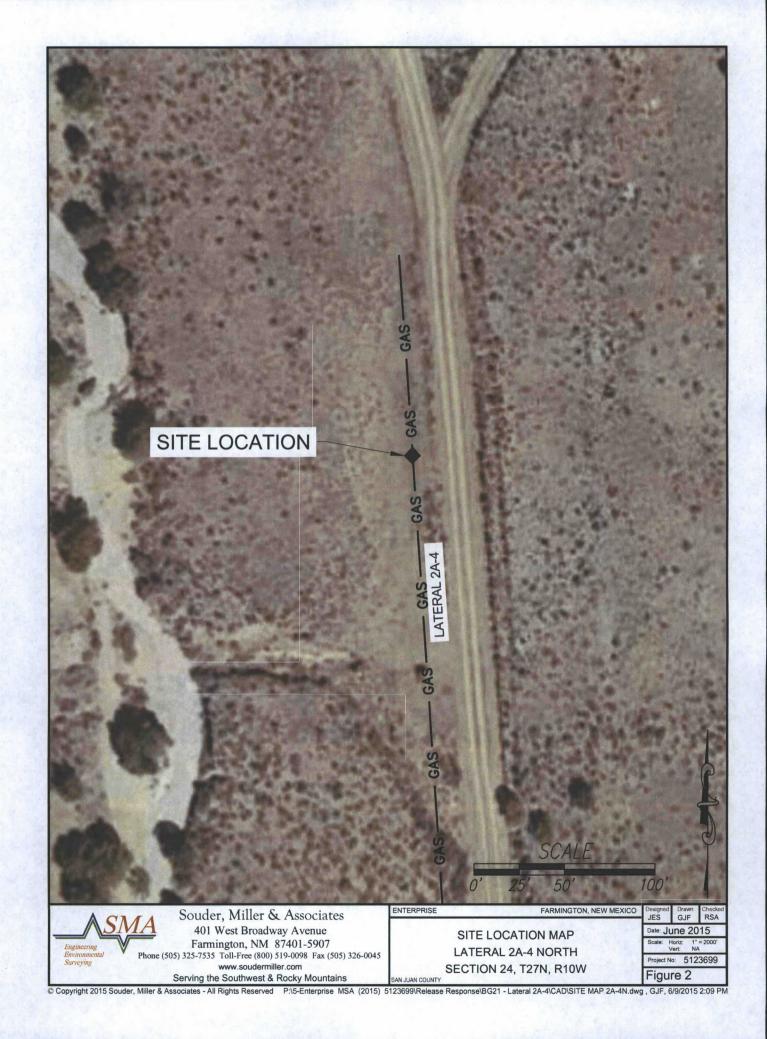
SOUDER, MILLER & ASSOCIATES

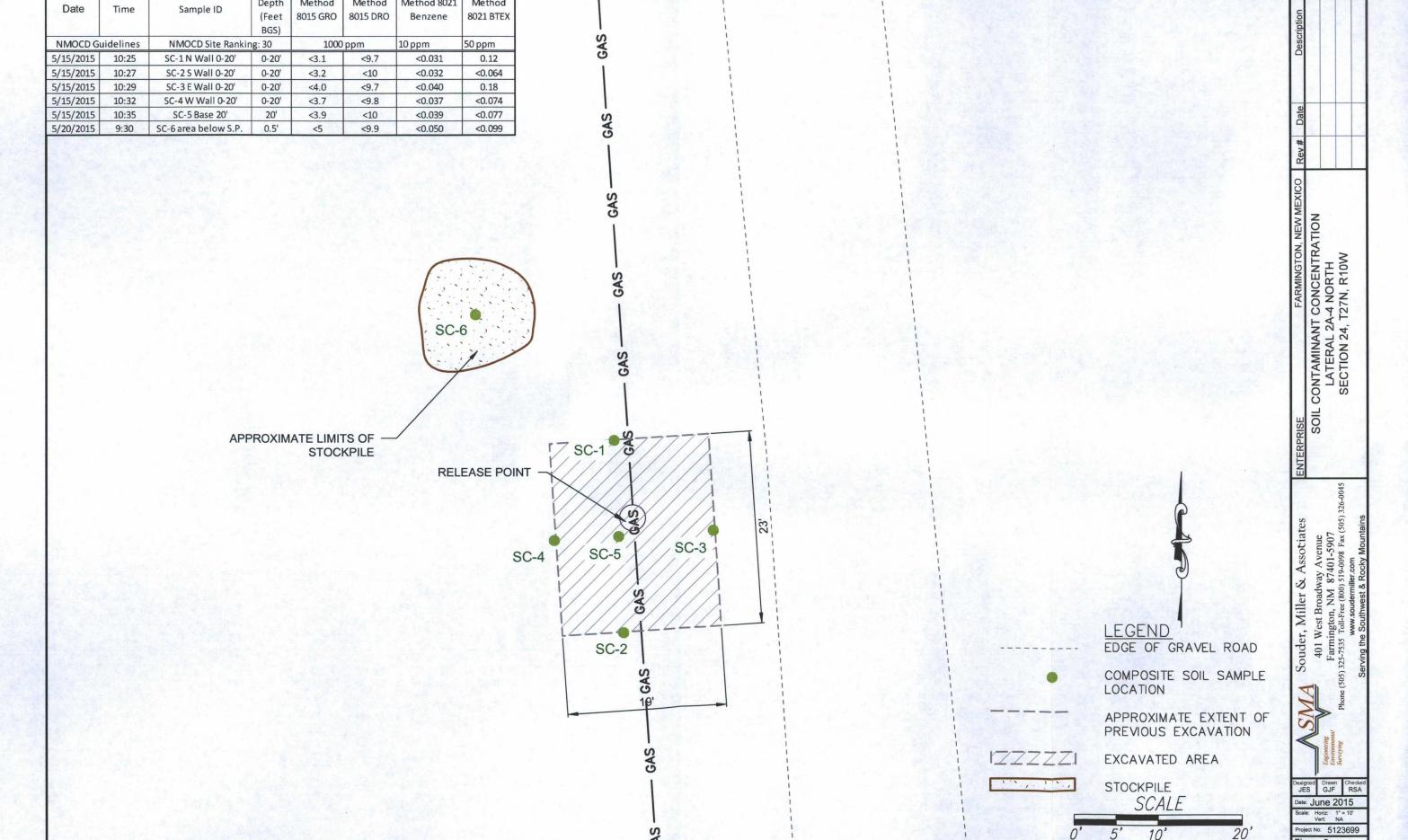
Jesse Sprague Staff Scientist Reid Allan, P.G.

Vice President/Principal Scientist

**Figures** 







**Tables** 

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	USGS Topo Maps;	Sites located in southerr Armenta Canyon near
50' to 99' = 10		Google Earth Elevation Difference from the site and the unnamed	unnaamed wash; Site elevation is approximately 10 feet
>100' = 0		wash to the west	above unnamed wash
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		USGS Topo Maps;	Unnamed wash is
200' - 1000' = 10	10	Google Earth (An unnamed wash ~300' to the west); PRCC	located approximately 300 feet to the east of
>1000' = 0		Mapping Tool	western release
Ranking Criteria for Horizintal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200'		NIM State Francis	No Wells in Sections 11,
from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	12, 14, 23 or 24 of 27N- 10W and Sections 7, 18 and 19 of 27N-09W
Total Site Ranking		30	
ioil Remedation Standards	0 to 9	10 to 19	>19
EMESTICAL CONTRACTOR	40 0004	40 004	40 004
Benzene BTEX	10 PPM 50 PPM	10 PPM 50 PPM	10 PPM 50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



# Enterprise Products Table 3: Summary of Laboratory Analysis Results in mg/Kg

Lateral 2A-4 North Pipeline Release 6/10/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD G	uidelines	NMOCD Site Rankir	ng: 30	1000	) ppm	10 ppm	50 ppm
5/15/2015	10:25	SC-1 N Wall 0-20'	0-20'	<3.1	<9.7	<0.031	0.12
5/15/2015	10:27	SC-2 S Wall 0-20'	0-20'	<3.2	<10	<0.032	<0.064
5/15/2015	10:29	SC-3 E Wall 0-20'	0-20'	<4.0	<9.7	<0.040	0.18
5/15/2015	10:32	SC-4 W Wall 0-20'	0-20'	<3.7	<9.8	<0.037	<0.074
5/15/2015	10:35	SC-5 Base 20'	20'	<3.9	<10	<0.039	<0.077
5/20/2015	9:30	SC-6 area below S.P.	0.5'	<5	<9.9	<0.050	<0.099



SMA Project # 5123699 BG 21

Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Lateral 2A-4 North Pipeline



**Photo 1:** Lateral 2A-4 North site during initial excavation for pipeline inspection and repair, photo aspect to south west.



**Photo 2:** Excavation with rubber tire backhoe after clamp was installed. The excavation quickly became to large for the equipment on site and a track mounted excavator was scheduled for the following day.

# Site Photographs Enterprise Products Lateral 2A-4 North Pipeline



**Photo 3:** Lateral 2A-4 North excavation at largest extent, soil consisted of loose, fine to medium grained sands, with little to no coherence.



**Photo 4:** Excavation base at maximum depth of 20' BGS after sampling activities, loose material visible is result of collecting sidewall samples. Base sample was collected first.

Appendix B
Soil Disposal Documentation

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District 11 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

Form C-138 Revised August 1, 2011

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

E	Enterprise Field Services, LLC, 614 Reilly Avenue	ue, Farmingto	n, NM 87401		
	Originating Site: Lateral 2A-4 Pipeline			Mar	12015
	Location of Material (Street Address, City, St. Unit Letter F, Section 24, T27N, R10W; 36.56			1	
4. S 5. E	Source and Description of Waste: Hydrocarbo Estimated Volume 50 yd bbls Known	n impacted so Volume (to be	ils associated with a rele e entered by the operato	ease from a natural r at the end of the h	gas pipeline. naul) 483 yd³/ bbls
certif	omas Long representative or author representative or representative or author representative or representativ	rized agent for	Act (RCRA) and the US	ervices, LLC do	hereby otection Agency's July 1988
1	RCRA Exempt: Oil field wastes generated to exempt waste. Operator Use Only: Waste	rom oil and g	as exploration and produ	action operations as	
	RCRA Non-Exempt: Oil field waste which characteristics established in RCRA regulations, subpart D, as amended. The following documen the appropriate items)	40 CFR 261.2	21-261.24, or listed haza	irdous waste as def	ined in 40 CFR, part 261,
	ASDS Information   RCRA Hazardous Wass	te Analysis	☐ Process Knowledge	Other (Provid	e description in Box 4)
	GENERATOR 19.15.36.15 WASTE TI  5-13-15 , representative for Enterprise rator Signature plete the required testing/sign the Generator Was	se Field Service	es, <u>LLC</u> authorize Envi		NDFARMS
of the	representative for sentative samples of the or field waste have been been found to conform to the specific requirement of the specific require	ents applicable trate the above	to landfarms pursuant	to Section 15 of 19	15.36 NMAC. The results
6	Fransporter: West State Energy Compactors	11BI	, Doug Foutz	Duly	234.0

Address of Facility: Hilltop, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfill ☐ Other

Waste Acceptance Status:

SIGNATURE:

**APPROVED** DENIED (Must Be Maintained As Permanent Record)

TITLE: Waste Coodinator DATE: 5-14 PRINT NAME:

> TELEPHONE NO.: 505-632-0615 Surface Waste Management Facility Authorized Agent

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 19, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Lateral 2A-4 North OrderNo.: 1505763

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/16/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505763

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-1 N Wall 0-20'

Project: Lateral 2A-4 North

Collection Date: 5/15/2015 10:25:00 AM

Lab ID: 1505763-001

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/18/2015 10:17:23 AM	19273
Surr: DNOP	92.0	57.9-140	%REC	1	5/18/2015 10:17:23 AM	19273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	5/18/2015 10:07:43 AM	19255
Surr: BFB	91.7	80-120	%REC	1	5/18/2015 10:07:43 AM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: RAA
Benzene	ND	0.031	mg/Kg	1	5/18/2015 10:07:43 AM	19255
Toluene	ND	0.031	mg/Kg	1	5/18/2015 10:07:43 AM	19255
Ethylbenzene	ND	0.031	mg/Kg	1	5/18/2015 10:07:43 AM	19255
Xylenes, Total	0.12	0.062	mg/Kg	1	5/18/2015 10:07:43 AM	19255
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	5/18/2015 10:07:43 AM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505763

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 S Wall 0-20'

Project: Lateral 2A-4 North

Collection Date: 5/15/2015 10:27:00 AM

Lab ID: 1505763-002

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/18/2015 10:38:39 AM	19273
Surr: DNOP	94.0	57.9-140	%REC	1	5/18/2015 10:38:39 AM	19273
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	3.2	mg/Kg	1	5/18/2015 10:36:30 AM	19255
Surr: BFB	90.9	80-120	%REC	1	5/18/2015 10:36:30 AM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	RAA
Benzene	ND	0.032	mg/Kg	1	5/18/2015 10:36:30 AM	19255
Toluene	ND	0.032	mg/Kg	1	5/18/2015 10:36:30 AM	19255
Ethylbenzene	ND	0.032	mg/Kg	1	5/18/2015 10:36:30 AM	19255
Xylenes, Total	ND	0.064	mg/Kg	1	5/18/2015 10:36:30 AM	19255
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	5/18/2015 10:36:30 AM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505763

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3 E Wall 0-20'

Project: Lateral 2A-4 North

Collection Date: 5/15/2015 10:29:00 AM

Lab ID: 1505763-003

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/18/2015 11:00:10 AM	19273
Surr: DNOP	93.6	57.9-140	%REC	1	5/18/2015 11:00:10 AM	19273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	5/18/2015 11:05:16 AM	19255
Surr: BFB	93.5	80-120	%REC	1	5/18/2015 11:05:16 AM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	RAA
Benzene	ND	0.040	mg/Kg	1	5/18/2015 11:05:16 AM	19255
Toluene	ND	0.040	mg/Kg	1	5/18/2015 11:05:16 AM	19255
Ethylbenzene	ND	0.040	mg/Kg	1	5/18/2015 11:05:16 AM	19255
Xylenes, Total	0.18	0.081	mg/Kg	1	5/18/2015 11:05:16 AM	19255
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	5/18/2015 11:05:16 AM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505763

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 W Wall 0-20'

Project: Lateral 2A-4 North

Collection Date: 5/15/2015 10:32:00 AM

Lab ID: 1505763-004

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/18/2015 11:21:23 AM	19273
Surr: DNOP	97.0	57.9-140	%REC	1	5/18/2015 11:21:23 AM	19273
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	5/18/2015 11:34:00 AM	19255
Surr: BFB	90.8	80-120	%REC	1	5/18/2015 11:34:00 AM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: RAA
Benzene	ND	0.037	mg/Kg	1	5/18/2015 11:34:00 AM	19255
Toluene	ND	0.037	mg/Kg	1	5/18/2015 11:34:00 AM	19255
Ethylbenzene	ND	0.037	mg/Kg	1	5/18/2015 11:34:00 AM	19255
Xylenes, Total	ND	0.074	mg/Kg	1	5/18/2015 11:34:00 AM	19255
Surr: 4-Bromofluorobenzene	99.2	80-120	%REC	1	5/18/2015 11:34:00 AM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505763

Date Reported: 5/19/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 Base @ 20'

Project: Lateral 2A-4 North Collection Date: 5/15/2015 10:35:00 AM

Lab ID: 1505763-005 Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/18/2015 11:42:43 AM	19273
Surr: DNOP	98.6	57.9-140	%REC	1	5/18/2015 11:42:43 AM	19273
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	5/18/2015 12:02:39 PM	19255
Surr: BFB	90.9	80-120	%REC	1	5/18/2015 12:02:39 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: RAA
Benzene	ND	0.039	mg/Kg	1	5/18/2015 12:02:39 PM	19255
Toluene	ND	0.039	mg/Kg	1	5/18/2015 12:02:39 PM	19255
Ethylbenzene	ND	0.039	mg/Kg	1	5/18/2015 12:02:39 PM	19255
Xylenes, Total	ND	0.077	mg/Kg	1	5/18/2015 12:02:39 PM	19255
Surr: 4-Bromofluorobenzene	100	80-120	%REC	1	5/18/2015 12:02:39 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505763

19-May-15

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Sample ID MB-19273 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: Batch ID: 19273 RunNo: 26248 Prep Date: 5/18/2015 Analysis Date: 5/18/2015 SeqNo: 779456 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10

Surr: DNOP 9.2 10.00 91.6 57.9 140

Sample ID LCS-19273 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 19273 RunNo: 26248 Prep Date: 5/18/2015 Analysis Date: 5/18/2015 SeqNo: 779482 Units: mg/Kg Result SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 41 10 50.00 0 82.4 67.8 130 Surr: DNOP 57.9 4.2 5.000 83.2 140

Sample ID 1505763-001AMS TestCode: EPA Method 8015D: Diesel Range Organics SampType: MS Client ID: SC-1 N Wall 0-20' Batch ID: 19273 RunNo: 26248 Prep Date: 5/18/2015 Analysis Date: 5/18/2015 SeqNo: 779632 Units: mg/Kg SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit **HighLimit** Qual 43 9.7 48.31 0 88.6 42.3 146 Diesel Range Organics (DRO) 57.9 Surr: DNOP 4.3 4.831 89.8 140

Sample ID 1505763-001AMSD SampType: MSD TestCode: EPA Method 8015D: Diesel Range Organics Client ID: SC-1 N Wall 0-20' Batch ID: 19273 RunNo: 26248 Prep Date: 5/18/2015 Analysis Date: 5/18/2015 SeqNo: 779633 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 42 9.7 87.3 42.3 146 1.45 28.9 48.36 0 Surr: DNOP 4.4 4.836 90.8 57.9 140 0 0

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505763

19-May-15

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Sample ID MB-19255 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 19255 RunNo: 26255

Prep Date: 5/15/2015 Analysis Date: 5/18/2015 SeqNo: 779640 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Gasoline Range Organics (GRO)
 ND
 5.0

 Surr: BFB
 890
 1000
 89.4
 80
 120

Sample ID LCS-19255 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 19255 RunNo: 26255

Prep Date: 5/15/2015 Analysis Date: 5/18/2015 SeqNo: 779851 Units: mg/Kg

Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 5.0 25.00 0 87.6 64 130 Surr: BFB 980 1000 97.6 80 120

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

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10 May 1

WO#:

19-May-15

1505763

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Surr: 4-Bromofluorobenzene

Sample ID MB-19255 SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: Batch ID: 19255 RunNo: 26255 Prep Date: 5/15/2015 Analysis Date: 5/18/2015 SeqNo: 779647 Units: mg/Kg PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit **HighLimit** Qual Benzene ND 0.050 0.050 Toluene ND Ethylbenzene ND 0.050 Xylenes, Total ND 0.10

101

80

120

1.000

Sample ID LCS-19255 TestCode: EPA Method 8021B: Volatiles SampType: LCS Client ID: LCSS Batch ID: 19255 RunNo: 26255 Prep Date: 5/15/2015 Analysis Date: 5/18/2015 SegNo: 779908 Units: mg/Kg PQL SPK value SPK Ref Val %REC **HighLimit** %RPD **RPDLimit** Analyte Result LowLimit Qual Benzene 1.2 0.050 1.000 0 115 76.6 128 Toluene 0.050 1.000 0 110 75 124 1.1 0 126 Ethylbenzene 0.050 1.000 113 79.5 1.1 Xylenes, Total 3.4 0.10 3.000 0 113 78.8 124 Surr: 4-Bromofluorobenzene 80 120 1.2 1.000 117

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquergue, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

SMA-FARM Work Order Number: 1505763 RcptNo: 1 Client Name: Received by/date: Logged By: Lindsay Mangin 5/16/2015 10:00:00 AM 5/16/2015 10:10:07 AM Completed By: **Lindsay Mangin** Reviewed By: \1 Chain of Custody Yes 🗌 No Not Present 1 Custody seals intact on sample bottles? Yes No Not Present 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes 4. Was an attempt made to cool the samples? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 No 🗌 Sample(s) in proper container(s)? No . 7. Sufficient sample volume for indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? No 🖈 NA [ 9. Was preservative added to bottles? Yes Yes No 🗌 No VOA Vials 10.VOA vials have zero headspace? Yes 🗌 No 🖈 11. Were any sample containers received broken? # of preserved bottles checked for pH: No . 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗌 14 Is it clear what analyses were requested? No \_ Checked by: 15. Were all holding times able to be met? Yes (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗌 NA 16. Was client notified of all discrepancies with this order? Person Notified: Date: By Whom: eMail Phone Fax In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition | Seal Intact | Seal No Seal Date 3.3 Good Yes

Chain-of-Custody Record			Turn-Around	Time:								=	NIV	TE	20	NR	1EN	ITA		
		AM		□ Standard	Rush	some Day				-					mrs.	Sec. person		RA		
				Project Name			-50				www	v.hal	lenv	ironi	ment	tal.co	om			
Vailing	Address	401	W Broadway	Latera	1 2A	-4 North	4901 Hawkins NE - Albuquerque, NM 87109													
-	miret		0	Project #:				Te	el. 50	5-34	15-3	975	F	ax	505-	345	4107			
Phone :		1202 1700	25 7535	N	21234	Series In	Analysis Request													
email o	r Fax#:		ostale soudsmiller.com	Project Manager:				(1) (1) (1) (1) (1) (1) (1) (1)												
2A/QC I	Package:			Steven Moskal				(Gas only)	RO MARO			(3)		D4,S	CB's	- 9				
□ Stan	dard		☐ Level 4 (Full Validation)				TMB's (8021)	9	8			SIMS)	n 1	2,P(	32 P	6				
Accredi  ☐ NEL		□ Othe	er	Sampler: Jesse Browne On Ice: 17 Yes 12 No. 1				+ TPH	GRO/D	418.1)	504.1)	8270	(0)	O3,NO	s / 808		(A)			or N)
□ EDD	(Type)_			Sample Tem	derature:	3.3	*	BE			po E	0 0	etak	Z	cide	A	- N	-		3
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX)+MTBE	BTEX + MTBE	TPH 8015B	TPH (Method	EDB (Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
15-15	1025	501	5c-1 N WILL 0-20'	1402 moh	MOH	-001	X		X							1				
	1027		SK-2 S wall 0-201	1902 MOY		-002	X		X											
	1029		5c-3 E wall 0-201	1402 WOLL		4003	X		X											
1	1032					-1004	X		X											
	1035	d	5C-5 Base @ Zo'	400 NeOH	V	-005	X		X											
Cy of	•										SE SE									
				6			-											-		
Date: 15/s Date:	Time: 1705 Time: 1740	Relinquist Relinquist	Esp	Received by:	Doek	Date Time  5/5/5/1705  Date Time  (5/16/15/100()	F	mark	Co	_					0					6



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 29, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Lateral 2A-4 North OrderNo.: 1505A03

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505A03

Date Reported: 5/29/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Lateral 2A-4 North

Lab ID: 1505A03-001

Client Sample ID: SC-6 below S.P.

Collection Date: 5/21/2015 9:30:00 AM

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/27/2015 2:55:17 PM	19380
Surr: DNOP	97.9	57.9-140	%REC	1	5/27/2015 2:55:17 PM	19380
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/27/2015 1:47:51 AM	19360
Surr: BFB	90.1	75.4-113	%REC	1	5/27/2015 1:47:51 AM	19360
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.050	mg/Kg	1	5/27/2015 1:47:51 AM	19360
Toluene	ND	0.050	mg/Kg	1	5/27/2015 1:47:51 AM	19360
Ethylbenzene	ND	0.050	mg/Kg	1	5/27/2015 1:47:51 AM	19360
Xylenes, Total	ND	0.099	mg/Kg	1	5/27/2015 1:47:51 AM	19360
Surr: 4-Bromofluorobenzene	95.8	80-120	%REC	1	5/27/2015 1:47:51 AM	19360

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 4

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

5.5

WO#: 1505A03

29-May-15

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Sample ID MB-19380 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 19380 RunNo: 26424 Prep Date: 5/26/2015 Analysis Date: 5/27/2015 SeqNo: 785313 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Surr: DNOP 12 10.00 123 57.9 140

Sample ID LCS-19380 TestCode: EPA Method 8015D: Diesel Range Organics SampType: LCS Client ID: LCSS Batch ID: 19380 RunNo: 26424 Prep Date: 5/26/2015 SeqNo: 785374 Analysis Date: 5/27/2015 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 60 10 67.8 50.00 119 130 Surr: DNOP 6.1 5.000 122 57.9 140

Sample ID MB-19416 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 19416 RunNo: 26455 Prep Date: 5/27/2015 Analysis Date: 5/28/2015 SeqNo: 786402 Units: %REC Result Analyte SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Surr: DNOP 11 10.00 108 57.9 140

Sample ID LCS-19416 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 19416 RunNo: 26455 Prep Date: 5/27/2015 Analysis Date: 5/28/2015 SeqNo: 786403 Units: %REC Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** 

110

57.9

140

5.000

#### Qualifiers:

Surr: DNOP

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 2 of 4

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505A03

29-May-15

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Sample ID MB-19360 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS Batch ID: 19360 RunNo: 26397

Prep Date: 5/22/2015 Analysis Date: 5/26/2015 SeqNo: 784808 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Gasoline Range Organics (GRO)
 ND
 5.0

 Surr: BFB
 900
 1000
 90.3
 75.4
 113

 Sample ID
 LCS-19360
 SampType:
 LCS
 TestCode:
 EPA Method
 8015D:
 Gasoline Range

 Client ID:
 LCSS
 Batch ID:
 19360
 RunNo:
 26397

 Prep Date:
 5/22/2015
 Analysis Date:
 5/26/2015
 SeqNo:
 784809
 Units:
 mg/Kg

Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 25 100 5.0 25.00 0 64 130

Surr: BFB 1000 1000 99.7 75.4 113

Sample ID MB-19388 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 19388 RunNo: 26441

Prep Date: 5/26/2015 Analysis Date: 5/27/2015 SeqNo: 785675 Units: %REC

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Surr: BFB 900 1000 89.6 75.4 113

Sample ID LCS-19388 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 19388 RunNo: 26441

Prep Date: 5/26/2015 Analysis Date: 5/27/2015 SeqNo: 785676 Units: %REC

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Surr: BFB 990 1000 99.3 75.4 113

#### **Oualifiers:**

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 4

## Hall Environmental Analysis Laboratory, Inc.

0.98

1.1

WO#: 1505A03

29-May-15

Client: Souder, Miller and Associates

Project: Lateral 2A-4 North

Sample ID MB-19360 SampType: MBLK TestCode: EPA Method 8021B: Volatiles
Client ID: PBS Batch ID: 19360 RunNo: 26397

Prep Date: 5/22/2015 Analysis Date: 5/26/2015 SeqNo: 784841 Units: mg/Kg

**RPDLimit** PQL SPK value SPK Ref Val %REC %RPD Qual Analyte Result LowLimit **HighLimit** Benzene ND 0.050 0.050 Toluene ND 0.050 Ethylbenzene ND Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 1.000 101 80 120 1.0

Sample ID LCS-19360 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 19360 RunNo: 26397 Prep Date: 5/22/2015 Analysis Date: 5/26/2015 SeqNo: 784842 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Benzene 1.0 0.050 1.000 0 100 76.6 128 Toluene 0.98 0.050 1.000 0 97.9 75 124 Ethylbenzene 0.99 0.050 1.000 0 98.7 79.5 126 98.4 Xylenes, Total 3.0 0.10 3.000 78.8 124 Surr: 4-Bromofluorobenzene 1.000 110 80 120 1.1

TestCode: EPA Method 8021B: Volatiles Sample ID MB-19388 SampType: MBLK Client ID: Batch ID: 19388 RunNo: 26441 SegNo: 785699 Units: %REC Prep Date: 5/26/2015 Analysis Date: 5/27/2015 %REC SPK value SPK Ref Val LowLimit %RPD **RPDLimit** Qual Analyte Result PQL HighLimit

1.000

1.000

Sample ID LCS-19388 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: Batch ID: 19388 RunNo: 26441 Prep Date: Analysis Date: 5/27/2015 SeqNo: 785700 Units: %REC 5/26/2015 **RPDLimit** %REC %RPD Analyte Result PQL SPK value SPK Ref Val LowLimit **HighLimit** Qual

97.9

108

80

80

120

120

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range

Surr: 4-Bromofluorobenzene

Surr: 4-Bromofluorobenzene

- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com SMA-FARM RcptNo: 1 Work Order Number: 1505A03 Client Name: Received by/date: Logged By: **Lindsay Mangin** 5/22/2015 6:10:00 AM 5/22/2015 9:19:02 AM Completed By: **Lindsay Mangin** 05/22/15 Reviewed By: IO Chain of Custody Yes No Not Present 1 Custody seals intact on sample bottles? Yes No 🗌 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA 🗌 No . 4. Was an attempt made to cool the samples? Yes No 🗌 NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? No 🖈 NA 🔲 Yes 9. Was preservative added to bottles? No VOA Vials Yes 10.VOA vials have zero headspace? No Yes No 🖈 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗌 14. Is it clear what analyses were requested? No 🗌 Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No 🗌 NA Person Notified: Date: By Whom: eMail Phone Fax In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By

3.8

Good

Yes

C	hain-	of-Cu	stody Record	Turn-Around	Time:					н	A		F	NV	TE	20	NI	IFN	ITA	
Client:	<	MA		Standard	□ Rush						1000	1000							OR	
M. C				Project Name	):					V	vww	,hal	lenv	ironr	ment	tal.co	om			
	1		w Broadway	Project #:	2A-	4 North		4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107												
	nington		M 87401 U	N212	2 4			Tel	. 508	0-34	J-38	and the last of th	-	/sis	_	CANADA	-	13.5	Disp	98.4
Phone ::			392 0594					3	1											
		Stever.	mostale soudinity.com				121)	on	1			0		SO,	B's					
□ Star	Package:		□ Level 4 (Full Validation)	Steve Moskal			*s (8021)	H (Gas	8			SIMS)		2,PO4	32 PCB's					
Accred		□ Othe	er	Sampler: On Ice:	J. Spra	( No		+ TPI	RO/E	118.1)	504.1)	r 8270	S	ON'EO	ss / 808		OA)		pt.	or N)
	(Type)			Sample Tem	perature:	3.8	A	TBE	9	pol	pou	100	etal	CiN	cide	(A)	)/-ic	3		S
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1505A03	BTEX+ ME	BTEX + MTBE + TPH (Gas only)	TPH 8015B GRO / DRO / JAMPO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
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# Enterprise Products Lateral 2A-4 South Pipeline Release Latitude North 36.557018°, Longitude West -107.853125° SW/SW (Unit M), Section 24, T27N, R10W San Juan County, New Mexico June 10, 2015



Submitted To: Enterprise Products Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401 Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535

OIL CONS. DIV DIST. 3
JUL 27 2015



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#### 1.0 Executive Summary

From May 13, through May 21, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Lateral 2A-4 South natural gas pipeline. The release was initially reported to SMA on April 24, 2015 and is a result of internal corrosion of the eight-inch natural gas pipeline. The table below summarizes information about the pipeline remediation activities.

Name	Lateral 2A-4 South Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
	36.557018°	-107.853125°	SW/SW (Unit M)	Section 24	T27N, R10W
Date Reported to SMA	April 24, 2015				
Reported by	Tom Long				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD) and BLM				
Diameter of Pipeline	8 inches				
Source of Release	Internal Corrosion				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume	Unknown				
Nearest Waterway	Located about 540' south of an unnamed wash in Armenta Canyon, a tributary associated with the San Juan River.				
Depth to Groundwater	Estimated to be less than 50 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	30				
SMA Response Dates	May 13, 14, 15 and 21, of 2015				
Subcontractors	West States Energy Contractors				
Disposal Facility	Envirotech				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	116 (Reported on Completed C-138)				

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Lateral 2A-4 South pipeline release site. The site is located in SW/SW (Unit M), Section 24, T27N, R10W, 36.557018°, -107.853125°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

Lateral 2A-4 South Pipeline Release San Juan County, New Mexico SMA Reference # 51236999 BG21

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located approximately 540' south of an unnamed ephemeral wash of the San Juan River, in an area owned by the BLM with an elevation of approximately 6,243 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and eighteen wells were found within a one mile radius of the site. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 30 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### 4.0 Summary of Field Activities

On May 13, 2015, SMA responded to two hydrocarbon releases associated with the Lateral 2A-4 pipeline. West States Energy Contractors (WSEC) was on the north site with a rubber tired backhoe. After excavation on the north release, WSEC and SMA mobilized to the south release location to excavate the pipeline for inspection and repair. The release was determined to be a result of internal corrosion of the 8" diameter spiral weld pipe, and a clamp was installed. SMA guided the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). The extent of the excavation was increased to approximately 18 ft long, 7 ft wide and 6 ft deep. Field screening determined that more excavating was required. It was determined that a larger excavator was necessary to handle the hard clay rich soils.

SMA returned to the site on May 14, 2015 to guide the continued excavation of the pipeline. An extended-reach track mounted excavator was on site and SMA continued to guide the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). Field screening results indicated the extents of the contamination had been removed and sampling activities where scheduled with the BLM.

SMA returned to site on May 15, 2015 to collect final samples for laboratory analysis. Five point composite samples were collected with a track mounted excavator. A representative from BLM was present for sampling activities. The final excavation measured approximately 25 ft long by 14 ft wide with a depth of 9 ft, covering an area of approximately 350 square feet. A detailed excavation map is enclosed as Figure 3. In total approximately 116 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soil was transported to Envirotech Landfarm, near Bloomfield, NM. Soil disposal documentation is included in Appendix B.

At the request of the BLM, SMA returned to site on May 21, 2015 to collect samples from the areas beneath where the excavated material was stockpiled to verify that no contamination from the stockpile had leached in to the surface soils.

Lateral 2A-4 South
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG21

A total of seven soil samples were submitted for laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the release point, the extent of the excavation, laboratory soil sample locations, and laboratory results.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). All sample analytes were below laboratory detection limits with the exception of SC-4 W Wall @ 0-9' and SC-5 Basel @ 9'. These samples had results of 63 mg/kg and 86 mg/kg DRO respectively.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action at the 2A-4 South pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

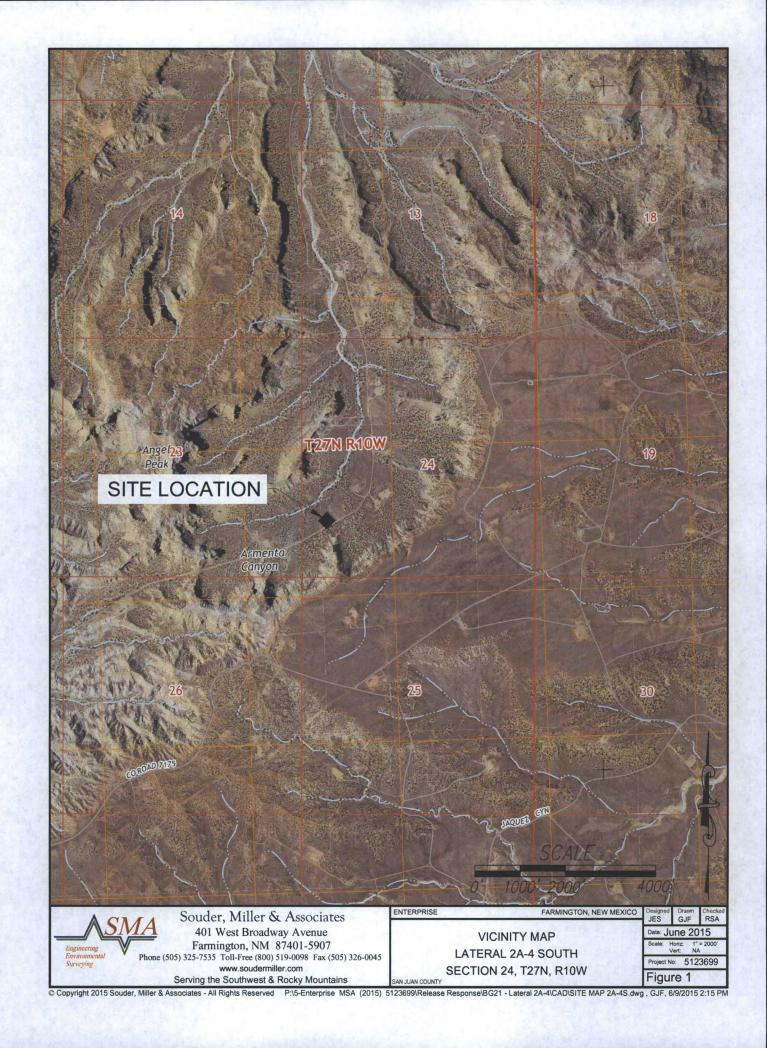
Reviewed by:

SOUDER, MILLER & ASSOCIATES

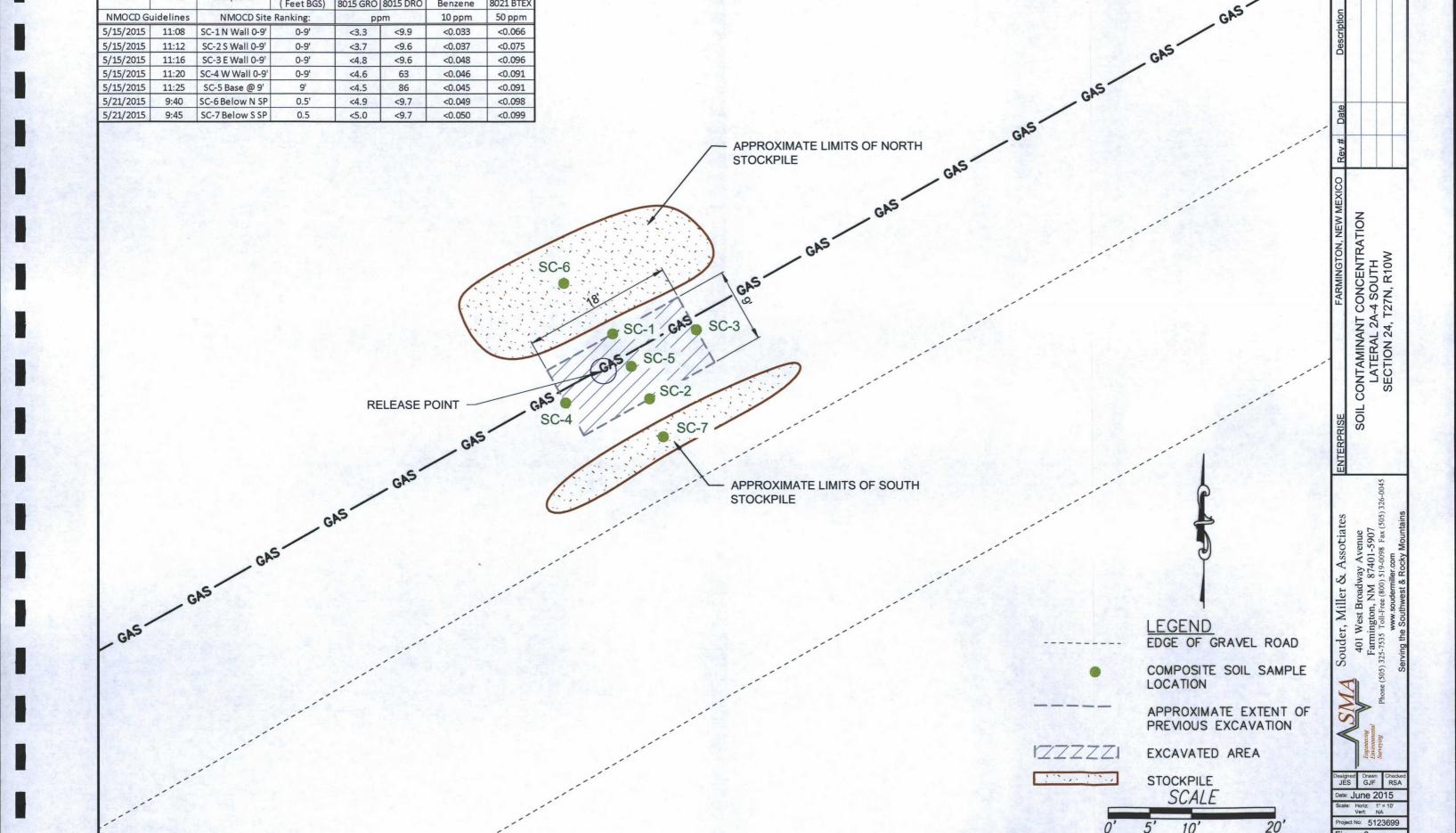
Jesse Sprague Staff Scientist Reid Allan, P.G.

Vice President/Principal Scientist

**Figures** 







**Tables** 

## Enterprise Products Table 2: Site Ranking

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
< 50 BGS = 20	20	USGS Topo Maps;	Sites located in southern Armenta Canyon near		
50' to 99' = 10		Google Earth Elevation Difference from the site and the unnamed	unnaamed wash; Site elevation is		
>100' = 0		wash to the west	approximately 10 feet above unnamed wash		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
< 200' = 20		USGS Topo Maps;	Unnamed wash is		
200' - 1000' = 10	10	Google Earth (An unnamed wash ~300' to the west); PRCC	located approximately 300 feet to the east of		
>1000' = 0		Mapping Tool	release		
Ranking Criteria for Horizintal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
<1000' from a water source? <200'			No Wells in Sections 11,		
from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	12, 14, 23 or 24 of 27N- 10W and Sections 7, 18 and 19 of 27N-09W		
Total Site Ranking		30			
Soil Remedation Standards	0 to 9	10 to 19	>19		
Benzene	10 PPM	10 PPM	10 PPM		
BTEX	50 PPM	50 PPM	50 PPM		
TPH	5000 PPM	1000 PPM	100 PPM		



# Enterprise Products Table 3: Summary of Laboratory Analysis Results in mg/Kg

Lateral 2A-4 South Pipeline Release 6/10/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)			Method 8021 Benzene	Method 8021 BTEX
NMOCD G	uidelines	NMOCD Site			om	10 ppm	50 ppm
5/15/2015	11:08	SC-1 N Wall 0-9'	0-9'	<3.3	<9.9	<0.033	<0.066
5/15/2015	11:12	SC-2 S Wall 0-9'	0-9'	<3.7	<9.6	< 0.037	<0.075
5/15/2015	11:16	SC-3 E Wall 0-9'	0-9'	<4.8	<9.6	<0.048	<0.096
5/15/2015	11:20	SC-4 W Wall 0-9'	0-9'	<4.6	63	<0.046	<0.091
5/15/2015	11:25	SC-5 Base @ 9'	9'	<4.5	86	< 0.045	<0.091
5/21/2015	9:40	SC-6 Below N SP	0.5'	<4.9	<9.7	<0.049	<0.098
5/21/2015	9:45	SC-7 Below S SP	0.5	<5.0	<9.7	<0.050	<0.099



SMA Project #5123699 BG21

Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Lateral 2A-4 South Pipeline



**Photo 1:** Lateral 2A-4 South site, initial excavation for pipeline inspection and repair, photo aspect to south west. Soil material consists of tight dry sandy clay.



**Photo 2:** Excavation of Lateral 2A-4 South location after narrow bucket track mounted excavator was used.

# Site Photographs Enterprise Products Lateral 2A-4 South Pipeline



**Photo 3:** Lateral 2A-4 South excavation at largest extent, loose material on north side (right) of excavation was removed shortly after this photo.

Appendix B
Soil Disposal Documentation

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 \*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

	REQUEST FOR AFFROVAL TO ACCEPT SOLID WASTE
1.	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Lateral 2A-4 Pipeline  May 2015
3.	Location of Material (Street Address, City, State or ULSTR): Unit Letter F, Section 24, T27N, R10W; 36.563504, -107.850989
4. 5.	Source and Description of Weste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.  Estimated Volume 50 yd3 bbls Known Volume (to be entered by the operator at the end of the haul) 483 yd3 bbls
5.	
Ι,	Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby  PRINT & SIGN NAME  COMPANY NAME
ce	rtify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 gulatory determination, the above described waste is: (Check the appropriate classification)
	RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  Operator Use Only: Waste Acceptance Frequency  Monthly  Weekly  Per Load
	RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
	MSDS Information    RCRA Hazardous Waste Analysis    Process Knowledge    Other (Provide description in Box 4)
	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I,	5-13-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to
co	mplete the required testing/sign the Generator Waste Testing Certification.
ha of 19	representative for Envirotech, Inc. do hereby certify that presentative samples of the ordered waste have been subjected to the paint filter test and tested for chloride content and that the samples we been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of .15.36 NMAC.
6.	Transporter: West State Emergy Compactors HBL, Dovg Foutz, Paul & Sons
Nan	D Permitted Surface Waste Management Facility ne and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 lress of Facility: Hilltop, NM
Met	hod of Treatment and/or Disposal:  Becaporation Injection Treating Plant Landfarm Landfill Other
Wa	ste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRI	NT NAME: Kendra Runung TITLE: Waste Coordinator DATE: 5-14-15
SIG	NATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 19, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Lateral 2A-4 OrderNo.: 1505764

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/16/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505764

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-1 N Wall 0-9'

Project: Lateral 2A-4

Collection Date: 5/15/2015 11:08:00 AM

Lab ID: 1505764-001

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS		HE WAS IN A STATE OF		Analys	: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/18/2015 10:48:35 AM	19273
Surr: DNOP	111	57.9-140	%REC	1	5/18/2015 10:48:35 AM	19273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	RAA
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	5/18/2015 12:31:27 PM	19255
Surr: BFB	87.8	80-120	%REC	1	5/18/2015 12:31:27 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	RAA
Benzene	ND	0.033	mg/Kg	1	5/18/2015 12:31:27 PM	19255
Toluene	ND	0.033	mg/Kg	1	5/18/2015 12:31:27 PM	19255
Ethylbenzene	ND	0.033	mg/Kg	1	5/18/2015 12:31:27 PM	19255
Xylenes, Total	ND	0.066	mg/Kg	1	5/18/2015 12:31:27 PM	19255
Surr: 4-Bromofluorobenzene	95.3	80-120	%REC	1	5/18/2015 12:31:27 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505764

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SC-2 S Wall 0-9'

CLIENT: Souder, Miller and Associates Lateral 2A-4 Collection Date: 5/15/2015 11:12:00 AM Project:

Lab ID: 1505764-002 Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/18/2015 11:15:06 AM	19273
Surr: DNOP	107	57.9-140	%REC	1	5/18/2015 11:15:06 AM	19273
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	5/18/2015 1:00:16 PM	19255
Surr: BFB	89.0	80-120	%REC	1	5/18/2015 1:00:16 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: RAA
Benzene	ND	0.037	mg/Kg	1	5/18/2015 1:00:16 PM	19255
Toluene	ND	0.037	mg/Kg	1	5/18/2015 1:00:16 PM	19255
Ethylbenzene	ND	0.037	mg/Kg	1	5/18/2015 1:00:16 PM	19255
Xylenes, Total	ND	0.075	mg/Kg	1	5/18/2015 1:00:16 PM	19255
Surr: 4-Bromofluorobenzene	98.8	80-120	%REC	1	5/18/2015 1:00:16 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505764

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3 E Wall 0-9'

Project: Lateral 2A-4

Collection Date: 5/15/2015 11:16:00 AM

Lab ID: 1505764-003

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS			7 6	Analyst	: КЈН
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/18/2015 11:41:48 AM	19273
Surr: DNOP	108	57.9-140	%REC	1	5/18/2015 11:41:48 AM	19273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/18/2015 1:28:59 PM	19255
Surr: BFB	91.1	80-120	%REC	1	5/18/2015 1:28:59 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	RAA
Benzene	ND	0.048	mg/Kg	1	5/18/2015 1:28:59 PM	19255
Toluene	ND	0.048	mg/Kg	1	5/18/2015 1:28:59 PM	19255
Ethylbenzene	ND	0.048	mg/Kg	1	5/18/2015 1:28:59 PM	19255
Xylenes, Total	ND	0.096	mg/Kg	1	5/18/2015 1:28:59 PM	19255
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	5/18/2015 1:28:59 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505764

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 W Wall 0-9'

Project: Lateral 2A-4

Collection Date: 5/15/2015 11:20:00 AM

**Lab ID:** 1505764-004

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	RL Q	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS	Carried St			Analyst	: KJH
Diesel Range Organics (DRO)	63	9.8	mg/Kg	1	5/18/2015 12:08:24 PM	19273
Surr: DNOP	120	57.9-140	%REC	1	5/18/2015 12:08:24 PM	19273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	5/18/2015 1:57:43 PM	19255
Surr: BFB	102	80-120	%REC	1	5/18/2015 1:57:43 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	RAA
Benzene	ND	0.046	mg/Kg	1	5/18/2015 1:57:43 PM	19255
Toluene	ND	0.046	mg/Kg	1	5/18/2015 1:57:43 PM	19255
Ethylbenzene	ND	0.046	mg/Kg	1	5/18/2015 1:57:43 PM	19255
Xylenes, Total	ND	0.091	mg/Kg	1	5/18/2015 1:57:43 PM	19255
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	5/18/2015 1:57:43 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505764

Date Reported: 5/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 Base @ 9'

Project: Lateral 2A-4

Collection Date: 5/15/2015 11:25:00 AM

Lab ID: 1505764-005

Matrix: MEOH (SOIL) Received Date: 5/16/2015 10:00:00 AM

Analyses	Result	Result RL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	: KJH
Diesel Range Organics (DRO)	86	9.9	mg/Kg	1	5/18/2015 12:35:12 PM	19273
Surr: DNOP	118	57.9-140	%REC	1	5/18/2015 12:35:12 PM	19273
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: RAA
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	5/18/2015 2:26:24 PM	19255
Surr: BFB	99.3	80-120	%REC	1	5/18/2015 2:26:24 PM	19255
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	RAA
Benzene	ND	0.045	mg/Kg	1	5/18/2015 2:26:24 PM	19255
Toluene	ND	0.045	mg/Kg	1	5/18/2015 2:26:24 PM	19255
Ethylbenzene	ND	0.045	mg/Kg	1	5/18/2015 2:26:24 PM	19255
Xylenes, Total	ND	0.091	mg/Kg	1	5/18/2015 2:26:24 PM	19255
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	5/18/2015 2:26:24 PM	19255

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505764

19-May-15

Client:

Souder, Miller and Associates

Project:

Lateral 2A-4

Sample ID MB-19273

SampType: MBLK

TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: PBS

Batch ID: 19273

RunNo: 26248

Prep Date: 5/18/2015 Analysis Date: 5/18/2015

SeqNo: 779456

Units: mg/Kg

Analyte

Result **PQL** 10 SPK value SPK Ref Val %REC HighLimit

%RPD **RPDLimit** 

Qual

Diesel Range Organics (DRO)

ND

91.6

LowLimit

9.2

10.00

57.9

%RPD

Surr: DNOP

SPK value SPK Ref Val

TestCode: EPA Method 8015D: Diesel Range Organics

SeqNo: 779482

140

Sample ID LCS-19273 Client ID: LCSS

Prep Date: 5/18/2015

SampType: LCS Batch ID: 19273

Analysis Date: 5/18/2015

PQL

RunNo: 26248

Units: mg/Kg

Diesel Range Organics (DRO)

Result 41

10 50.00 %REC 82.4

67.8

LowLimit

HighLimit 130

Qual

Surr: DNOP

4.2

5.000

0

83.2

57.9

140

**RPDLimit** 

Qualifiers:

Value exceeds Maximum Contaminant Level.

Spike Recovery outside accepted recovery limits

Value above quantitation range E

Analyte detected below quantitation limits

0 RSD is greater than RSDlimit RPD outside accepted recovery limits R

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

P Sample pH Not In Range RL Reporting Detection Limit

Page 6 of 8

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1505764

19-May-15

Client:

Souder, Miller and Associates

Project:

Lateral 2A-4

Sample ID MB-19255

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS**  Batch ID: 19255

RunNo: 26255

LowLimit

LowLimit

Prep Date: 5/15/2015 Analysis Date: 5/18/2015

**PQL** 

Batch ID: 19255

PQL

5.0

SeqNo: 779640

Units: mg/Kg

**RPDLimit** 

Qual

Analyte Gasoline Range Organics (GRO)

ND

**HighLimit** 120

**RPDLimit** %RPD

1000

SPK value SPK Ref Val %REC

89.4

Surr: BFB

890

Result

SPK value SPK Ref Val

Sample ID LCS-19255

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range RunNo: 26255

**HighLimit** 

Client ID: LCSS

Prep Date: 5/15/2015 Analysis Date: 5/18/2015

SeqNo: 779851

0

Units: mg/Kg

Gasoline Range Organics (GRO) Surr: BFB

22 980

Result

5.0 25.00 1000

%REC 87.6 97.6

64 80 130 120 %RPD

Qual

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range Reporting Detection Limit RL

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## Hall Environmental Analysis Laboratory, Inc.

WO#:

1505764

19-May-15

Client:

Souder, Miller and Associates

**Project:** 

Lateral 2A-4

Sample ID MB-19255 SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: Batch ID: 19255 RunNo: 26255 Prep Date: 5/15/2015 Analysis Date: 5/18/2015 SeqNo: 779647 Units: mg/Kg PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result Benzene ND 0.050 Toluene ND 0.050 Ethylbenzene ND 0.050 Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 1.0 1.000 101 80 120

Sample ID LCS-19255	Samp	Type: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles			
Client ID: LCSS	Batc	h ID: 19	255	F	RunNo: 2						
Prep Date: 5/15/2015	Analysis [	Date: 5/	18/2015		SeqNo: 7	79908	Units: mg/k	<b>(</b> g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.2	0.050	1.000	0	115	76.6	128				
Toluene	1.1	0.050	1.000	0	110	75	124				
Ethylbenzene	1.1	0.050	1.000	0	113	79.5	126				
Xylenes, Total	3.4	0.10	3.000	0	113	78.8	124				
Surr: 4-Bromofluorobenzene	1.2		1.000		117	80	120				

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 8 of 8



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: SMA-FARM Work Order Number	er: 1505764	1, 2	RcptNo: 1
Received by/date: 05/16/15			
Logged By: Lindsay Mangin 5/16/2015 10:00:00 /	AM	Street Hofens	
Completed By: Lindsay Mangin 5/16/2015 10:17:04 A	AM	Timeday Hlynno	
Reviewed By: 5/16/2015		000	
Chain of Custody			the same of the same and the same of
Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present
Is Chain of Custody complete?	Yes 🖈	No 🗌	Not Present
3. How was the sample delivered?	Courier		
	The state of		
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗹 .	No 🗌	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🖢	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🖝	No 🗌	
9. Was preservative added to bottles?	Yes	No 💣	NA 🗆
10.VOA vials have zero headspace?	Yes	No 🗆	No VOA Vials
11. Were any sample containers received broken?	Yes 🗆	No 🖃	4-6
			# of preserved bottles checked
12. Does paperwork match bottle labels?	Yes 🖈	No 🗆	for pH: (<2 or >12 unless noted)
(Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?	Yes 🖝	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🖈	No 🗆	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:
(may say say say say say say say say say s			
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No 🗆	NA 🗹
Person Notified: Date			
By Whom: Via:	eMail	Phone Fax	☐ In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. Cooler Information			
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By	
1 3.3 Good Yes	entrylation trajectorisate consist, many sense, construction of the	ag to a constitution of the beautiful constitution and the second by the design and	

C	hain-	of-Cu	stody Record	Turn-Around	Time:								-				BIB	a E B	ITA	la.
Client:	5m			☐ Standard	Rush	Same Day				A	N		YS	SIS	S L	AE	30	1EN RA		
Faim	ingles,	NM		Project #:	val 21234	2A-4					ns N	NE - 975	Alb	uqu	erqu 505-	e, N 345-	M 87			
Phone :	#: 0 4	005	325 7535	4 Drainet Mana	21231			2	(Pa)				ilaly	-	Neu	ues				
	Package:		□ Level 4 (Full Validation)		en Mo	skal	's (8021)	TPH (Gas only)	DRO MES			SIMS)		,PO4,SO	2 PCB's					
Accredi □ NEL		□ Othe	er	Sampler: On Ice:	VYes \\	S	St.	+ TPH	-	418.1)	(1.40)	8270	(0	O3,NO2	s / 808;		(A)			or N)
∃ EDD	(Type)			Sample Tem	perature:	33		BE	@	od 4	od 5	0 or	etals	N.	side	(A	-YO			2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1505 H64	RIEX + MEE	BTEX + MTBE	TPH 8015B(GRO	TPH (Method	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
-15-15	1108	50;1	56-1 N wall 0-9'	1 402 Eit	nou	-001	X		N											
1	1112		5c-2 Swall 0-9'	1		-007	N		X			Print.								
	1116		5c-3 E wall 0-7			-003	N		K											
	1120		SC-4 W well 0-91			-114	17	- 44	V										+	
V	1125	V	54-5 Ruce 9	V	V	-105	Z		X											
			Programme and the second							-				- 57			100		+	
Date: 15/15 Pate: 15/15	Time: 1705 Time: 1740	Relinquish	9506	Received by:	leet,	Date Time  5/15/15 1765  Date Time  OK 111 (5100)	P	narks	Co	آ ر										15.a



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 01, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Lateral 2A-4 South

OrderNo.: 1505A05

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505A05

Date Reported: 6/1/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Lateral 2A-4 South

**Lab ID:** 1505A05-001

Matrix: SOIL

Client Sample ID: SC-6 Below North S.P. Collection Date: 5/21/2015 9:40:00 AM

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL C	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/27/2015 3:16:25 PM	19380
Surr: DNOP	95.8	57.9-140	%REC	1	5/27/2015 3:16:25 PM	19380
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/27/2015 2:16:33 AM	19362
Surr: BFB	94.1	75.4-113	%REC	1	5/27/2015 2:16:33 AM	19362
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.049	mg/Kg	1	5/27/2015 2:16:33 AM	19362
Toluene	ND	0.049	mg/Kg	1	5/27/2015 2:16:33 AM	19362
Ethylbenzene	ND	0.049	mg/Kg	1	5/27/2015 2:16:33 AM	19362
Xylenes, Total	ND	0.098	mg/Kg	1	5/27/2015 2:16:33 AM	19362
Surr: 4-Bromofluorobenzene	97.8	80-120	%REC	1	5/27/2015 2:16:33 AM	19362

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505A05

Date Reported: 6/1/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Lateral 2A-4 South

**Lab ID:** 1505A05-002

Matrix: SOIL

Client Sample ID: SC-7 Below South S.P.

**Collection Date:** 5/21/2015 9:45:00 AM

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS			1	Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/27/2015 3:37:39 PM	19380
Surr: DNOP	94.2	57.9-140	%REC	1	5/27/2015 3:37:39 PM	19380
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/27/2015 3:42:23 AM	19362
Surr: BFB	90.7	75.4-113	%REC	1	5/27/2015 3:42:23 AM	19362
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.050	mg/Kg	1	5/27/2015 3:42:23 AM	19362
Toluene	ND	0.050	mg/Kg	1	5/27/2015 3:42:23 AM	19362
Ethylbenzene	ND	0.050	mg/Kg	1	5/27/2015 3:42:23 AM	19362
Xylenes, Total	ND	0.099	mg/Kg	1	5/27/2015 3:42:23 AM	19362
Surr: 4-Bromofluorobenzene	98.9	80-120	%REC	1	5/27/2015 3:42:23 AM	19362

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505A05

01-Jun-15

Client:

Souder, Miller and Associates

Project:

Lateral 2A-4 South

Sample ID MB-19380 Client ID: PBS	SampType: MBLK Batch ID: 19380		TestCode: EPA Method 8015D: Diesel Range Organics RunNo: 26424									
			11.7. 00									
Prep Date: 5/26/2015	Analysis Date: 5/27/2015	SeqNo: <b>785313</b>	Units: mg/Kg									
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual								
Diesel Range Organics (DRO)	ND 10											
Surr: DNOP	12 10.00	123 57.9	140									
Sample ID LCS-19380	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range Or	rganics								
Client ID: LCSS	Batch ID: 19380	RunNo: 26424										
Prep Date: 5/26/2015	Analysis Date: 5/27/2015	SeqNo: <b>785374</b>	Units: mg/Kg									
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual								
Diesel Range Organics (DRO)	60 10 50.00	0 119 67.8	130	12 To 15 To								
Surr: DNOP	6.1 5.000	122 57.9	140									
Sample ID MB-19416	SampType: MBLK	TestCode: EPA Method	8015D: Diesel Range Or	rganics								
Client ID: PBS	Batch ID: 19416	RunNo: 26455										
Prep Date: 5/27/2015	Analysis Date: 5/28/2015	SeqNo: <b>786402</b>	Units: %REC									
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual								
Surr: DNOP	11 10.00	108 57.9	140	Carrier and Land								

Sample ID LCS-19416	SampType	e: LCS	TestCode: EPA Method 8015D: Diesel Range Organics									
Client ID: LCSS	Batch II	Batch ID: 19416 RunNo: 26455										
Prep Date: 5/27/2015	Analysis Date		SeqNo: 7	86403	Units: %REC							
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Surr: DNOP	5.5	5.000		110	57.9	140	Total Co.					

#### Qualifiers

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505A05

01-Jun-15

Client:

Souder, Miller and Associates

Project:

Lateral 2A-4 South

Sample ID MB-19360

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 19360

RunNo: 26397

Prep Date: 5/22/2015 Analysis Date: 5/26/2015 SeqNo: 784808 Units: %REC

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit **HighLimit** 

900

Qual

Surr: BFB

90.3

113

1000

75.4

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Sample ID LCS-19360 Client ID:

LCSS 5/22/2015

Batch ID: 19360

RunNo: 26397

Units: %REC

Analyte

Analysis Date: 5/26/2015

SeqNo: 784809

75.4

Prep Date:

Result 1000 POI

1000

SPK value SPK Ref Val

%REC Lowl imit HighLimit

**RPDLimit** 

Qual

Surr: BFB

Sample ID MB-19362

PBS

SampType: MBLK Batch ID: 19362

TestCode: EPA Method 8015D: Gasoline Range

%RPD

99.7

113

Prep Date: Analyte

Client ID:

5/22/2015

5/22/2015

5/22/2015

5/22/2015

Analysis Date: 5/26/2015 Result

890

24

RunNo: 26397 SeqNo: 784832

Units: mg/Kg HighLimit

%RPD

SPK value SPK Ref Val %REC ND 5.0

PQL

LowLimit 75.4

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

1000

88.9

113

Sample ID LCS-19362

SampType: LCS LCSS Batch ID: 19362 TestCode: EPA Method 8015D: Gasoline Range

0

RunNo: 26397

HighLimit

Qual

Qual

Qual

Prep Date:

Client ID:

Result

Analysis Date: 5/26/2015 SPK value SPK Ref Val %REC

SegNo: 784833

94.4

64

75.4

LowLimit

Units: mg/Kg %RPD

**RPDLimit** 

**RPDLimit** 

Analyte Surr: BFB

Gasoline Range Organics (GRO)

960

PQL

5.0

96.2

113 TestCode: EPA Method 8015D: Gasoline Range

130

Client ID:

Sample ID 1505A05-002AMS SC-7 Below South S

SC-7 Below South S

SampType: MS

Analysis Date: 5/27/2015

PQL

4.9

Batch ID: 19362

RunNo: 26397

Prep Date: Analyte

Result

SPK value SPK Ref Val

SPK value SPK Ref Val

RL

0

24.75

990.1

25.00

1000

SeqNo: 784836 %REC

75.4

Units: mg/Kg

Gasoline Range Organics (GRO)

Prep Date:

23 960

Result

24

970

24.51 980.4 92.9

97.7

SeqNo: 784837

%REC

95.2

98.3

LowLimit 47.9

HighLimit

%RPD 144 113

Surr: BFB

Gasoline Range Organics (GRO)

Sample ID 1505A05-002AMSD

SampType: MSD Batch ID: 19362

Analysis Date: 5/27/2015

PQL

5.0

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 26397

LowLimit

47.9

75.4

Units: mg/Kg

144

113

**HighLimit** 

3.45

%RPD **RPDLimit** 

29.9

0

Page 4 of 6

Surr: BFB

0

R

Analyte

Qualifiers: Value exceeds Maximum Contaminant Level.

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Value above quantitation range E

Analyte detected below quantitation limits J RSD is greater than RSDlimit

B

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

Reporting Detection Limit

Analyte detected in the associated Method Blank

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505A05

01-Jun-15

**Client:** 

Souder, Miller and Associates

Project:

Lateral 2A-4 South

Sample ID MB-19360	SampType: MBLK			Tes									
Client ID: PBS	F	RunNo: 26397											
Prep Date: 5/22/2015	Analysis D	Analysis Date: 5/26/2015			eqNo: 7	84841	Units: %REC						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120						
Sample ID LCS-19360	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		H			
Client ID: 1 CSS Batch ID: 19360				unNo: 2	6307								

Client ID: LCSS	Batch	ID: 19	360	R	RunNo: 2	6397				
Prep Date: 5/22/2015	Analysis Da	ate: 5	/26/2015	S	SeqNo: 7	84842	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID MB-19362 Client ID: PBS	TestCode: EPA Method 8021B: Volatiles RunNo: 26397									
Prep Date: 5/22/2015	Batch ID: 19362  Analysis Date: 5/26/2015				SeqNo: 7		Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050		A THE STATE OF						100
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	80	120			

Sample ID LCS-19362	Samp	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	n ID: 19	362	F	RunNo: 2	6397				
Prep Date: 5/22/2015	Analysis Date: 5/26/2015				SeqNo: 7	84861	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.9	76.6	128	100		
Toluene	0.96	0.050	1.000	0	95.7	75	124			
Ethylbenzene	0.98	0.050	1.000	0	98.1	79.5	126			
Xylenes, Total	2.9	0.10	3.000	0	96.4	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID 1505A05-001A	MS Samp	ype: MS	5	les						
Client ID: SC-6 Below No	F	RunNo: 2	6397							
Prep Date: 5/22/2015	Analysis [	Analysis Date: 5/27/2015			SeqNo: <b>784863</b>			(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.049	0.9843	0	92.9	69.2	126		N. W. Barrie	
Toluene	0.88	0.049	0.9843	0.009371	88.5	65.6	128			
Ethylbenzene	0.92	0.049	0.9843	0	93.3	65.5	138			
Xylenes, Total	2.7	0.098	2.953	0	92.4	63	139			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 5 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1505A05 01-Jun-15

**Client:** 

Souder, Miller and Associates

Project:

Lateral 2A-4 South

Sample ID 1505A05-001AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

LowLimit

80

SC-6 Below North S Batch ID: 19362 RunNo: 26397

Prep Date:

5/22/2015

Analysis Date: 5/27/2015

SeqNo: 784863 %REC

Units: mg/Kg

Analyte

Result

SPK value SPK Ref Val

%RPD

Surr: 4-Bromofluorobenzene

1.0

0.9843

103

**HighLimit** 120 **RPDLimit** 

Qual

SampType: MSD

**PQL** 

RunNo: 26397

TestCode: EPA Method 8021B: Volatiles

Client ID: SC-6 Below North S

Sample ID 1505A05-001AMSD

Batch ID: 19362

Prep Date:	5/22/2015

Analysis Date: 5/27/2015

SegNo: 784864

Units: mg/Kg

						BATTER TO STORY		-3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.93	0.049	0.9862	0	93.8	69.2	126	1.19	18.5	A STATE OF THE STA	
Toluene	0.89	0.049	0.9862	0.009371	89.5	65.6	128	1.32	20.6		
Ethylbenzene	0.92	0.049	0.9862	0	93.4	65.5	138	0.262	20.1		
Xylenes, Total	2.8	0.099	2.959	0	93.8	63	139	1.71	21.1		
Surr: 4-Bromofluorobenzene	1.0		0.9862		104	80	120	0	0		

Value exceeds Maximum Contaminant Level.

Value above quantitation range

Analyte detected below quantitation limits

RSD is greater than RSDlimit 0

RPD outside accepted recovery limits R

Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

Not Detected at the Reporting Limit

Sample pH Not In Range P

Reporting Detection Limit RL

Page 6 of 6



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: SMA-FARM Work Order Numb	er: 1505A05	-	RcptNo: 1
Received by/date: 05/22/15			
Logged By: Lindsay Mangin 5/22/2015 6:10:00 A	M	Joseph Hayer	
Completed By: Lindsay Mangin 5/22/2015 9:25:25 A	M	Andy Hope	
Reviewed By: 10 05/22/15		000	Territoria de la companya della companya della companya de la companya della comp
Chain of Custody			
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present
2. Is Chain of Custody complete?	Yes 🖈	No 🗆	Not Present
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🕟	No 🗆	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🖸	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🐼	No 🗌	
9. Was preservative added to bottles?	Yes 🗌	No 🖢	NA 🗆
10.VOA vials have zero headspace?	Yes 🗌	No 🗆	No VOA Vials
11, Were any sample containers received broken?	Yes 🗆	No 🐼	# of preserved
			bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🛃	No 🗆	for pH: (<2 or >12 unless noted
13. Are matrices correctly identified on Chain of Custody?	Yes 🖈	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🖈	No 🗆	
15. Were all holding times able to be met?  (If no, notify customer for authorization.)	Yes 🖃	No 🗌	Checked by:
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes L	No 📙	NA 🗷
Person Notified: Date			
By Whom: Via:	eMail	Phone Fax	☐ In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. Cooler Information			
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By	
1 3.8 Good Yes	T T T T T T T T T T T T T T T T T T T		

C	Chain-of-Custody Record			Turn-Around Time:				HALL ENVIRONMENTAL											
Client:	SM	IA		Standard	□ Rush					Out of the last	A CONTRACTOR OF THE PARTY OF TH							TOR	
	01			Project Name			F.				ww.ha								
Mailing	Address	· Anı	W Broadway	Lateral	2A-4	South		490	1 Ha		s NE						109		
0	4		M 87401	Project #:							-3975					4107			
Phone	ringto		325 7535	N21	234						-	THE REAL PROPERTY.	and the last of	Req	The second	100			
the same of the sa			mosked e soudsn: Hus. Ce	Project Mana	iger:		_	(ylu	P				O <sub>4</sub> )		1				
A PARTY OF THE PAR	Package:		☐ Level 4 (Full Validation)		- Mos	Kal	<b>₹</b> (8021)	TPH (Gas only)	2		SIMS)		,PO4,S	2 PCB's					Number of
Accred		□ Othe	er	Sampler: On Ice;	J. Sprag		THAT	+ TPH	RO/D	418.1)			103,NO2	Pesticides / 8082		(AC			or N)
	(Type)			Sample Tem	perature:	38	H	MTBE		pou	100	8 Metals	S,S	icide	(AC	ni-V			\\ \)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX+ W	BTEX + M	TPH 8015B GRO / DRO WITE	TPH (Method 418.1)	EUB (Method 504.1) PAH's (8310 or 8270	RCRA 8 N	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pest	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
-4	0940	Soil	SC-6 Below North SP	1 402		-001	X		X										
-21	0945	Soil	SC-7 Below Solh S.P			-002	X		X								y. 1 . 1	+	
								17.9							12				
													-						+
														9					
15/6									7,4						1	5 2			-
	100												-		-		+	-	H
-						DE LA COMPA													
Pate:	Time:	Relinquis	-65m	Received by:  Received by:	Walte	Pate Time  5/21/15 1670  Date Time	Rei PL	marks	: P	Copy	2	1/10	oic	e	E	nt	pris	_	
5/21/15	2400	/ Mus	the Waller	contracted to other	accredited laboratori	05/21/5 USIC	is noss	ihility A	Je Any su	SSE b-contra	. So	loe will fe	ciea	e not	500 ated o	n the a	mill	o-C	PM

<u>District I</u> 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

\* Attach Additional Sheets If Necessary

#### State of New Mexico **Energy Minerals and Natural** Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

				Sa	nta Fe	e, INIVI 87	505							
		F	Releas	e Notific	atior	and C	orrective	Acti	on	- ea - 1 - 1				
OF							PERATOR			☐ Initial Report ☐ Final Report				
Name of Company: Enterprise Field Services LLC							Contact: Thomas Long							
Address: 614 Reilly Ave, Farmington, NM 87401						Telephone No. 505-599-2286								
Facility Na	me: Later	al 10D-5				Facility Ty	pe: Natural G	as Gat	hering Pi	peline				
Surface Owner: Navajo Tribe Mineral Owner							: Navajo Tribe			API No.				
				LOCA	ATION	OF RE	IFASE							
Unit Letter	Section	Township	Range	Feet from		South	Feet from	Eas West		County				
L			the <b>2452</b>	Line		the 195	DIL CONS		San Juan DIV DIST. 3					
			La		E 7	_Longitud	de <u>108.07130</u> EASE	8	JUL	27 201	5			
Type of Release: Natural Gas and Condensate							Volume of Release: 57 MCF  Gas; 5-10 bbls. Condensate  Volume Recovered: None					e		
Source of Release: Internal corrosion						Date and Hour of Occurrence: Date and Hour of Discovery: 5/28/2015 @ 5:00 p.m.						ery:		
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required						If YES, To Whom? Courtesy Notification: Cory Smith, NMOCD and Steve Austin, NNEPA								
By Whom? Thomas Long						Date and Hour 6/9/2015 @ 3:20 p.m.								
Was a Watercourse Reached? ☐ Yes ☒ No						If YES, Volume Impacting the Watercourse								
		mpacted, De						100			C.V.			
gas release were comp	e on the Late leted on Jur	eral 10D-5 pi ne 9, 2015.	peline. Th	e pipeline was	sisolate	d, depressi	utine operation urized, locked o	ut and ta	agged out.	Repairs a	ind ren	nediation		
measured a impacted so farm facility	approximate oil were exc	ely 44 feet lor avated from arty corrective	ng by 26 fe the area c e action re	eet wide ranging the identify report is include	ng from elease p ed with t	7 to 8 feet point and tr his "Final"		nately 20 New Me	64 cubic ya xico Oil Co	rds of hyd nservatio	drocart n appr	oved land		
rules and re which may relieve the ground wat	egulations a endanger p operator of er, surface	Il operators a ublic health o liability shoul water, humar	are require or the envi d their open n health or	ed to report an ronment. The erations have the environm	d/or file accepta failed to ent. In	certain rele ance of a C adequately addition, N	est of my knowle ease notification 2-141 report by y investigate an MOCD accepta aws and/or reg	the NMC d remed nce of a	erform corr OCD marke liate contar C-141 rep	ective act d as "Fina nination t	ions fo al Repo hat pos	or releases ort" does not se a threat to		
Signature: You Fulls						OIL CONSERVATION DIVISION								
Printed Name: Jon E. Fields						Approved by Environmental Specialist:								
Title: Direct	or, Environ	mental	/	Approval Date: 8/12/15 Expiration Date:										
E-mail Address:jefields@eprod.com						Conditions of Approval:								
Date: 7	- 7.7	7015	Dhor	ne: (713)381 <sub>-</sub> 6	684									

#NOS 15 173 500 68

OIL CONS. DIV DIST. 3

JUL 27 2015

# Lateral 10D-5 Pipeline Release Report

Section 12, Township 26N, Range 12W N36.50216, W108.07131 San Juan County, New Mexico July 2, 2015

OIL CONS. DIV DIST. 3

Prepared for:

Enterprise Products Operating, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by:

Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401



# Enterprise Products Operating, LLC Lateral 10D-5 Pipeline Release Report

Prepared for:

Enterprise Products Operating, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by:

Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401

Deborah Watson, PG, Geologist

Debrah Water

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

July 2, 2015

#### Lateral 10D-5 Pipeline Release Report

# Table of Contents1Introduction12Release Summary13NMOCD Site Ranking14Field Activities25Soil Sampling26Conclusions37Closure and Limitations3

#### **Tables**

Table 1 NMOCD Site Ranking Determination

Table 2 Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH

## **Figures**

Figure 1 Topographic Map
Figure 2 Aerial Site Map
Figure 3 Soil Analytical Map

## **Appendices**

Appendix A Executed C-138 Solid Waste Acceptance Form

Appendix B Photograph Log

Appendix C Analytical Laboratory Report

#### 1 Introduction

The Enterprise Products Operating, LLC (Enterprise) Lateral 10D-5 pipeline release site is located in Unit Letter L, Section 12, Township 26N, Range 12W in San Juan County, New Mexico. The pipeline release occurred at multiple corrosion holes along the 8-inch Lateral 10D-5 pipeline. The release was discovered on May 28, 2015.

On June 9, 2015, the points of release were identified and repaired. The release consisted of an unknown quantity of natural gas and condensate. Site work included repair of the leaking pipeline and excavation of hydrocarbon impacted soils on June 9, 2015.

A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

## 2 Release Summary

Site Name – Lateral 10D-5 Pipeline Release
Location – Unit Letter L (NW/SW), Section 12, Township 26N, Range 12W
Release Latitude/Longitude – N36.50216 and W108.07131, respectively
Land Jurisdiction – Navajo Allotment
Date Release Discovered – May 28, 2015
Agency Notification – New Mexico Oil Conservation Division (NMOCD)
Diameter of pipeline – 8-inch
Source of Release – internal corrosion
Release Contents – natural gas and condensate
Release Volume – unknown
NMOCD Site Ranking – 30
Date of Rule Engineering, LLC (Rule) Field Work – June 9, 2015
Subcontractor(s) – West States Energy Contractors, Inc. (West States)
Disposal Facility – Envirotech Land Farm (Permit #NM-01-011)
Amount of Contaminated Soil Excavated/Disposed – 264 cubic yards

## 3 NMOCD Site Ranking

In accordance with NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 30 (Table 1). Based on the ranking score of 30, action levels for remediated soils at the site are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH).

Depth to groundwater at the site was estimated to be 18 feet below ground surface (bgs) based on the elevation differential (18 feet) between the release location and the wash in Gallegos Canyon (approximately 530 feet to the northeast).

A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location.

Gallegos Wash is located approximately 530 feet northeast of the location and drains to the San Juan River.

#### 4 Field Activities

On May 28, 2015, Enterprise personnel discovered a pipeline leak along the 8-inch Lateral 10D-5 pipeline. Enterprise, West States, and Rule personnel were onsite for remediation activities on June 9, 2015. West States provided heavy equipment operation and excavated the petroleum impacted materials from within the release area. Rule personnel provided excavation oversight and conducted field screening during remediation activities. On June 9, 2015, based on visual observation and field screening results, the excavation was halted, and Rule personnel collected eight confirmation samples (SC-1 through SC-8) from the sidewalls and base of the excavation. Repairs were made at the corrosion holes. Approximately 264 cubic yards of hydrocarbon impacted soils were removed from an area of excavation measuring approximately 44 feet x 26 feet x 7 (to 8) feet in depth. Figure 3 provides the locations and results of the soil samples collected.

A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix A. A photograph log is included in Appendix B.

## 5 Soil Sampling

Rule collected confirmation soil samples from the sidewalls and base of the excavation. Soil samples SC-1 through SC-8 were collected on June 9, 2015. Each confirmation soil sample (SC-1 through SC-8) is a representative composite of material collected from five separate locations within the sample area.

Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B and TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory report is included in Appendix C.

A portion of each composite soil sample was also field screened for volatile organic compounds (VOCs). Field screening for VOC vapors was conducted with a photo-ionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field screening results are summarized in Table 2.

#### 6 Conclusions

The release of unknown quantity of natural gas and condensate occurred at multiple corrosion holes along the 8-inch Lateral 10D-5 pipeline. Remedial activities included excavation of 264 cubic yards of hydrocarbon impacted soils along the pipeline. Eight confirmation soil samples were collected from the sidewalls and base of the excavation on June 9, 2015, for laboratory analysis of BTEX and TPH. The final excavation measured approximately 44 feet x 26 feet x 7 (to 8) feet in depth.

Laboratory analytical results for soil confirmation samples (SC-1 through SC-8) reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported TPH concentrations below the NMOCD action level of 100 mg/kg. Action levels are based on a NMOCD site ranking of 30.

Based on laboratory analytical results, no further work is recommended.

#### 7 Closure and Limitations

This report has been prepared for the exclusive use of Enterprise and is subject to the terms, conditions and limitations stated in Rule's proposal, the report, and Rule's Service Agreement with Enterprise. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

# **Tables**

Table 1. NMOCD Site Ranking Determination Lateral 10D-5 Pipeline Release San Juan County, New Mexico Enterprise Products Operating, LLC

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources	
Depth to Groundwater					
<50 feet	20		Elevation differential between location and wash in	NMOCD Online database,	
50-99 feet	10	20	Gallegos Canyon east of the location is 18 feet.  Location is at a higher elevation.	Gallegos Trading Post Quadrangle, Google Earth	
>100 feet	0			and Visual Inspection	
Wellhead Protection Area		A A			
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000	NMOSE NMWRRS, Gallegos Trading Post	
	0 (No)		feet radius of location.	Quadrangle, Google Eart and Visual Inspection	
Distance to Surface Water Body					
<200 horizontal feet	20				
200 to 1,000 horizontal feet	10	10	Gallegos wash located approximately 530 feet northeast of location and drains to the San Juan River.	Gallegos Trading Post Quadrangle, Google Earth and Visual Inspection	
>1,000 horizontal feet	0				
Site Based Total Rank	ing Score	30			



Table 2. Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH Lateral 10D-5 Pipeline Release San Juan County, New Mexico Enterprise Products Operating, LLC

- 16			Sample Depth	VOCs (PID)	Benzene	Total BTEX	TPH-GRO	TPH-DRO	
Sample ID	Date	Location	(ft bgs)	(ppm)	(mg/kg)	(mg/kg)	(mg	g/kg)	
A Principal Sur		NMOC	D Action Levels**	100	10	50	10	00	
SC-1	Jun 09, 15	Southeast Wall	0 to 7	8.4	< 0.049	<0.245	<4.9	<9.7	
SC-2	Jun 09, 15	East Wall	0 to 7	10.7	< 0.050	<0.249	<5.0	18	
SC-3	Jun 09, 15	Northeast Wall	0 to 7	27.4	< 0.050	<0.249	<5.0	14	
SC-4	Jun 09, 15	Base (east)	7	10.5	< 0.049	<0.245	<4.9	<9.6	
SC-5	Jun 09, 15	Northwest Wall	0 to 8	13.9	< 0.050	<0.250	<5.0	<9.7	
SC-6	Jun 09, 15	West Wall	0 to 8	10.2	< 0.049	<0.246	<4.9	<10	
SC-7	Jun 09, 15	Southwest Wall	0 to 8	10.9	< 0.049	<0.245	<4.9	<9.7	
SC-8	Jun 09, 15	Base (west)	8	8.6	<0.050	<0.249	<5.0	<9.7	

Notes: VOCs - volatile organic compounds

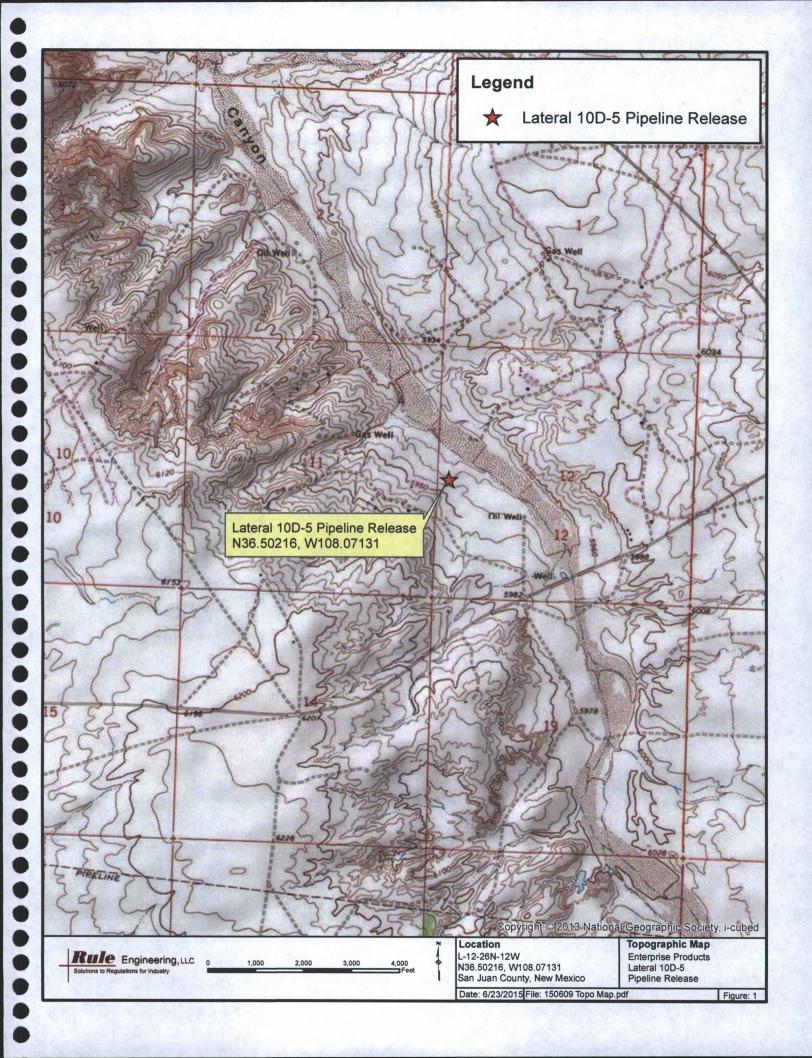
PID - photo-ionization detector ft bgs - feet below ground surface

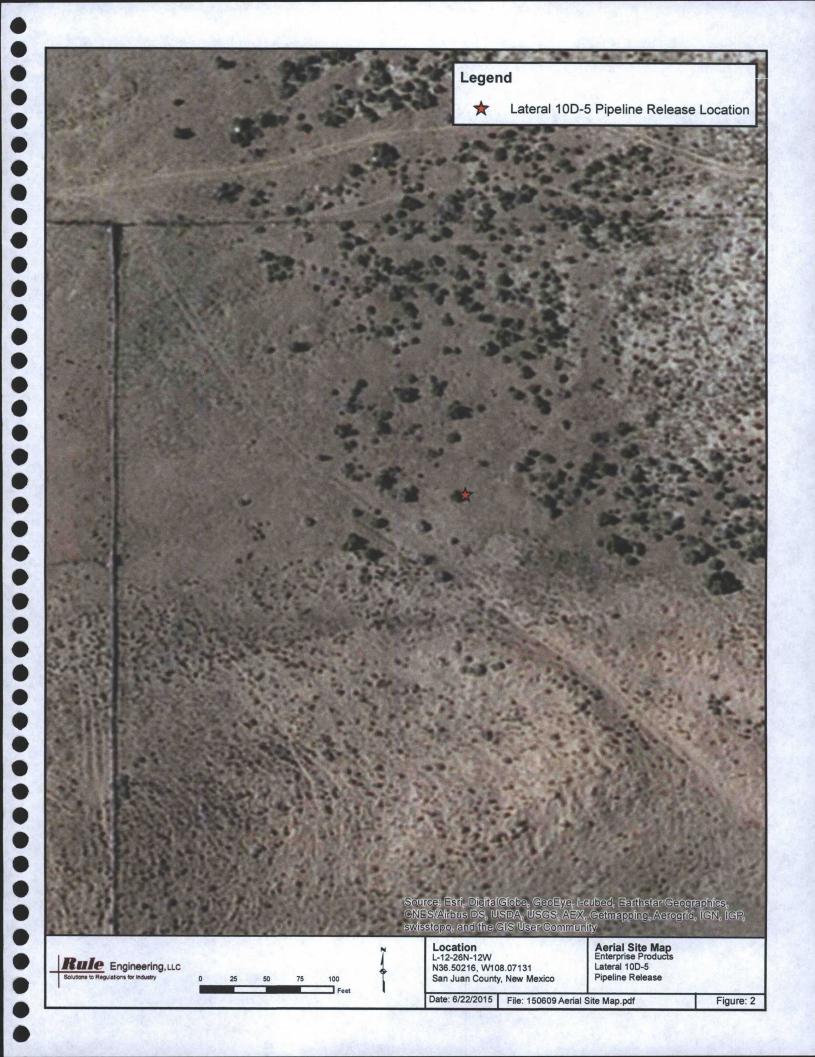
ppm - parts per million mg/kg - milligrams/kilograms BTEX - benzene, toluene, ethylbenzene, and xylenes

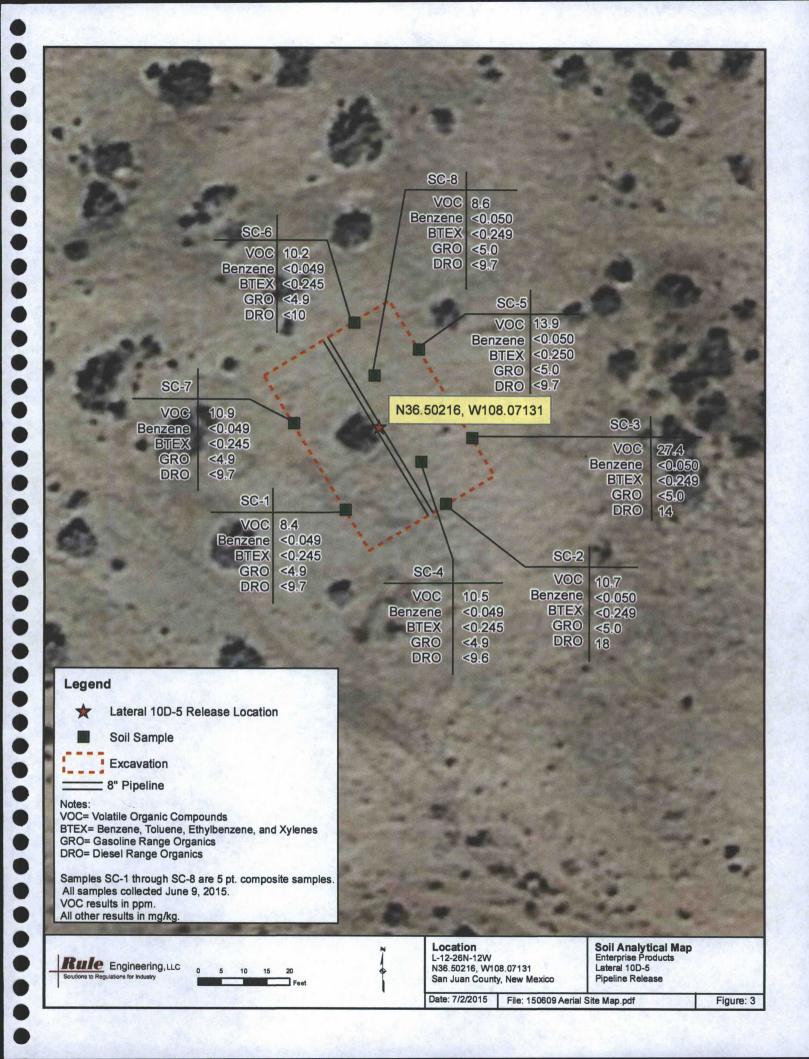
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics

\*\*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993)

# **Figures**







# Appendix A Executed C-138 Solid Waste Acceptance Form

District 1 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

SIGNATURE:

Surface Waste Management Facility Authorize

# State of New Mexico Energy Minerals and Natural Resources 97057-0715

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

Form C-138

Revised August 1, 2011

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

2. Originating Site: Lateral 10D-5 Pipeline	June 2015
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter L Section 12 Township 26 North Range 12 West; 36.502164, -10	
5. Estimated Volume 10 yd3 bbl Known Volume (to be entered by the o	carbons associated with a pipeline release.  operator at the end of the haul) 264 (yd³) bbls
5. GENERATOR CERTIFICATION STATEMENT  1, Thomas Long representative or authorized agent for Enterprise F	
certify that according to the Resource Conservation and Recovery Act (RCRA) and regulatory determination, the above described waste is: (Check the appropriate classic	NY NAME the US Environmental Protection Agency's July 1988
RCRA Exempt: Oil field wastes generated from oil and gas exploration and exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Moderation   Moderation	
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not a characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or liste subpart D, as amended. The following documentation is attached to demonstrat the appropriate items)	ed hazardous waste as defined in 40 CFR, part 261,
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Know	rledge
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION S	STATEMENT FOR LANDFARMS
I, Mary Log 6-9-15, representative for Enterprise Field Services, LLC authorize	Envirotech, Inc. to
complete the required testing/sign the Generator Waste Testing Certification.	
representative samples of the oil field waste have been subjected to the paint filter to have been found to conform to the specific requirements applicable to landfarms put of the representative samples are attached to demonstrate the above-described waste 19.15.36 NMAC.	est and tested for chloride content and that the samples rsuant to Section 15 of 19.15.36 NMAC. The results
6. Transporter: West States Energy Contractor, + 84	
OCD Permitted Surface Waste Management Facility lame and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit address of Facility: Hilltop, NM	#: NM 01-0011
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm	Landfill Other
Vaste Acceptance Status:	ENIED (Must De Meintein J.A. B.
	ENIED (Must Be Maintained As Permanent Record)  E Coordinator DATE: 6/10/13

TELEPHONE NO.: 505-632-0615

# Appendix B Photograph Log

Photograph #1

Client: Enterprise Products

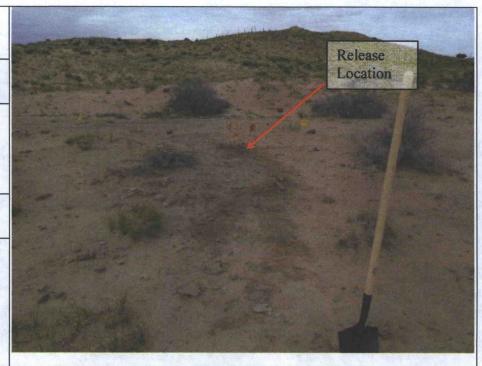
Site Name: Lateral 10D-5 Pipeline Release

Date Photo Taken: June 9, 2015

> Location: N36.50216, W108.07131

L-12-26N-12W San Juan County, New Mexico

Photo Taken by: Deborah Watson



Description: facing SW, looking at area of release prior to excavation.

Photograph #2

Client: Enterprise Products

Site Name:

Lateral 10D-5 Pipeline Release

Date Photo Taken: June 9, 2015

> Location: N36.50216, W108.07131

L-12-26N-12W San Juan County, New Mexico

Photo Taken by: Deborah Watson



Description: facing N, looking at excavation following removal of hydrocarbon impacted soils. Final area of excavation measured 44 feet x 26 feet x 7 (to 8) feet in depth.

#### Photograph Log Lateral 10D-5 Pipeline Release Enterprise Products

Photograph #3

Client: Enterprise Products

Site Name: Lateral 10D-5 Pipeline Release

Date Photo Taken: June 9, 2015

> Location: N36.50216, W108.07131

L-12-26N-12W San Juan County, New Mexico

Photo Taken by: Deborah Watson Release Location

Description: facing SE, looking at excavation and exposed pipeline. Corrosion holes were repaired on June 9, 2015.

# Appendix C Analytical Laboratory Report



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

June 16, 2015

Deborah Watson Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401 TEL: (505) 860-2712

FAX

RE: Lateral 10D-5 Pipeline

OrderNo.: 1506444

#### Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/10/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-1

Project: Lateral 10D-5 Pipeline

Collection Date: 6/9/2015 12:20:00 PM

Lab ID: 1506444-001

Matrix: SOIL

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/12/2015 2:21:04 PM	19688
Surr: DNOP	109	57.9-140	%REC	1	6/12/2015 2:21:04 PM	19688
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/11/2015 10:53:08 PM	19654
Surr: BFB	83.8	75.4-113	%REC	1	6/11/2015 10:53:08 PM	19654
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.049	mg/Kg	1	6/11/2015 10:53:08 PM	19654
Toluene	ND	0.049	mg/Kg	1	6/11/2015 10:53:08 PM	19654
Ethylbenzene	ND	0.049	mg/Kg	1	6/11/2015 10:53:08 PM	19654
Xylenes, Total	ND	0.098	mg/Kg	1	6/11/2015 10:53:08 PM	19654
Surr: 4-Bromofluorobenzene	94.1	80-120	%REC	1	6/11/2015 10:53:08 PM	19654

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-2

Project: Lateral 10D-5 Pipeline 1506444-002

Lab ID:

Matrix: SOIL Received Date: 6/10/2015 6:45:00 AM

Collection Date: 6/9/2015 12:25:00 PM

nalyses	esult	RL	Qual	Units	DF	Date Analyzed	Batch
PA METHOD 8015D: DIESEL RANGE ORG	ANICS		1			Analyst:	КЈН
Diesel Range Organics (DRO)	18	9.9		mg/Kg	1	6/12/2015 2:53:54 PM	19688
Surr: DNOP	116	57.9-140		%REC	1	6/12/2015 2:53:54 PM	19688
PA METHOD 8015D: GASOLINE RANGE						Analyst:	NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/11/2015 11:18:34 PM	19654
Surr: BFB	85.3	75.4-113		%REC	1	6/11/2015 11:18:34 PM	19654
PA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.050		mg/Kg	1	6/11/2015 11:18:34 PM	19654
Toluene	ND	0.050		mg/Kg	1	6/11/2015 11:18:34 PM	19654
Ethylbenzene	ND	0.050		mg/Kg	1	6/11/2015 11:18:34 PM	19654
Xylenes, Total	ND	0.099		mg/Kg	1	6/11/2015 11:18:34 PM	19654
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	6/11/2015 11:18:34 PM	19654
					200		

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits J
- RSD is greater than RSDlimit 0
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND

Page 2 of 13

- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Lateral 10D-5 Pipeline

Collection Date: 6/9/2015 12:30:00 PM

Lab ID: 1506444-003

Matrix: SOIL Received Date:

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	14	10	mg/Kg	1	6/15/2015 10:38:04 AM	19688
Surr: DNOP	119	57.9-140	%REC	1	6/15/2015 10:38:04 AM	19688
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/11/2015 11:44:10 PM	19654
Surr: BFB	86.3	75.4-113	%REC	1	6/11/2015 11:44:10 PM	19654
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.050	mg/Kg	1	6/11/2015 11:44:10 PM	19654
Toluene	ND	0.050	mg/Kg	1	6/11/2015 11:44:10 PM	19654
Ethylbenzene	ND	0.050	mg/Kg	1	6/11/2015 11:44:10 PM	19654
Xylenes, Total	ND	0.099	mg/Kg	1	6/11/2015 11:44:10 PM	19654
Surr: 4-Bromofluorobenzene	95.5	80-120	%REC	1	6/11/2015 11:44:10 PM	19654

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Project: Lateral 10D-5 Pipeline

Lab ID: 1506444-004

Client Sample ID: SC-4

Collection Date: 6/9/2015 2:30:00 PM

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS					Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/12/2015 5:08:56 PM	19688
Surr: DNOP	158	57.9-140	S	%REC	1	6/12/2015 5:08:56 PM	19688
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/12/2015 12:09:34 AM	19654
Surr: BFB	101	75.4-113		%REC	1	6/12/2015 12:09:34 AM	19654
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	NSB
Benzene	ND	0.049		mg/Kg	1	6/12/2015 12:09:34 AM	19654
Toluene	ND	0.049		mg/Kg	1	6/12/2015 12:09:34 AM	19654
Ethylbenzene	ND	0.049		mg/Kg	1	6/12/2015 12:09:34 AM	19654
Xylenes, Total	ND	0.098	7	mg/Kg	1	6/12/2015 12:09:34 AM	19654
Surr: 4-Bromofluorobenzene	88.1	80-120		%REC	1	6/12/2015 12:09:34 AM	19654

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

.....

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Lateral 10D-5 Pipeline

Collection Date: 6/9/2015 12:40:00 PM

Lab ID: 1506444-005

Matrix: SOIL

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/12/2015 5:35:47 PM	19688
Surr: DNOP	112	57.9-140	%REC	1	6/12/2015 5:35:47 PM	19688
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	6/12/2015 12:34:34 AM	19654
Surr: BFB	86.2	75.4-113	%REC	1	6/12/2015 12:34:34 AM	19654
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.050	mg/Kg	1	6/12/2015 12:34:34 AM	19654
Toluene	ND	0.050	mg/Kg	1	6/12/2015 12:34:34 AM	19654
Ethylbenzene	ND	0.050	mg/Kg	1	6/12/2015 12:34:34 AM	19654
Xylenes, Total	ND	0.10	mg/Kg	1	6/12/2015 12:34:34 AM	19654
Surr: 4-Bromofluorobenzene	97.4	80-120	%REC	1	6/12/2015 12:34:34 AM	19654

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Project: Lateral 10D-5 Pipeline

**Lab ID:** 1506444-006

Client Sample ID: SC-6

Collection Date: 6/9/2015 12:45:00 PM

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analyst	КЈН
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/12/2015 6:02:49 PM	19688
Surr: DNOP	151	57.9-140	S	%REC	1	6/12/2015 6:02:49 PM	19688
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/12/2015 12:59:42 AM	19654
Surr: BFB	83.7	75.4-113		%REC	1	6/12/2015 12:59:42 AM	19654
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.049		mg/Kg	1	6/12/2015 12:59:42 AM	19654
Toluene	ND	0.049		mg/Kg	1	6/12/2015 12:59:42 AM	19654
Ethylbenzene	ND	0.049		mg/Kg	1	6/12/2015 12:59:42 AM	19654
Xylenes, Total	ND	0.099		mg/Kg	1	6/12/2015 12:59:42 AM	19654
Surr: 4-Bromofluorobenzene	87.0	80-120		%REC	1	6/12/2015 12:59:42 AM	19654

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 6 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-7

Project: Lateral 10D-5 Pipeline

Collection Date: 6/9/2015 12:48:00 PM

Lab ID: 1506444-007

Matrix: SOIL

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS		Mary Mary No.		Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/12/2015 6:29:47 PM	19688
Surr: DNOP	113	57.9-140	%REC	1	6/12/2015 6:29:47 PM	19688
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/12/2015 1:25:00 AM	19654
Surr: BFB	86.6	75.4-113	%REC	1	6/12/2015 1:25:00 AM	19654
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.049	mg/Kg	. 1	6/12/2015 1:25:00 AM	19654
Toluene	ND	0.049	mg/Kg	1	6/12/2015 1:25:00 AM	19654
Ethylbenzene	ND	0.049	mg/Kg	1	6/12/2015 1:25:00 AM	19654
Xylenes, Total	ND	0.098	mg/Kg	1	6/12/2015 1:25:00 AM	19654
Surr: 4-Bromofluorobenzene	100	80-120	%REC	1	6/12/2015 1:25:00 AM	19654

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 7 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506444

Date Reported: 6/16/2015

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Project: Lateral 10D-5 Pipeline

Lab ID: 1506444-008

Client Sample ID: SC-8

Collection Date: 6/9/2015 2:45:00 PM

Received Date: 6/10/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS					Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/12/2015 6:56:23 PM	19688
Surr: DNOP	168	57.9-140	S	%REC	1	6/12/2015 6:56:23 PM	19688
EPA METHOD 8015D: GASOLINE R	ANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/12/2015 8:15:27 PM	19654
Surr: BFB	89.1	75.4-113		%REC	1	6/12/2015 8:15:27 PM	19654
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	NSB
Benzene	ND	0.050		mg/Kg	1	6/12/2015 8:15:27 PM	19654
Toluene	ND	0.050	)	mg/Kg	1	6/12/2015 8:15:27 PM	19654
Ethylbenzene	ND	0.050	)	mg/Kg	1	6/12/2015 8:15:27 PM	19654
Xylenes, Total	ND	0.099	)	mg/Kg	1	6/12/2015 8:15:27 PM	19654
Surr: 4-Bromofluorobenzene	93.6	80-120	)	%REC	1	6/12/2015 8:15:27 PM	19654

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1506444

16-Jun-15

Client: Rule Engineering LLC

Project: Lateral 10D-5 Pipeline

Sample ID MB-19688 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: PBS Batch ID: 19688 RunNo: 26783

Prep Date: 6/11/2015 Analysis Date: 6/12/2015 SeqNo: 798876 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Diesel Range Organics (DRO) ND 10

Surr. DNOP 12 10.00 116 57.9 140

Sample ID LCS-19688 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: LCSS Batch ID: 19688 RunNo: 26783

Prep Date: 6/11/2015 Analysis Date: 6/12/2015 SeqNo: 798877 Units: mg/Kg

Result POI SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Analyte Qual 54 10 50.00 108 67.8 Diesel Range Organics (DRO) 0 130

Surr: DNOP 5.5 5.000 109 57.9 140

Sample ID 1506427-001AMS SampType: MS TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: BatchQC Batch ID: 19688 RunNo: 26783

Prep Date: 6/11/2015 Analysis Date: 6/12/2015 SeqNo: 799223 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) 64 9.7 48.36 16.37 97.8 42.3 146

Diesel Range Organics (DRO) 64 9.7 48.36 16.37 97.8 42.3 146 Surr: DNOP 4.9 4.836 102 57.9 140

Sample ID 1506427-001AMSD SampType: MSD TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: BatchQC Batch ID: 19688 RunNo: 26783

4.9

Prep Date: 6/11/2015 Analysis Date: 6/12/2015 SeqNo: 799224 Units: mg/Kg

4.831

SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result PQL 42.3 52 9.7 48.31 16.37 74.7 146 19.3 28.9 Diesel Range Organics (DRO)

101

57.9

140

0

0

Qualifiers:

Surr: DNOP

\* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

WO#: 1506444

16-Jun-15

Client: Rule Engineering LLC
Project: Lateral 10D-5 Pipeline

Sample ID MB-19654	SampType: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch ID: 19	654	F	RunNo: 2	6767				
Prep Date: 6/10/2015	Analysis Date: 6/	11/2015		SeqNo: 7	98343	Units: mg/K	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND 5.0						4-01-9	THE STATE	147
Surr: BFB	880	1000		87.8	75.4	113			100
Sample ID LCS-19654	SampType: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	P. P.Y
Client ID: LCSS	Batch ID: 19	654	F	RunNo: 2	6767				
Prep Date: 6/10/2015	Analysis Date: 6/	11/2015		SeqNo: 7	98344	Units: mg/k	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27 5.0	25.00	0	106	64	130	THE AND	Production of	
Surr: BFB	980	1000		97.5	75.4	113			
Sample ID 1506438-002AMS	SampType: MS	3	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	of and
Client ID: BatchQC	Batch ID: 19	654	F	RunNo: 2	6767				
Prep Date: 6/10/2015	Analysis Date: 6/	11/2015		SeqNo: 7	98347	Units: mg/H	(g		
									Rich H
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Gasoline Range Organics (GRO)	Result PQL 30 4.9	SPK value 24.53	SPK Ref Val	%REC 121	LowLimit 47.9	HighLimit 144	%RPD	RPDLimit	Qual

Sample ID 1506438-002AM	SD Samp	ype: MS	SD	les	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: BatchQC	Batch	D: 19	654	F	RunNo: 2	6767				
Prep Date: 6/10/2015	Analysis D	ate: 6/	/11/2015	8	SeqNo: 7	98349	Units: mg/h	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	36	5.0	24.95	0	144	47.9	144	18.9	29.9	
Surr: BFB	1100		998.0		106	75.4	113	0	0	

Sample ID MB-19635	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Rang	je
Client ID: PBS	Batch ID: 19635	RunNo: 26776		
Prep Date: 6/9/2015	Analysis Date: 6/11/2015	SeqNo: 798386	Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: BFB	810 1000	81.2 75.4	113	

Sample ID LCS-19635	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 19635	RunNo: 26776		
Prep Date: 6/9/2015	Analysis Date: 6/11/2015	SeqNo: 798387	Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLi	mit Qual
Surr: BFB	970 1000	97.4 75.4	113	ALCOHOLD DE

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

WO#: 1506444

16-Jun-15

Client: Rule Engineering LLC
Project: Lateral 10D-5 Pipeline

Sample ID 1506366-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: BatchQC Batch ID: 19635 RunNo: 26776

Prep Date: 6/9/2015 Analysis Date: 6/11/2015 SeqNo: 798389 Units: %REC

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Surr: BFB 960 979.4 97.6 75.4 113

Sample ID 1506366-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: BatchQC Batch ID: 19635 RunNo: 26776

900

Prep Date: 6/9/2015 Analysis Date: 6/11/2015 SeqNo: 798390 Units: %REC

970.9

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

92.5

75.4

113

A STATE OF THE PARTY OF THE PAR

Surr: BFB

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range RL Reporting Detection Limit

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#### Hall Environmental Analysis Laboratory, Inc.

1.0

WO#: 1506444

16-Jun-15

Client: Rule Engineering LLC
Project: Lateral 10D-5 Pipeline

Sample ID MB-19654 SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: 19654 RunNo: 26767

Prep Date: 6/10/2015 Analysis Date: 6/11/2015 SeqNo: 798364 Units: mg/Kg

Analyte SPK value SPK Ref Val %REC LowLimit Result PQL HighLimit %RPD **RPDLimit** Qual Benzene ND 0.050 Toluene ND 0.050 Ethylbenzene ND 0.050 ND Xylenes, Total 0.10 Surr: 4-Bromofluorobenzene 0.92 1.000 92.5 80 120

Sample ID LCS-19654 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 19654 RunNo: 26767 Analysis Date: 6/11/2015 Prep Date: 6/10/2015 SeqNo: 798365 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Benzene 1.0 0.050 1.000 0 102 76.6 128 0.97 0.050 1.000 97.2 75 Toluene 0 124 Ethylbenzene 1.0 0.050 1.000 0 101 79.5 126 3.0 0.10 3.000 0 102 78.8 124 Xylenes, Total Surr: 4-Bromofluorobenzene 1.0 1.000 103 80 120

TestCode: EPA Method 8021B: Volatiles Sample ID 1506438-001AMS SampType: MS **BatchQC** Batch ID: 19654 RunNo: 26767 Prep Date: 6/10/2015 Analysis Date: 6/11/2015 SeqNo: 798366 Units: mg/Kg Analyte PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** 0.9901 Benzene 1.2 0.050 0 118 69.2 126 0.050 0.9901 0 117 65.6 128 Toluene 1.2 Ethylbenzene 1.2 0.050 0.9901 0 122 65.5 138 Xylenes, Total 3.6 0.099 2.970 0 123 63 139

0.9901

Sample ID 1506438-001AMSD SampType: MSD TestCode: EPA Method 8021B: Volatiles Client ID: RunNo: 26767 **BatchQC** Batch ID: 19654 Prep Date: 6/10/2015 Analysis Date: 6/11/2015 SeqNo: 798367 Units: mg/Kg SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit **HighLimit** Qual Benzene 1.1 0.050 0.9980 0 112 69.2 126 3.97 18.5 Toluene 1.1 0.050 0.9980 0 113 65.6 128 2.70 20.6 Ethylbenzene 12 0.050 0.9980 0 119 65.5 138 1.80 20.1 0.10 2.994 0 119 63 139 2.07 21.1 Xylenes, Total 3.6 Surr: 4-Bromofluorobenzene 0.9980 105 80 120 1.1

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range

Surr: 4-Bromofluorobenzene

- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

105

80

120

- P Sample pH Not In Range
- RL Reporting Detection Limit

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#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1506444

16-Jun-15

Client: Project: Rule Engineering LLC

Lateral 10D-5 Pipeline

Sample ID MB-19635

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

PBS

Batch ID: 19635

RunNo: 26776

Units: %REC

Prep Date: Analyte

6/9/2015

Analysis Date: 6/11/2015 PQL

SeqNo: 798420

Qual

Surr: 4-Bromofluorobenzene

Result 0.93 SPK value SPK Ref Val 1.000

%REC LowLimit 93.1

80

**HighLimit** 120

Sample ID LCS-19635

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS

Batch ID: 19635

RunNo: 26776

Prep Date: 6/9/2015

Analysis Date: 6/11/2015

SeqNo: 798421

Units: %REC

**RPDLimit** 

SPK value SPK Ref Val

%REC

**HighLimit** 

**RPDLimit** 

Surr: 4-Bromofluorobenzene 1.1 1.000

109

120

Qual

Client ID: BatchQC

Sample ID 1506381-001AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

RunNo: 26776

Units: %REC

120

Analyte

Prep Date: 6/9/2015

Batch ID: 19635 Analysis Date: 6/11/2015

SeqNo: 798424

SPK value SPK Ref Val %REC LowLimit

LowLimit

**RPDLimit** 

Qual

Surr: 4-Bromofluorobenzene

Result 1.1

PQL SPK value SPK Ref Val %REC 0.9921

106

**HighLimit** 

%RPD

%RPD

%RPD

Sample ID 1506381-001AMSD

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

RunNo: 26776

Analyte

Client ID: BatchQC Prep Date: 6/9/2015

Surr: 4-Bromofluorobenzene

Batch ID: 19635

Result

1.2

Analysis Date: 6/11/2015

PQL

SeqNo: 798425

Units: %REC

Qual

1.000

80

**HighLimit** 

%RPD

**RPDLimit** 

Qualifiers: Value exceeds Maximum Contaminant Level

Value above quantitation range

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

RSD is greater than RSDlimit RPD outside accepted recovery limits Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH Not In Range

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riaii Environmeniai Anaiysis Laboraiory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: RULE ENGINEERING LL Work Order Numbe	r: 1506444		RcptNo: 1
Received by/date: 04/10/16			
ogged By: Lindsay Mangin 6/10/2015 6:45:00 AM	A	July Hogo	
Completed By: Lindsay Mangin 6/10/2015 8:56:31 AM	1	Juney Happy	
Reviewed By: AT U6/10/15		000	
hain of Custody			
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present
2. Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present
3. How was the sample delivered?	Courier		
og In			
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🐼	No 🗆	
9. Was preservative added to bottles?	Yes 🗆	No 🗹	NA 🗆
10.VOA vials have zero headspace?	Yes 🗆	No 🗆	No VOA Vials
1. Were any sample containers received broken?	Yes	No 🗹	# of preserved
12 Dags pagesyady match hattle labels?	Yes 🖈	No 🗆	bottles checked for pH:
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 💌	140	(<2 or >12 unless not
3. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?
4, is it clear what analyses were requested?	Yes 🗹	No 🗆	
15. Were all holding times able to be met?  (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:
pecial Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No 🗆	NA 🗹
Person Notified: Date:			
By Whom: Via:	eMail [	Phone  Fax	☐ In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. <u>Cooler Information</u>			
Cooler No Temp °C   Condition   Seal Intact   Seal No	Seal Date	Signed By	

Mailing Surk Phone email o	Address 205 #: 505 r Fax#: Package:	Englin 501 Farmu	Airport Drive	Turn-Around  Standar  Project Nam  Laked    Project #:  Project Man	d Rush ne: DD-5 Rpcl		ts (8021)	(Gas only)	1 Hav	www.kins	w.ha	llenv	viron ouqu Fax ysis	ment erqui 505- Req	tal.co	BOI om M 87*	<b>RAT</b>	TAL	
Accred		□ Othe	ar	Sampler:	Walson Zi Yes:	No.	3	0	7	504.1)			3,NO	/ 8082		3			N.
□ EDD					iperature.		TO M	BE +		09 pg	0 or	tals	NO,	ides	8	-VO	-		2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + ME	±	TPH 80158 ((	EDB (Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)			Air Bubbloe
6-9-15	1220	soul	Sc-1	1-402	Cold	-001	X		X										I
4	1225	1	Sc-2			-007	X	•	X					n n					4
	1230		8c-3			-1003	X		1								1 2		
1	1430		80-4			-004	X		1								7		
	1240		50-5			-005	X		X										
	1245		86-6			-000	X		X										
	1248		86-7			-007	X	,	X										
<u></u>	1445		Sc-8	4		-008	X		*										
Date:	Time:	Relinquish	ed by:	Received by:	( )	Date Time	Ren	narks:	Bu	to	Ente	apa	ne						
0/9/15 Date: 10/9/15	1856	Relinquish	nuh Ultu. ed by: tu Ukulau mitted to Hall Environmental may be sub-	Received by:	L See Recredited laborators	In 15 Not 5	Ave	a: 2									alytical rep	ort.	

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OIL CONS. DIV DIST. 3

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

AUG 07 2015

Form C-141 Revised August 8, 2011

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

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

				Sa	anta F	e, NM 8	7505	State - A		
		F	Releas	e Notific	atio	n and (	Corrective	Acti	on	
					OI	PERATO	R	Σ	Initial	Report  Final Report
		Enterprise I					Thomas Long			
		Ave, Farmin	igton, NN	187401			e No. 505-599			
Facility Na	me: Later	al 2B-24				Facility I	ype: Natural G	ias Gat	hering I	Pipeline
Surface O	wner: BLN	l e		Mineral	Owner	BLM			APIN	0.
and and				LOCA	-	N OF RE	LEASE			
Unit Letter E	Section 23	Township 28 N	Range 10W	Feet from the 1904	Line	th South	Feet from the 195	East/ Line	West	County San Juan
			L	atitude 36.	649603	3_Longitu	de107.8734	35		
		A. See		NAT	<b>TURE</b>	OF REL	EASE			
		ral Gas and N			Ryd de		of Release Unk			Recovered: None
Source of F	Release: Su	spected Inter	nal Corro	sion			d Hour of Occur @ 11:10 a.m.	rence:		nd Hour of Discovery:  @ 12:10 p.m.
Was Immed	diate Notice	Given?	s 🛭 No	Not Re	quired		To Whom? Cou	rtesy No	tification -	- Cory Smith - NMOCD, Shari
By Whom?					10		d Time 7/28/15			
Was a Wate	ercourse Re		⊠ Yes	□ No		If YES, Y	Volume Impactir	ng the W	atercours	se .
If a Waterco	ourse was li	mpacted, De	scribe Ful	ly.* Fluids wer	re relea	sed to the	ground surface	and flow	ed down	the hill into a small ephemeral
pipeline. Flu	uids were re	eleased to the	ground s	surface and flo	owed do	own the hill	into a small eph	emeral v	wash. The	gas leak on the Lateral 2B-24 e pipeline was isolated, blown ek of July 27, 2015.
contractor is	s overseein		activities	and will collect						party environmental rd party corrective action
rules and re which may relieve the o ground water	egulations a endanger poperator of l er, surface v	Il operators a ublic health o liability shoul water, humar	are require or the envi of their open on health or	ed to report an ronment. The erations have the environm	d/or file accep failed to nent. In	e certain rel stance of a 0 o adequate n addition, N	ease notification C-141 report by ly investigate ar	the NMC d remed nce of a	erform co OCD mark liate cont C-141 re	and that pursuant to NMOCD rrective actions for releases ked as "Final Report" does not amination that pose a threat to eport does not relieve the
Signature:	Jw me: lon E E	- Fullo	/						/	N DIVISION
Title: Direct						Approval [	by Environment Date: 8/18/		Expiration	n Date:
		@eprod.com	4				of Approval:			Attached

Date: 8/4/70/5

\* Attach Additional Sheets If Necessary

Phone: (713)381-6684 | Y # NCS 1523031981

#### OIL CONS. DIV DIST. 3

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 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural** Resources

AUG 17 2015

Form C-141 Revised August 8, 2011

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

Santa Fe, NM 87505

Oil Conservation Division 1220 South St. Francis Dr.

**Release Notification and Corrective Action OPERATOR** Initial Report Name of Company: Enterprise Field Services LLC Contact: Thomas Long Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Trunk K #2 Release Site Facility Type: Natural Gas Gathering Line Mineral Owner: BLM Surface Owner: BLM API No. LOCATION OF RELEASE **Unit Letter** Section Township Range Feet from North South Feet from East West County H 26 27N **8W** the the San Juan 2600 Latitude 36.544667 Longitude -107.644105 NATURE OF RELEASE Type of Release: Natural Gas and Natural Gas Liquids Volume of Release 5-10 BBLs Volume Recovered: None Condensate Date and Hour of Discovery: Source of Release: Internal Corrosion/Failed Repair Date and Hour of Occurrence: 2/18/2015 @ 2:00 p.m. 2/18/2015 @ 4:00 p.m. If YES, To Whom? Courtesy Notification: Cory Smith - NMOCD and Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required Shari Ketcham - BLM Date and Hour By Whom? If YES, Volume Impacting the Watercourse Was a Watercourse Reached? ☐ Yes ☒ No If a Watercourse was Impacted, Describe Fully.\* Describe Cause of Problem and Remedial Action: On February 18, 2015, during a routine leak survey, Enterprise discovered a release on the Trunk K pipeline. The pipeline was isolated and de-pressurized and lock out tag out was applied. No surface impacts were observed at any of the release locations. Remediation was complete on March 30, 2015. Describe Area Affected and Cleanup Action Taken.\* The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 42 feet long by 12 feet wide by 7.5 feet deep. Approximately 127 cubic yards of hydrocarbon impacted soil were excavated from the area of the identify release point and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. **OIL CONSERVATION DIVISION** Signature: Printed Name: Jon Fields Approved by Environmental Specialist: Title: Director, Environmental Approval Date: **Expiration Date** E-mail Address:jefields@eprod.com Conditions of Approval: Attached 8-12-2015 Phone: (713)381-6684 \* Attach Additional Sheets If Necessary JCS 15072532/H

Enterprise Products
Trunk K #2 Pipeline Release
Latitude North 36.544667°, Longitude West -107.644105°
SE/NE (Unit H), Section 26, T27N, R8W
San Juan County, New Mexico
July 31, 2015



Submitted To: Enterprise Products Operating, LLC. Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401 Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535





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Figure 3: Soil Contaminant Concentration Map

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Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

#### Appendices:

Appendix A: Photographic Documentation Appendix B: Soil Disposal Documentation Appendix C: Laboratory Analytical Reports

#### 1.0 Executive Summary

From March 5, through March 27, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Trunk K natural gas pipeline. The release was initially reported to SMA on March 1, 2015 and is a result of a failed carbon fiber I-wrap repair installed in October of 2014. The table below summarizes information about the pipeline remediation activities.

	TABLE 1:	RELEASE INFO	RMATION						
Name Trunk K #2 Pipeline Release									
	Latitude	/Longitude	Section, Township, Range						
Location	36.544667°	-107.644105°	SE/NE (Unit H)	Section 26	T 27N, R 8W				
Date Reported to SMA	March 1, 2015	100							
Reported by	Tom Long								
Land Owner	Bureau of Land	Bureau of Land Management (BLM)							
Reported To	NM Oil Conser	NM Oil Conservation Division (NMOCD) and BLM							
Diameter of Pipeline	16 inches								
Source of Release	Internal Corrosion and failed I-wrap repairs								
Release Contents		quids/Condensate		The state of the s					
Release Volume	Unknown								
Nearest Waterway		rgo Canyon Wash Canyon Wash	and within	an unnam	ed Tributary				
Depth to Groundwater	Estimated to b	e less than 50 fee	t						
Nearest Domestic Water Source	Greater than 1	,000 feet							
NMOCD Ranking	40	Contraction of the second		To Manager					
SMA Response Dates	March 5 through	gh March 30, 2015	5						
Subcontractors	Crossfire								
Disposal Facility	Envirotech								
Yd³ Contaminated Soil Excavated and Disposed	127 (Reported	as portion of atta	ched comp	leted C-138	3 forms)				

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Trunk K #2 pipeline release site. The site is located in SE/NE (Unit H), Section 26, T27N, R8W, 36.544667°, -107.644105°, San Juan County, New Mexico, on land owned by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located approximately 165 feet west of Largo Canyon Wash, in an area owned by the BLM with an elevation of approximately 5,963 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well was found within a one mile radius of the site. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 40 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### 4.0 Summary of Field Activities

Excavation of the Trunk K #2 site began on March 5, 2015 and continued, periodically, through March 30, 2015. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo-ionization detector (PID). Representatives from Enterprise were present to oversee site health and safety and direct repair activities.

Soil samples were initially field screened with a calibrated PID. When the soil at the vertical and horizontal extents of the excavation was suspected of having hydrocarbon contamination concentrations below regulatory standards, eight final samples were collected and submitted for confirmation laboratory analysis. Closure sample collection dates were scheduled for May 30, 2015 with the BLM and the NMOCD. Neither party was present to witness the sample collection. Samples were analyzed utilizing United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). Further, all sample analytes were below laboratory detection limits with the exception of SC-1 N Wall @ 0-7.5' and SC-7 W Base @ 7.5'. These samples had results of 18 mg/kg and 15 mg/kg DRO respectively.

The overall excavation measured approximately 42 feet long by 12 feet wide with a maximum depth of 7.5 feet with no indication of impacts to groundwater. All soil excavated from the Trunk K #2 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced

with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 3 detailing sample locations and laboratory results. A summary of laboratory analysis is included in Table 3. Copies of the laboratory reports are included in Appendix C.

SMA recommends no further action at the Trunk K #2 pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact Reid Allan at 505-325-7535.

Submitted by:

Reviewed by:

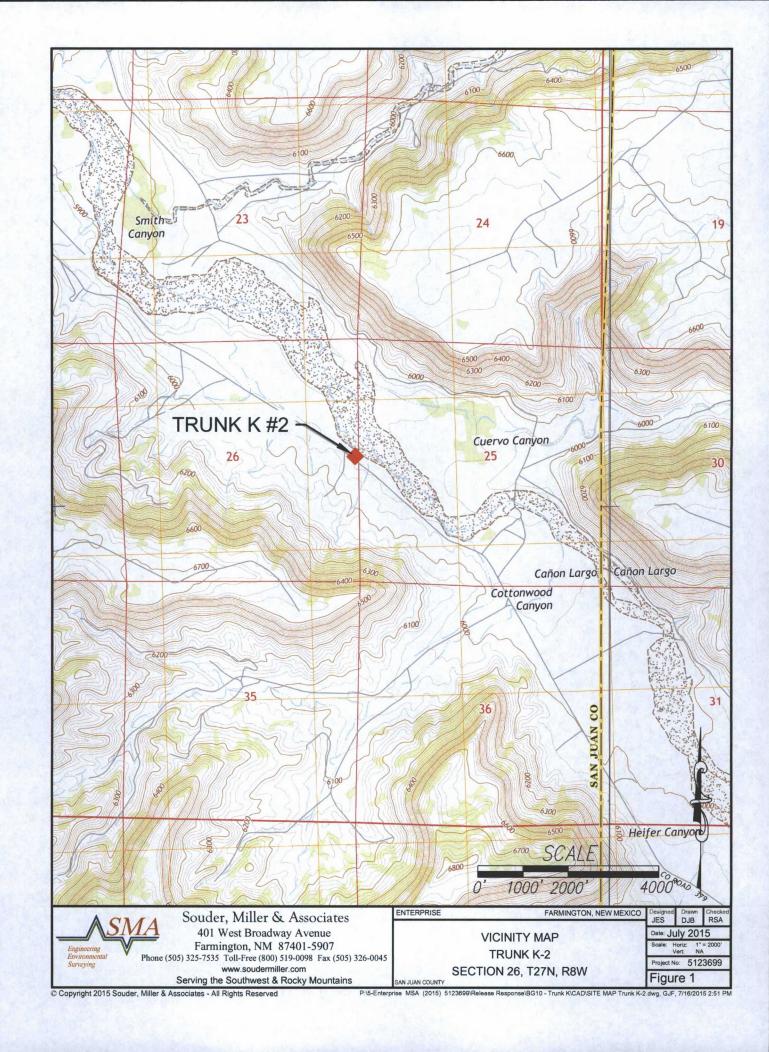
SOUDER, MILLER & ASSOCIATES

Jesse Sprague Staff Scientist Reid Allan, P.G.

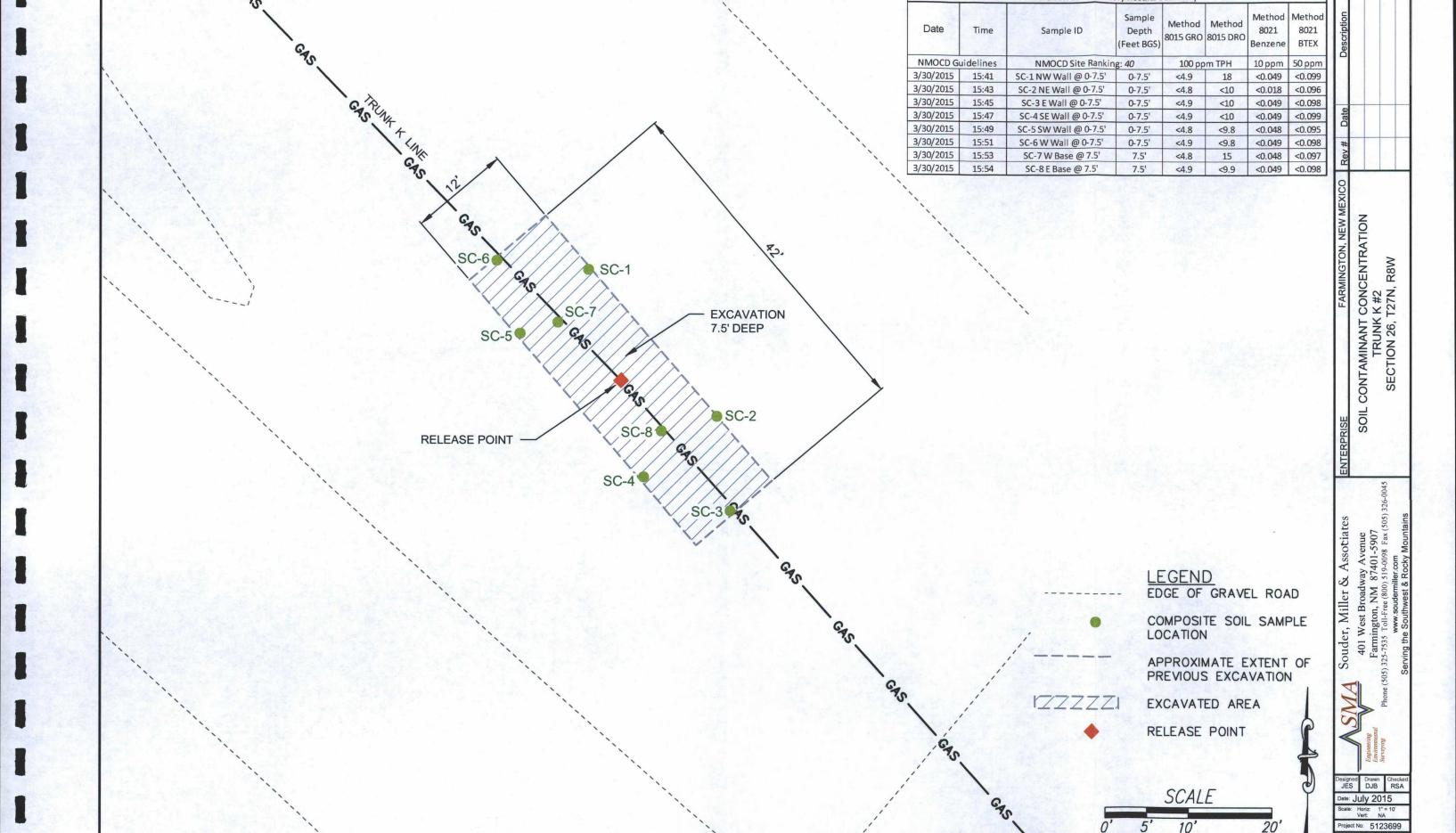
Vice President/Principal Scientist

alle

**Figures** 







**Tables** 

Site I	Ranking Information: Trunk	K #2 Pipeline Release Site		
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes	
< 50 BGS = 20	20			
50' to 99' = 10		Field verification that release is located 165 feet west of Largo Canyon Wash	Groundwater was encountered at 18 feet below ground surface	
>100' = 0				
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes	
< 200' = 20	20			
200'-1000' = 10		Field verification that release is located 165 feet west of Largo Canyon Wash	Release is located less than 200 feet from Largo Canyon Wash	
>1000'				
Ranking Criteria for Horizontal  Distance to a Water Well or Water  Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes	
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells locate within 1,000 feet and 1 located within a 1 mile radius	
Total Site Ranking		40		
Soil Remedation Standards	0 to 9	10 to 19	>19	
Benzene	10 PPM	10 PPM	10 PPM	
ВТЕХ	50 PPM	50 PPM	50 PPM	
ТРН	5000 PPM	1000 PPM	100 PPM	

		Trunk K #2 Labora	tory Results S	ummary			
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD G	uidelines	NMOCD Site Rankin	g: 40	100 pp	m TPH	10 ppm	50 ppm
3/30/2015	15:41	SC-1 NW Wall @ 0-7.5'	0-7.5'	<4.9	18	<0.049	<0.099
3/30/2015	15:43	SC-2 NE Wall @ 0-7.5'	0-7.5'	<4.8	<10	<0.018	<0.096
3/30/2015	15:45	SC-3 E Wall @ 0-7.5'	0-7.5'	<4.9	<10	<0.049	<0.098
3/30/2015	15:47	SC-4 SE Wall @ 0-7.5'	0-7.5'	<4.9	<10	<0.049	<0.099
3/30/2015	15:49	SC-5 SW Wall @ 0-7.5'	0-7.5'	<4.8	<9.8	<0.048	<0.095
3/30/2015	15:51	SC-6 W Wall @ 0-7.5'	0-7.5'	<4.9	<9.8	<0.049	<0.098
3/30/2015	15:53	SC-7 W Base @ 7.5'	7.5'	<4.8	15	<0.048	<0.097
3/30/2015	15:54	SC-8 E Base @ 7.5'	7.5'	<4.9	<9.9	<0.049	<0.098



Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Trunk K #2 Pipeline Release

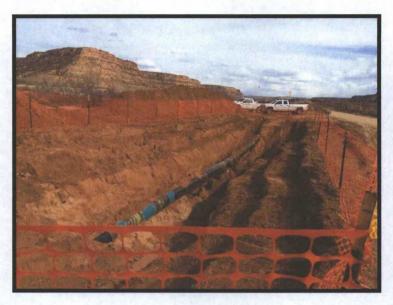


**Photo 1:** Trunk K #2 release point, result of failed I-Wrap repair, liquids visible in photo.



**Photo 2:** Trunk K #2 excavation extended along the pipeline removing contaminated soils.

# Site Photographs Enterprise Products Trunk K #2 Pipeline Release



**Photo 3:** Trunk K #2 release location after repairs were completed in the spring of 2015.



Photo 4: Trunk K #2 excavation at its final extent prior to sampling.

Appendix B
Soil Disposal Documentation

District 1
1625 N. French Dr., Hobbs, NM 88240
District 11
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-0697 Form C-138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401  March 2015
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
4. Source and Description of Waste:  Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200d <sup>3</sup> /bbls Known Volume (to be entered by the operator at the end of the haul)yd <sup>3</sup> /bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 3-26-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runny, representative for Envirotech, Inc. do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:    Evaporation   Injection   Treating Plant   Landfarm   Landfill   Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Kendra Runung TITLE: Waste Good; motor DATE: 3-26-1
SIGNATURE: TELEPHONE NO.: Surface Waste Management Facility Agnorized Agent 505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
4. Source and Description of Waste: Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Running representative for Envirotech, Inc. do hereby certify that  Representative/Agent Signature
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire, Rosenbaum, Kuvek, Bailey's Welding
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other
PRINT NAME: Rendra Runun V TITLE: Waste Coodinator DATE: 4/3/15
SIGNATURE: TELEPHONE NO.: Surface Waste Management Facility Authorized Agent 505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-06-50m C/138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	
2. Originating Site: Trunk K Release Sites	May 2015
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Tow 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994	
4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with excavation active Estimated Volume200	
5. GENERATOR CERTIFICATION STAT	EMENT OF WASTE STATUS
, representative or authorized agent for Enterprise Field  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RC regulatory determination, the above described waste is: (Check the appropriate of the conservation).	RA) and the US Environmental Protection Agency's July 1988
RCRA Exempt: Oil field wastes generated from oil and gas explore exempt waste.  Operator Use Only: Waste Acceptance Frequency	
RCRA Non-Exempt: Oil field waste which is non-hazardous that characteristics established in RCRA regulations, 40 CFR 261.21-261.2 subpart D, as amended. The following documentation is attached to de the appropriate items)	4, or listed hazardous waste as defined in 40 CFR, part 261,
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Proce	ess Knowledge
GENERATOR 19.15.36.15 WASTE TESTING CERTIFIC.	ATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC Generator Signature the required testing/sign the Generator Waste Testing Certification.	authorize Envirotech, Inc. to complete
I, Running, representative for Envirotech, Inc	do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the pair have been found to conform to the specific requirements applicable to land of the representative samples are attached to demonstrate the above-describ 19.15.36 NMAC.	farms pursuant to Section 15 of 19.15.36 NMAC. The results
5. Transporter: Crossfire Baileys toserban	M.
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Fac Address of Facility: Hilltop, NM	ility * Permit #: NM 01-0011
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☐	Landfarm    Landfill   Other
Waste Acceptance Status:	DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: TITLE: TELEPH SIGNATURE: Surface Waste Management Facility Appropriated Agent	Naste Coodinate DATE: 5-1-15 ONE NO.: 505-632-0615

District | 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV

State of New Mexico (
Energy Minerals and Natural Resources
Oil Conservation Division

1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-138
Revised 08/01/11

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

### 1220 S. St. Francis Dr., Santa Fe, NM 87505 REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 Originating Site: Trunk K Release Sites Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM Source and Description of Waste: Source: Natural Gas Pipeline Release GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS representative or authorized agent for Enterprise Field Services, LLC Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load exempt waste. RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 6-15-2013 3-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete **Generator Signature** the required testing/sign the Generator Waste Testing Certification. representative for Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC. Transporter: Granding Corvivoteo OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011 Address of Facility: Hilltop, NM Method of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfill ☐ Other Waste Acceptance Status: APPROVED ☐ DENIED (Must Be Maintained As Permanent Record) PENDATE: CO-15-15 PRINT NAME: TITLE: 1 4 TELEPHONE NO.: SIGNATURE:

505-632-0615

Surface Waste Management Facility Authorized Agent

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 03, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K #2 OrderNo.: 1503D67

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/31/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-1 NW wall@0-7.5'

Project: Trunk K #2

Collection Date: 3/30/2015 3:41:00 PM

Lab ID: 1503D67-001

Matrix: SOIL Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analyst	BCN
Diesel Range Organics (DRO)	18	9.9	mg/Kg	1	4/1/2015 4:35:45 PM	18415
Surr: DNOP	116	63.5-128	%REC	1	4/1/2015 4:35:45 PM	18415
PA METHOD 8015D: GASOLINE RANGE					Analyst	: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/1/2015 10:27:31 AM	18438
Surr: BFB	89.9	80-120	%REC	1	4/1/2015 10:27:31 AM	18438
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.049	mg/Kg	1	4/1/2015 10:27:31 AM	18438
Toluene	ND	0.049	mg/Kg	1	4/1/2015 10:27:31 AM	18438
Ethylbenzene	ND	0.049	mg/Kg	1	4/1/2015 10:27:31 AM	18438
Xylenes, Total	ND	0.099	mg/Kg	1	4/1/2015 10:27:31 AM	18438
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	4/1/2015 10:27:31 AM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 NE wall@0-7.5'

Project: Trunk K #2

Collection Date: 3/30/2015 3:43:00 PM

Lab ID: 1503D67-002

Received Date: 3/31/2015 8:45:00 AM

i i	Batch
Analyst: I	BCN
5 PM	18415
5 PM	18415
Analyst: I	RAA
54 AM	18438
54 AM	18438
Analyst: I	RAA
7 PM	18438
5	57 PM 57 PM 57 PM

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3 E wall@0-7.5'

Project: Trunk K #2

**Collection Date:** 3/30/2015 3:45:00 PM

**Lab ID:** 1503D67-003

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS			1	Analys	: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/1/2015 5:18:19 PM	18415
Surr: DNOP	102	63.5-128	%REC	1	4/1/2015 5:18:19 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/2/2015 11:20:04 AM	18438
Surr: BFB	88.6	80-120	%REC	1	4/2/2015 11:20:04 AM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	RAA
Benzene	ND	0.049	mg/Kg	1	4/1/2015 10:09:10 PM	18438
Toluene	ND	0.049	mg/Kg	1	4/1/2015 10:09:10 PM	18438
Ethylbenzene	ND	0.049	mg/Kg	1	4/1/2015 10:09:10 PM	18438
Xylenes, Total	ND	0.098	mg/Kg	1	4/1/2015 10:09:10 PM	18438
Surr: 4-Bromofluorobenzene	99.5	80-120	%REC	1	4/1/2015 10:09:10 PM	18438

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 SE wall@0-7.5'

Project: Trunk K #2

**Collection Date:** 3/30/2015 3:47:00 PM

Lab ID: 1503D67-004

Matrix: SOIL

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/1/2015 5:39:36 PM	18415
Surr: DNOP	95.4	63.5-128	%REC	1	4/1/2015 5:39:36 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/1/2015 1:52:22 PM	18438
Surr: BFB	82.8	80-120	%REC	1	4/1/2015 1:52:22 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.049	mg/Kg	1	4/1/2015 1:52:22 PM	18438
Toluene	ND	0.049	mg/Kg	1	4/1/2015 1:52:22 PM	18438
Ethylbenzene	ND	0.049	mg/Kg	1	4/1/2015 1:52:22 PM	18438
Xylenes, Total	ND	0.099	mg/Kg	1	4/1/2015 1:52:22 PM	18438
Surr: 4-Bromofluorobenzene	91.6	80-120	%REC	1	4/1/2015 1:52:22 PM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 SW wall@0-7.5'

Project: Trunk K #2

Collection Date: 3/30/2015 3:49:00 PM

Lab ID: 1503D67-005

Matrix: SOIL Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/1/2015 6:00:50 PM	18415
Surr: DNOP	95.1	63.5-128	%REC	1	4/1/2015 6:00:50 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/1/2015 2:50:49 PM	18438
Surr: BFB	86.5	80-120	%REC	1	4/1/2015 2:50:49 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.048	mg/Kg	1	4/1/2015 2:50:49 PM	18438
Toluene	ND	0.048	mg/Kg	1	4/1/2015 2:50:49 PM	18438
Ethylbenzene	ND	0.048	mg/Kg	1	4/1/2015 2:50:49 PM	18438
Xylenes, Total	ND	0.095	mg/Kg	1	4/1/2015 2:50:49 PM	18438
Surr: 4-Bromofluorobenzene	94.8	80-120	%REC	1	4/1/2015 2:50:49 PM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Lab ID: 1503D67-006

Project:

Trunk K #2

Matrix: SOIL

Client Sample ID: SC-6 W wall@0-7.5'

Collection Date: 3/30/2015 3:51:00 PM Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS			7	Analyst	BCN
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/1/2015 6:22:13 PM	18415
Surr: DNOP	96.8	63.5-128	%REC	1	4/1/2015 6:22:13 PM	18415
<b>EPA METHOD 8015D: GASOLINE RAN</b>	IGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/2/2015 11:49:15 AM	18438
Surr: BFB	89.0	80-120	%REC	1	4/2/2015 11:49:15 AM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: RAA
Benzene	ND	0.049	mg/Kg	1	4/2/2015 11:49:15 AM	18438
Toluene	ND	0.049	mg/Kg	1	4/2/2015 11:49:15 AM	18438
Ethylbenzene	ND	0.049	mg/Kg	1	4/2/2015 11:49:15 AM	18438
Xylenes, Total	ND	0.098	mg/Kg	1	4/2/2015 11:49:15 AM	18438
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	4/2/2015 11:49:15 AM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K #2

Lab ID: 1503D67-007

Matrix: SOIL

Client Sample ID: SC-7 W Base@7.5'

**Collection Date:** 3/30/2015 3:53:00 PM **Received Date:** 3/31/2015 8:45:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	15	10	mg/Kg	1	4/1/2015 6:43:29 PM	18415
Surr: DNOP	105	63.5-128	%REC	1	4/1/2015 6:43:29 PM	18415
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/1/2015 3:49:19 PM	18438
Surr: BFB	83.7	80-120	%REC	1	4/1/2015 3:49:19 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.048	mg/Kg	1	4/1/2015 3:49:19 PM	18438
Toluene	ND	0.048	mg/Kg	1	4/1/2015 3:49:19 PM	18438
Ethylbenzene	ND	0.048	mg/Kg	1	4/1/2015 3:49:19 PM	18438
Xylenes, Total	ND	0.097	mg/Kg	1	4/1/2015 3:49:19 PM	18438
Surr: 4-Bromofluorobenzene	88.0	80-120	%REC	1	4/1/2015 3:49:19 PM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 7 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D67

Date Reported: 4/3/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 E Base@7.5'

Collection Date: 3/30/2015 3:54:00 PM

Project: Trunk K #2 Lab ID: 1503D67-008

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	4/1/2015 7:04:46 PM	18415
Surr: DNOP	106	63.5-128	%REC	1	4/1/2015 7:04:46 PM	18415
<b>EPA METHOD 8015D: GASOLINE RA</b>	NGE				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/2/2015 6:38:55 PM	18438
Surr: BFB	87.0	80-120	%REC	1	4/2/2015 6:38:55 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.049	mg/Kg	1	4/2/2015 6:38:55 PM	18438
Toluene	ND	0.049	mg/Kg	1	4/2/2015 6:38:55 PM	18438
Ethylbenzene	ND	0.049	mg/Kg	1	4/2/2015 6:38:55 PM	18438
Xylenes, Total	ND	0.098	mg/Kg	1	4/2/2015 6:38:55 PM	18438
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	4/2/2015 6:38:55 PM	18438

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 11

- Sample pH Not In Range
- RL Reporting Detection Limit

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D67

03-Apr-15

Client: Souder, Miller and Associates

Project: Trunk K #2

Sample ID MB-18415 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics RunNo: 25210 Client ID: **PBS** Batch ID: 18415 Prep Date: 3/30/2015 Analysis Date: 4/1/2015 SeqNo: 745560 Units: mg/Kg %RPD **RPDLimit** Qual SPK value SPK Ref Val %REC HighLimit Analyte Result **PQL** LowLimit Diesel Range Organics (DRO) ND 10 Surr: DNOP 9.5 10.00 94.7 63.5 128

TestCode: EPA Method 8015D: Diesel Range Organics Sample ID LCS-18415 SampType: LCS Client ID: LCSS Batch ID: 18415 RunNo: 25210 SeqNo: 745613 Prep Date: 3/30/2015 Units: mg/Kg Analysis Date: 4/1/2015 %REC SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual Result POL Diesel Range Organics (DRO) 50 10 50.00 0 99.8 67.8 130 Surr: DNOP 5.4 5.000 108 63.5 128

Sample ID LCS-18456 TestCode: EPA Method 8015D: Diesel Range Organics SampType: LCS Client ID: LCSS Batch ID: 18456 RunNo: 25230 SeqNo: 746177 Units: %REC Prep Date: 4/1/2015 Analysis Date: 4/2/2015 SPK value SPK Ref Val %REC %RPD **RPDLimit** Qual Result PQL LowLimit HighLimit Analyte 5.3 5.000 107 63.5 128 Surr: DNOP

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D67

03-Apr-15

Client: Souder, Miller and Associates

Project: Trunk K #2

Sample ID 1503D67-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: SC-1 NW wall@0-7. Batch ID: 18438 RunNo: 25236

Prep Date: 3/31/2015 Analysis Date: 4/1/2015 SeqNo: 746184 Units: mg/Kg

%REC HighLimit %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val LowLimit Qual Gasoline Range Organics (GRO) 27 4.9 111 47.9 144 24.68

Surr: BFB 960 987.2 97.2 80 120

Sample ID 1503D67-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: SC-1 NW wall@0-7. Batch ID: 18438 RunNo: 25236

Prep Date: 3/31/2015 Analysis Date: 4/1/2015 SeqNo: 746185 Units: mg/Kg

%RPD Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit RPDLimit** Qual Analyte 29 4.9 24.73 47.9 5.45 29.9 Gasoline Range Organics (GRO) 117 144 Surr: BFB 1000 989.1 101 80 120 0 0

Sample ID LCS-18438 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 18438 RunNo: 25236

Prep Date: 3/31/2015 Analysis Date: 4/1/2015 SeqNo: 746200 Units: mg/Kg

Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Analyte Gasoline Range Organics (GRO) 26 5.0 0 64 25.00 103 130 1000 1000 99.6 80 120 Surr: BFB

Sample ID MB-18438 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 18438 RunNo: 25236

Prep Date: 3/31/2015 Analysis Date: 4/1/2015 SeqNo: 746201 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 860 1000 85.7 80 120

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D67

03-Apr-15

Client:

Souder, Miller and Associates

Project:

Trunk K #2

Sample ID 1503D67-002AN	Samp1	Type: MS	3	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: SC-2 NE wall@	0-7.5' Batcl	h ID: 18	438	F	RunNo: 2	5236				
Prep Date: 3/31/2015	Analysis E	Date: 4/	1/2015	8	SeqNo: 7	46208	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9560	0.006220	106	69.2	126			V.,
Toluene	0.99	0.048	0.9560	0.009665	102	65.6	128			
Ethylbenzene	0.91	0.048	0.9560	0.01531	94.0	65.5	138			
Xylenes, Total	2.8	0.096	2.868	0.04890	96.4	63	139			
Surr: 4-Bromofluorobenzene	0.93		0.9560		97.0	80	120			

Sample ID 1503D67-002AN	ISD Samp	Type: MS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: SC-2 NE wall@	0-7.5' Batcl	h ID: 18	438	F	RunNo: 2	5236				
Prep Date: 3/31/2015	Analysis D	Date: 4/	1/2015	5	SeqNo: 7	46209	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9569	0.006220	104	69.2	126	1.60	18.5	
Toluene	0.99	0.048	0.9569	0.009665	102	65.6	128	0.183	20.6	
Ethylbenzene	0.91	0.048	0.9569	0.01531	94.0	65.5	138	0.0538	20.1	
Xylenes, Total	2.8	0.096	2.871	0.04890	95.6	63	139	0.655	21.1	
Surr: 4-Bromofluorobenzene	0.76		0.9569		79.8	80	120	0	0	S

Sample ID LCS-18438	Samp	ype: LC	S				8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 184	438	F	RunNo: 2	5236				
Prep Date: 3/31/2015	Analysis E	Date: 4/	1/2015		SeqNo: 7	46222	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	76.6	128	414		4-6
Toluene	1.0	0.050	1.000	0	105	75	124			
Ethylbenzene	0.99	0.050	1.000	0	99.5	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	99.5	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID MB-18438	Samp	Type: MI	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 18	438	F	RunNo: 2	5236				
Prep Date: 3/31/2015	Analysis [	Date: 4	/1/2015	8	eqNo: 7	46223	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050			- Y					AT BUILD
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	80	120			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM Work Order Number	er: 1503D67		RcptNo: 1
Received by/date: AT 03/31/15			
Logged By: Celina Sessa 3/31/2015 8:45:00 Al	М	Celin S	ma
Completed By: Celina Sessa 3/31/2015 9:10:26 Al	М	Colina	
Reviewed By: 10 03/31/15		and f	ma.
Chain of Custody			
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present 🗹
2. Is Chain of Custody complete?	Yes 🗸	No 🗆	Not Present
3. How was the sample delivered?	Courier		
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No 🗆	
9. Was preservative added to bottles?	Yes	No 🗸	NA 🗆
10. VOA vials have zero headspace?	Yes	No 🗆	No VOA Vials
11. Were any sample containers received broken?	Yes	No 🗸	# of preserved
			bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗸	No L	for pH: (<2 or >12 unless no
13 Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🗸	No 🗌	
15. Were all holding times able to be met?  (If no, notify customer for authorization.)	Yes 🛂	No 🗆	Checked by:
(into, notify dustons) for dustronization.			
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No 🗆	NA 🗹
Person Notified: Date			
By Whom: Via:	eMail	Phone Fax	☐ In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. Cooler Information  Cooler No   Temp °C   Condition   Seal Intact   Seal No	Seal Date	Signed By	
1 1.0 Good Yes	Seal Date	Oigheu by	

C	hain-	of-Cu	ustody Record	Turn-Around	Time:								_						-	1
	Sm			Standard			-			A	N	AL	YS	515	S L	AE	30	1EN RAT		
	_	. 1	W. Broaduay n, NM 87401 () 5 7535	Tru	ik k	#N20589					ns N	NE -	Alb	uqu ax		e, NI 345-	M 87			
email o	r Fax#:	steven.v	noskal@soudermille.u  Level 4 (Full Validation)	Project Mana	moska	al)	TMB's (8021)	+ TPH (Gas only)	DRO / WIRO)			SIMS)		2,PO4,SO4)	2 PCB's					
Accredi	AP	□ Othe	er	On Ice:	VYes.	□ No	9	+ TPI	0	418.1)	504.1)		S	JO3,NO	es / 808		OA)			or N)
□ EDD	Time	Matrix	Sample Request ID	Sample Tem  Container Type and #	Preservative Type	HEAL No. 1503D 67	BTES MTB	BTEX + MTBE +	<b>FPH 8015B (GRO</b>	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
130119	1541	Soil	SC-1 NW wall@0-7.5	402 x1	AVA	-001	I												2	
7	1543		SC-2NE walk 00-7.5	THE RESERVE OF THE PARTY OF THE	1	-002	1													
	1545		SC-3 E wall po-7.5'		1	-003	1					- 1								
	1547		Sc-4 Se wall @0-75			-004												2 2 2		
	549		SC-5 Sw wall 60-75	1		-005								15						
	1551		20-6 W wall 00-7	5'		-007														
	1553		\$C-7 W BASE (07.5			-008									1					3 1
1	1554	V	SC-8 E Basi@ 7.5	4	4	-009	1		V											
																			-	
Date:	Time: 1750 Time: 1853	Relinquish	tecoreno	Received by:	Weet	Pate Time 3/36/15 18/10 Date Time 03/3/15 08/45	アエ		vice											

-

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

# OIL CONS. DIV DIST. 3

State of New Mexico Energy Minerals and Natural Resources

AUG 17 2015

Form C-141 Revised August 8, 2011

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

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

				Sa	nta Fe	e, NM 8	/505					المنابع فالمنابع والماري
		F	Releas	e Notific	atio	n and (	Corrective	e Acti	on			
					OF	PERATO	R	Г	] Initia	Report	$\bowtie$	Final Repor
Name of C	company:	Enterprise I	Field Ser	vices LLC			Thomas Long		in the same	151/019		
		Ave, Farmin					e No. 505-599	9-2286				
Facility Na	me: Truni	k K #5 Rele	ase Site		127	Facility Ty	pe: Natural (	Gas Gat	hering l	_ine	11	
Surface O	wner:BLM			Mineral (	Owner:	BLM			APIN	lo.		
				LOCA	ATION	OF RE	IFASE					
Unit Letter	Section	Township	Range	Feet from		hSouth	Feet from	East	West	County		
В	26	27N	8W	the <b>753</b>	Line		the 1853	Line		San Jua	an	
			ı	_atitude <u>36.5</u>	549580	Longitu	de <u>-107.6500</u>	90				
				NAT	URE	OF REL	EASE					
Type of Re	ease: Natu	ral Gas and N	Natural Ga	as Liquids		Volume Conden	of Release <b>5-1</b> 0 <b>sate</b>	0 BBLs	Volume	Recovere	d: Non	е
Source of F	Release: Inte	ernal Corrosi	on/Failed	Repair		2/18/201	d Hour of Occur 5 @ 2:00 p.m.		2/18/20	nd Hour of 1 15 @ 4:00	p.m.	91
Was Immed	diate Notice		s 🗌 No	Not Red	quired		o Whom? Cou tcham - BLM	rtesy Not	ification:	Cory Smith	n – NM	OCD and
By Whom?						Date and	d Hour					
Was a Wate	ercourse Re	eached?	☐ Yes	⊠ No		If YES, \	/olume Impacti	ng the W	atercours	se		
If a Waterco	ourse was I	mpacted, Des	scribe Ful	ly.*			4.10		Section 1			August Francisco
the Trunk k any of the r Describe A measured a	C pipeline. T elease loca rea Affected approximate	the pipeline wations. Remediand Cleanural and Cleanural 32 feet longer	vas isolate diation wa p Action T ng by 23 fe	ad and de-pres as complete on aken.* The co eet wide by 13	April 6	and lock of 2015.  ant mass weep. Appro	ng a routine lead that tag out was vas removed by ximately 200 cu Mexico Oil Co	mechan	No surfa	ce impacts vation. The	were o	excavation soil were
I hereby ce	rtify that the	information	given abo		comple		est of my knowl					
which may relieve the ground wat	endanger p operator of er, surface	ublic health o liability shoul water, humar	or the envi d their ope n health or	ronment. The erations have to the environm	accept failed to ent. In	ance of a ( adequate addition, N	ease notification C-141 report by y investigate an MOCD accepta laws and/or reg	the NMC nd remed ance of a	OCD mark liate cont C-141 re	ked as "Finamination t	al Rep	ort" does not se a threat to
Signature:	X	on f	Tell				OIL CO	NSER\	/ATIOI	N DIVISI	ON	
Printed Nar	ne: Von Fie	lds				Approved	oy Environmen	tal Specia	alist: (	any	L	nd !
Title: Direct	or, Environ	mental				Approval [	Pate: 9/4//	5	Expiratio	n Date:		
E-mail Add	ress:jefields	@eprod.com				Conditions	of Approval:			Attache	ed 🗌	
Date:	8-12-	2015	Phor	ne: (713)381-6	684							

\* Attach Additional Sheets If Necessary

#NCS 1507253264



Enterprise Products
Trunk K #5 Pipeline Release
Latitude North 36.549580 °, Longitude West -107.650090°
NW/NE (Unit B), Section 26, T27N, R8W
San Juan County, New Mexico
July 30, 2015



### Submitted To: Enterprise Products Operating, LLC. Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401

Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535





### **Table of Contents**

1.0	Executive Summary	
2.0	Introduction	
3.0	Site Ranking and Land Jurisdiction	2
4.0	Summary of Field Activities	2
5.0	Conclusions and Recommendations	2
6.0	Closure and Limitations	3

### Figures:

Figure 1: Vicinity Map Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

#### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Photographic Documentation Appendix B: Soil Disposal Documentation Appendix C: Laboratory Analytical Reports Trunk K #5
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG10

### 1.0 Executive Summary

From March 4, through March 30, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Trunk K natural gas pipeline. The release was initially reported to SMA on March 1, 2015 and is a result of a failed carbon fiber I-wrap repair installed in October of 2014. The table below summarizes information about the pipeline remediation activities.

	TABLE 1:	RELEASE INFO	RMATION		
Name		Trunk K #5	Pipeline R	Release	
	Latitude	/Longitude	Sec	tion, Town	ship, Range
Location	36.549580°	-107.650090°	NW/NE (Unit B)	Section 26	T27N, R 8W
Date Reported to SMA	March 1, 2015				
Reported by	Tom Long		ALL THE REAL PROPERTY.		
Land Owner	Bureau of Land	d Management (B	LM)	Ten State	
Reported To	NM Oil Conser	vation Division (N	MOCD) an	d BLM	
Diameter of Pipeline	16 inches				
Source of Release	Internal Corros	sion and failed I-w	rap repairs		
Release Contents	Natural Gas Li	quids/Condensate	)	P. Sul	
Release Volume	Unknown				
Nearest Waterway		rgo Canyon Wash Canyon Wash	and within	an unnam	ed Tributary
Depth to Groundwater	Estimated to b	e less than 50 fee	t		
Nearest Domestic Water Source	Greater than 1	,000 feet			
NMOCD Ranking	30	The state of the s			
SMA Response Dates	March 4 through	gh April 6, 2015	William A		
Subcontractors	Crossfire				
Disposal Facility	Envirotech		100		
Yd³ Contaminated Soil Excavated and Disposed	200 (Reported	as portion of attac	ched C-138	3 forms)	

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Trunk K #5 pipeline release site. The site is located in NW/NE (Unit B), Section 26, T27N, R8W, 36.549580°, -107.650090°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

Trunk K #5
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG10

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located approximately 370 feet west of Largo Canyon Wash, in an area owned by the BLM with an elevation of approximately 5,963 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well was found within a one mile radius of the site. There is no anticipated impact to this well. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 30 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### 4.0 Summary of Field Activities

Excavation of the Trunk K #5 site began on March 4, 2015 and continued, periodically, through April 6, 2015. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo ionization detector (PID). Representatives from Enterprise were present to oversee site health and safety and direct repair activities.

Soil samples were initially field screened with the calibrated PID. When the soil at the vertical and horizontal extents of the excavation was suspected of having hydrocarbon contamination concentrations below regulatory standards, five final samples were collected and submitted for confirmation laboratory analysis. Closure sample collection dates were scheduled with the BLM and the NMOCD for the observation of sampling activities on May 30, 2015. Neither party was present to witness the sample collection. On April 6, 2015, the base of the excavation was increased to 13' bgs and resampled. Samples were analyzed utilizing United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for four of the five samples collected on May 30, 2015 were below NMOCD Guideline standards and laboratory detection limits. Sample composite SC-5 Base @ 12' was above standards with 140 mg/Kg DRO. The depth of the excavation was increased to 13 feet bgs and a follow up sample collected on April 7, 2015. All final laboratory results for this sample were below NMOCD remediation guidelines.

The overall excavation measured 32 feet long and 15 feet wide with a depth of 13 feet bgs with no indication of impacts to groundwater. All soil excavated from the Trunk K #5 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 3 detailing sample locations and laboratory results. A summary of laboratory analysis is included in Table 3. Copies of the laboratory reports are included in Appendix C.

SMA recommends no further action at the Trunk K #5 pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact Reid Allan at 505-325-7535.

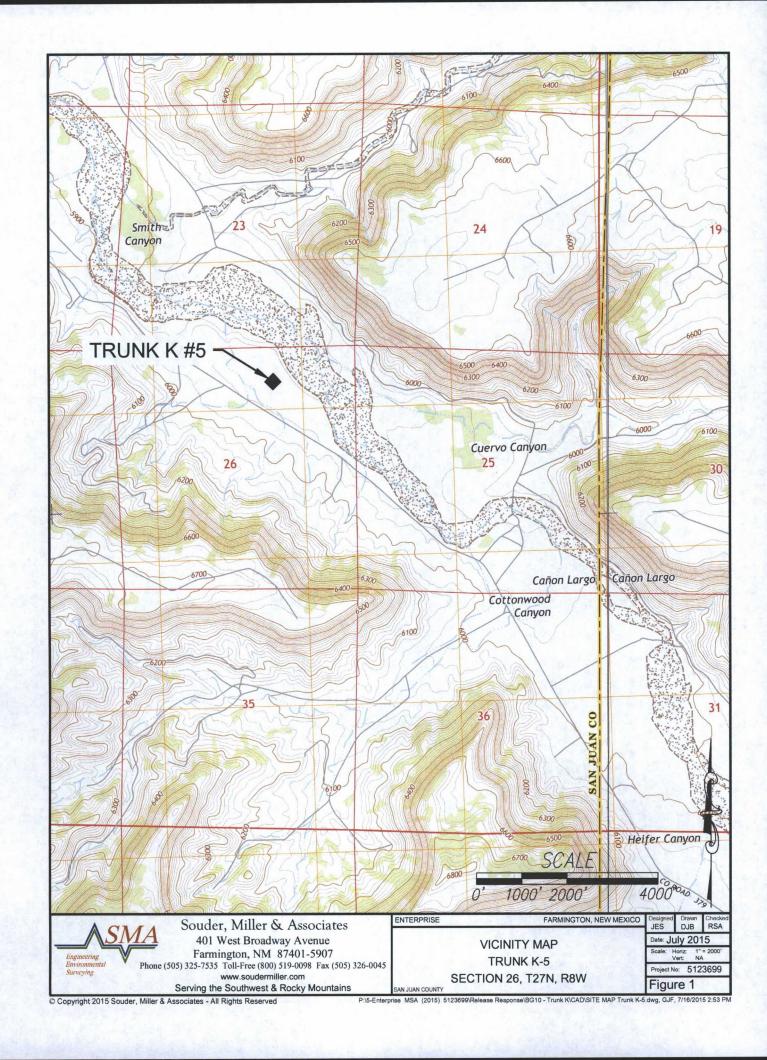
Submitted by:

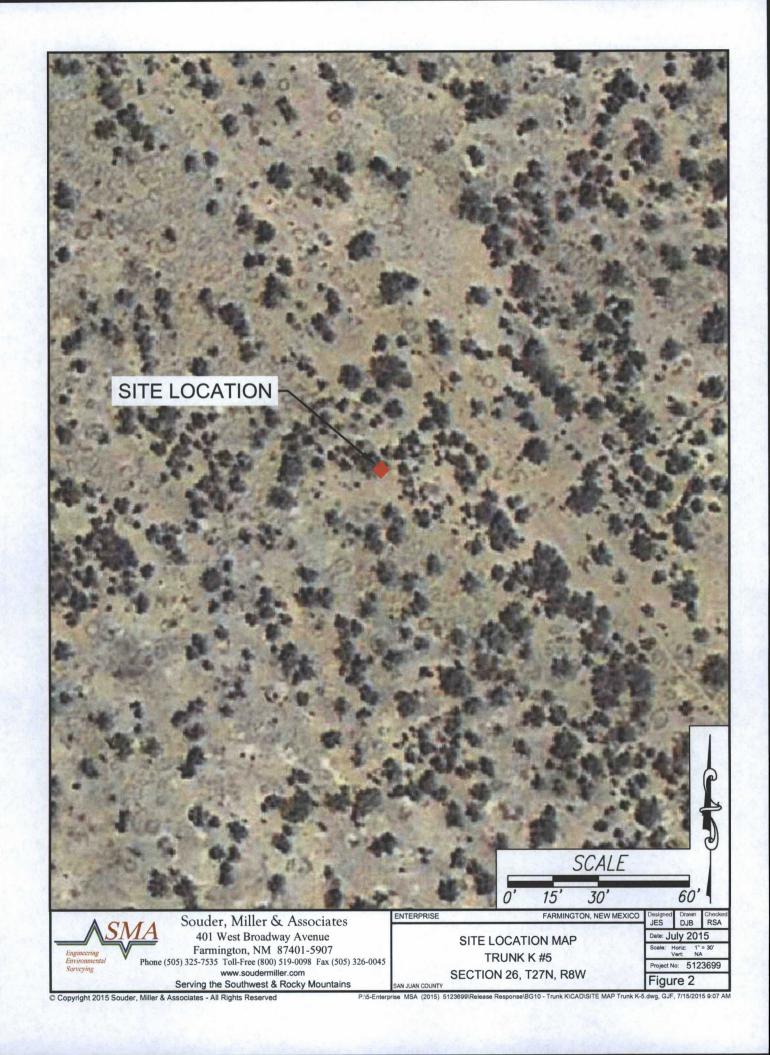
SOUDER, MILLER & ASSOCIATES

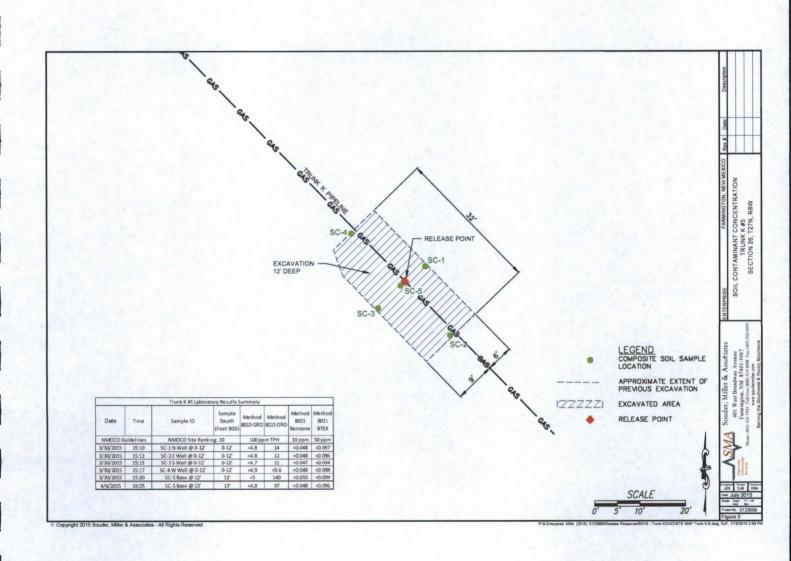
Jesse Sprague Staff Scientist

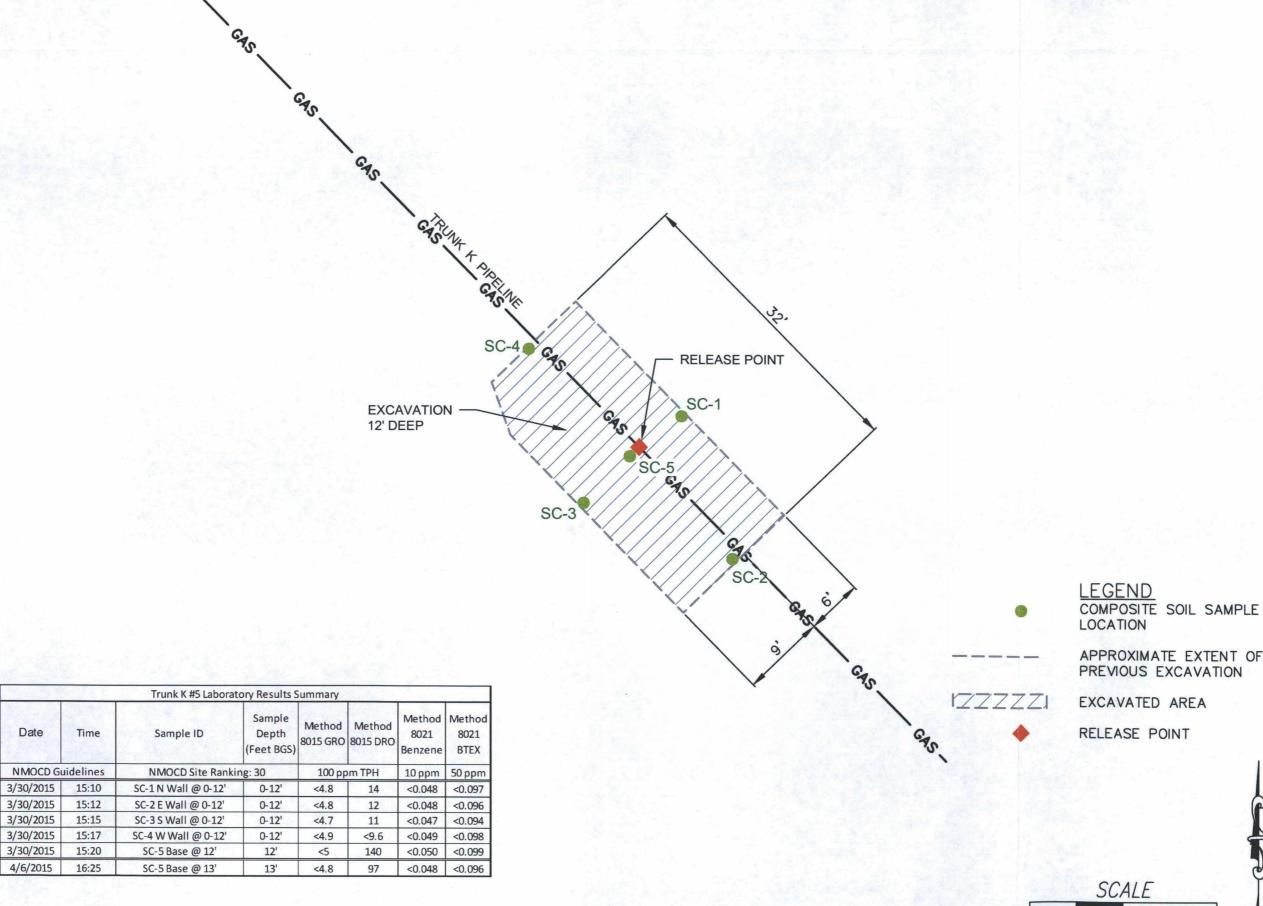
Reviewed by:

Reid Allan, P.G. Vice President/Principal Scientist **Figures** 









SOIL CONTAMINANT CONCENTRATION TRUNK K #5 SECTION 26, T27N, R8W

APPROXIMATE EXTENT OF PREVIOUS EXCAVATION



Souder, Miller & Assotiates 401 West Broadway Avenue Farmington, NM 87401-5907 35) 325-7335 Toll-Free (800) 519-0098 Fax (505) 3

Designed Drawn Checke JES DJB RSA Date: July 2015 Project No: 5123699 **Tables** 

	te nanking information. The	ınk K #5 Pipeline Release Si	ie.
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is	Groundwater not encountered
50' to 99' = 10		located 370 feet west of Largo Canyon Wash	during excavation; assumed that groundwater is < 25' below
>100' = 0		Canyon wash	ground surface.
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		Field verification that release is	
200'-1000' = 10	10	located 370 feet west of Largo Canyon Wash	Release is located between 200 1,000' from Largo Canyon Was
>1000'		Carryon wash	
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells locate within 1,000 feet and 1 located within a 1 mile radius
Total Site Ranking		30	
Soil Remedation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 to 19	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



		Trunk K #5 Labora	tory Results Si	ummary			
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Rankir	100 pp	m TPH	10 ppm	50 ppm	
3/30/2015	15:10	SC-1 N Wall @ 0-12'	0-12'	<4.8	14	<0.048	<0.097
3/30/2015	15:12	SC-2 E Wall @ 0-12'	0-12'	<4.8	12	<0.048	<0.096
3/30/2015	15:15	SC-3 S Wall @ 0-12'	0-12'	<4.7	11	<0.047	<0.094
3/30/2015	15:17	SC-4 W Wall @ 0-12'	0-12'	<4.9	<9.6	<0.049	<0.098
3/30/2015	15:20	SC-5 Base @ 12'	12'	<5	140	<0.050	<0.099
4/6/2015	16:25	SC-5 Base @ 13'	13'	<4.8	97	<0.048	<0.096



Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Trunk K #5 Pipeline Release



**Photo 1:** Trunk K #5 Excavation showing failed I-wrap repairs, impacted soil being removed from beneath the pipeline.



Photo 2: Trunk K #5 final excavation extent prior to sampling.

Appendix B
Soil Disposal Documentation

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-0697 Form C-138 Revised 08/01/11

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

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401  March 2015
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM 4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release Estimated Volume200yd³/bols Known Volume (to be entered by the operator at the end of the haul)yd³/bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS  I, 3-26-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runny, representative for Environment, Inc do hereby certify that
I, Representative/Agent Signature  representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Lendra Runung SIGNATURE: TITLE: Waste (cord; noter DATE: 3-26-15  TELEPHONE NO.:  Surface Waste Management Facility Agnorized Agent  505-632-0615

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
4. Source and Description of Waste: Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200vd³/bols Known Volume (to be entered by the operator at the end of the haul)   2/2
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature
the required testing/sign the Generator Waste Testing Certification.
I, Rung representative for Envirotech, Inc do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire, Rosenbaum, Kuvek, Bailey's Welding
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Runun V TITLE: Waste Coodinate DATE: 4/3/15 SIGNATURE: Surface Waste Management Facility Authorized Agent 505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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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

97057-06-08 Revised 08/01/11

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

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites  May 2015
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
4. Source and Description of Waste: Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
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GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runne representative for Envirotech, Inc. do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire Bewley's Fosenbaran
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Signature: Title: Laste Coodinate DATE: 5-1-19 Surface Waste Management Facility And Forized Agent  Surface Waste Management Facility And Forized Agent  505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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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

\*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection. 1220 South St. Francis Dr. Santa Fe, NM 87505

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE	
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	
2. Originating Site: Trunk K Release Sites	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM	
4. Source and Description of Waste:  Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release.  Estimated Volume200d <sup>3</sup> /bols Known Volume (to be entered by the operator at the end of the haul) dd <sup>3</sup> bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load**	
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)	
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, S-1-13, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature	
the required testing/sign the Generator Waste Testing Certification.  I, Running representative for Environment of the do hereby certify that	
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of	
19.15.36 NMAC.  5. Transporter: Granice Course of Planting, HBC Coton Bros. Kelley Cil.  OCD Permitted Surface Waste Management Facility & Tol.	to
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM	
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other	
Waste Acceptance Status:	
PRINT NAME: Keynda Title: Laste Core là mello att.	
PRINT NAME: SIGNATURE: SIGNATURE: Surface Waste Management Facility Authorized Agent 505-632-0615	

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 06, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K #5

OrderNo.: 1503D68

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/31/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1503D68

Date Reported: 4/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Trunk K #5

Lab ID: 1503D68-001 Client Sample ID: SC-1 N wall@0-12'

Collection Date: 3/30/2015 3:10:00 PM

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	14	9.8	mg/Kg	1	4/3/2015 1:11:04 PM	18415
Surr: DNOP	90.5	63.5-128	%REC	1	4/3/2015 1:11:04 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/2/2015 3:14:11 PM	18438
Surr: BFB	89.3	80-120	%REC	1	4/2/2015 3:14:11 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.048	mg/Kg	1	4/2/2015 3:14:11 PM	18438
Toluene	ND	0.048	mg/Kg	1	4/2/2015 3:14:11 PM	18438
Ethylbenzene	ND	0.048	mg/Kg	1	4/2/2015 3:14:11 PM	18438
Xylenes, Total	ND	0.097	mg/Kg	1	4/2/2015 3:14:11 PM	18438
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	4/2/2015 3:14:11 PM	18438

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range Reporting Detection Limit RL

P

Page 1 of 8

#### Lab Order 1503D68

Date Reported: 4/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Lab ID: 1503D68-002

Trunk K #5

Project:

Client Sample ID: SC-2 E wall@0-12'

Collection Date: 3/30/2015 3:12:00 PM

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS			W. K.	Analys	t: BCN
Diesel Range Organics (DRO)	12	9.6	mg/Kg	1	4/3/2015 1:32:21 PM	18415
Surr: DNOP	88.0	63.5-128	%REC	1	4/3/2015 1:32:21 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/1/2015 5:17:08 PM	18438
Surr: BFB	88.4	80-120	%REC	1	4/1/2015 5:17:08 PM	18438
EPA METHOD 8021B: VOLATILES					Analys	t: RAA
Benzene	ND	0.048	mg/Kg	1	4/1/2015 5:17:08 PM	18438
Toluene	ND	0.048	mg/Kg	1	4/1/2015 5:17:08 PM	18438
Ethylbenzene	ND	0.048	mg/Kg	1	4/1/2015 5:17:08 PM	18438
Xylenes, Total	ND	0.096	mg/Kg	1	4/1/2015 5:17:08 PM	18438
Surr: 4-Bromofluorobenzene	95.0	80-120	%REC	1	4/1/2015 5:17:08 PM	18438

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit

Page 2 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D68

Date Reported: 4/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3 S wall@0-12'

Project: Trunk K #5

**Collection Date:** 3/30/2015 3:15:00 PM

Lab ID: 1503D68-003

Matrix: SOIL

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	11	10	mg/Kg	1	4/3/2015 1:53:42 PM	18415
Surr: DNOP	91.8	63.5-128	%REC	1	4/3/2015 1:53:42 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/2/2015 3:43:25 PM	18438
Surr: BFB	94.8	80-120	%REC	1	4/2/2015 3:43:25 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: RAA
Benzene	ND	0.047	mg/Kg	1	4/1/2015 7:43:01 PM	18438
Toluene	ND	0.047	mg/Kg	1	4/1/2015 7:43:01 PM	18438
Ethylbenzene	ND	0.047	mg/Kg	1	4/1/2015 7:43:01 PM	18438
Xylenes, Total	ND	0.094	mg/Kg	1	4/1/2015 7:43:01 PM	18438
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	4/1/2015 7:43:01 PM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D68

Date Reported: 4/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 W wall@0-12'

Project: Trunk K #5

Collection Date: 3/30/2015 3:17:00 PM

Lab ID: 1503D68-004

Matrix: SOIL Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Pr.	Analys	t: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/2/2015 6:46:31 PM	18415
Surr: DNOP	148	63.5-128	S	%REC	1	4/2/2015 6:46:31 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/2/2015 4:12:34 PM	18438
Surr: BFB	89.6	80-120		%REC	1	4/2/2015 4:12:34 PM	18438
EPA METHOD 8021B: VOLATILES						Analys	t: RAA
Benzene	ND	0.049		mg/Kg	1	4/1/2015 8:12:17 PM	18438
Toluene	ND	0.049		mg/Kg	1	4/1/2015 8:12:17 PM	18438
Ethylbenzene	ND	0.049		mg/Kg	1	4/1/2015 8:12:17 PM	18438
Xylenes, Total	ND	0.098		mg/Kg	1	4/1/2015 8:12:17 PM	18438
Surr: 4-Bromofluorobenzene	96.0	80-120		%REC	1	4/1/2015 8:12:17 PM	18438

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1503D68

Date Reported: 4/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 Base@12'

Project: Trunk K #5

Collection Date: 3/30/2015 3:20:00 PM

Lab ID: 1503D68-005

Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS					Analys	t: BCN
Diesel Range Organics (DRO)	140	10		mg/Kg	1	4/1/2015 9:12:59 PM	18415
Surr: DNOP	156	63.5-128	S	%REC	1	4/1/2015 9:12:59 PM	18415
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/2/2015 4:41:55 PM	18438
Surr: BFB	128	80-120	S	%REC	1	4/2/2015 4:41:55 PM	18438
<b>EPA METHOD 8021B: VOLATILES</b>						Analys	t: RAA
Benzene	ND	0.050		mg/Kg	1	4/1/2015 8:41:32 PM	18438
Toluene	ND	0.050		mg/Kg	1	4/1/2015 8:41:32 PM	18438
Ethylbenzene	ND	0.050		mg/Kg	1	4/1/2015 8:41:32 PM	18438
Xylenes, Total	ND	0.099		mg/Kg	1	4/1/2015 8:41:32 PM	18438
Surr: 4-Bromofluorobenzene	106	80-120	1	%REC	1	4/1/2015 8:41:32 PM	18438

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 8

- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D68

06-Apr-15

Client:

Souder, Miller and Associates

Sample ID MB-18415	SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: PBS	Batch ID: 18415 RunNo: 25210
Prep Date: 3/30/2015	Analysis Date: 4/1/2015 SeqNo: 745560 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) Surr: DNOP	ND 10 9.5 10.00 94.7 63.5 128
Sample ID LCS-18415	SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 18415 RunNo: 25210
Prep Date: 3/30/2015	Analysis Date: 4/1/2015 SeqNo: 745613 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	50 10 50.00 0 99.8 67.8 130
Surr: DNOP	5.4 5.000 108 63.5 128
Sample ID MB-18480	SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: PBS	Batch ID: 18480 RunNo: 25271
Prep Date: 4/2/2015	Analysis Date: 4/3/2015 SeqNo: 747704 Units: %REC
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	8.9 10.00 88.9 63.5 128
Sample ID LCS-18483	SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 18483 RunNo: 25271
Prep Date: 4/2/2015	Analysis Date: 4/3/2015 SeqNo: 748608 Units: %REC
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	5.1 5.000 102 63.5 128
Sample ID LCS-18480	SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 18480 RunNo: 25271
Prep Date: 4/2/2015	Analysis Date: 4/3/2015 SeqNo: 748609 Units: %REC
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	5.3 5.000 106 63.5 128
Sample ID MB-18483	SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics
Client ID: PBS	Batch ID: 18483 RunNo: 25271
Prep Date: 4/2/2015	Analysis Date: 4/3/2015 SeqNo: 748610 Units: %REC

#### Qualifiers:

Analyte

Surr: DNOP

Value exceeds Maximum Contaminant Level.

Result

10

PQL

SPK value SPK Ref Val

10.00

- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

LowLimit

63.5

HighLimit

128

%RPD

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

%REC

100

- P Sample pH Not In Range
- RL Reporting Detection Limit

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**RPDLimit** 

Qual

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D68

06-Apr-15

Client:

Souder, Miller and Associates

Project:

Trunk K #5

Sample ID LCS-18438

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

64

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

Client ID: LCSS

Batch ID: 18438

RunNo: 25236

Prep Date: 3/31/2015

Analysis Date: 4/1/2015

SeqNo: 746200 %REC

Units: mg/Kg

130

Result

0

HighLimit

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Analyte

26 1000 25.00 1000

SPK value SPK Ref Val

SPK value SPK Ref Val

103 99.6

SeqNo: 746201

%REC LowLimit

80 120

Sample ID MB-18438 Client ID: PBS

SampType: MBLK Batch ID: 18438 Analysis Date: 4/1/2015

5.0

PQL

5.0

RunNo: 25236

Units: mg/Kg

**RPDLimit** 

Analyte Gasoline Range Organics (GRO)

3/31/2015

Result **PQL** ND

85.7

80

**HighLimit** 

%RPD

%RPD

Qual

Surr: BFB

Prep Date:

860

1000

120

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- Reporting Detection Limit RL

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503D68

06-Apr-15

Client: Souder, Miller and Associates

Project: Trunk K #5

Sample ID LCS-18438	Samp	SampType: LCS			TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batc	h ID: 18	438	F	RunNo: 2	5236				
Prep Date: 3/31/2015	Analysis [	Date: 4/	1/2015	8	SeqNo: 7	46222	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	76.6	128	4 - 4		-
Toluene	1.0	0.050	1.000	0	105	75	124			
Ethylbenzene	0.99	0.050	1.000	0	99.5	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	99.5	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID MB-18438 Client ID: PBS	A Partie	Type: ME			tCode: El		8021B: Vola	tiles		
Prep Date: 3/31/2015	Analysis D	Date: 4/	1/2015	5	SeqNo: 7	46223	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050		W. M. Trans		The second		Carlo		54.5
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	80	120			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM Work Order Num	nber: 1503D68		RcptNo: 1
Received by/date: AT 03/31/	15		1377 7 1337 4
Logged By: Celina Sessa 3/31/2015 8:45:00	AM	Celin S	ven
Completed By: Celina Sessa 3/31/2015 9:21:48	AM	Celin S	
Reviewed By:		and J	
Chain of Custody	Last Buck		
1. Custody seals intact on sample bottles?	Yes	No 🗆	Not Present 🗹
2. Is Chain of Custody complete?	Yes 🗸	No 🗌	Not Present
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗆
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🗸	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🗸	No 🗌	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗆	
9. Was preservative added to bottles?	Yes	No 🗸	NA 🗆
10. VOA vials have zero headspace?	Yes 🗌	No 🗆	No VOA Vials 🗹
11. Were any sample containers received broken?	Yes	No 🗸	# of preserved
		w. []	bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No L	for pH: (<2 or >12 unless noted
13. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗌	Adjusted?
14. Is it clear what analyses were requested?	Yes 🗹	No 🗌	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes .	No 🗌	NA 🗹
Person Notified: Da	te T		
By Whom: Via		Phone  Fax	☐ In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. Cooler Information  Cooler No   Temp °C   Condition   Seal Intact   Seal No	Seal Date	Signed By	
1 1.0 Good Yes			

(	Chain	-of-Cu	ustody Record	Turn-Around	Time:						44		E	NIV	/TE	20	NA	4FI	NTA	VI.	
Client:	Smi	1		Standard Project Name						-	IN		YS	515	S L	A	30		ТО		
Wailing	Address	401	w. Braduay	Tru	nk k	#5		49	01 H									109			
Phone	Far #: 50 °	mhof	1535 TS35	Project #: Enterpr	120589			Te	el. 50	)5-34	15-3	-					The second second	7			
email o	r Fax#: S Package:	teren.n	noskal psoudurmiller.  Level 4 (Full Validation)	Project Mana	ger:		IMB'S (8621)	(Gas only)	O JUNEO			SIMS)		PO4, SO4)	PCB's						
Accred	itation AP	□ Othe	er	On Ice:	Yes	□ No.	1 +	+ TPH (	RO / DR	118.1)	504.1)	8270	Analysis Request  No <sub>3</sub> ,No <sub>2</sub> ,Po <sub>4</sub> ,So <sub>4</sub> )  les / 8082 PCB's  (OA)							or N)	
□ EDE	Time	Matrix	Sample Request ID	Sample Temp Container Type and #	Preservative Type	HEAL No. 1503 D 68	BTE + WIBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO ) MIRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metal	Anions (F,CI,N	8081 Pesticide	8260B (VOA)	8270 (Semi-VC				Air Bubbles (Y or N)
30/15		Soil	Sc-1 N wall po-12'	402×1	ALM	- 001	1		+												-
1	1512		SC-3 SULANDO-121			-002 -003	1		+												
	1517		SC-4 wwall 60-121			-004	1					7,4									
	1520	4	SC-5 Base P12'	4	A	-005	V		4												
																					_
																					_
Date:	Time:	Relinquish Relinquish	500	Received by:	whel	Date Time 336//5 18/16 Date Time 03/3/15		mark		()	)ir	ed	ly	10	ER	RRO	0				



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 10, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K #5 OrderNo.: 1504281

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1504281

Date Reported: 4/10/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K #5

Lab ID: 1504281-001

Matrix: SOIL

Collection Date: 4/6/2015 4:25:00 PM

Client Sample ID: SC-5 Base @ 13'

Received Date: 4/8/2015 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS					Analys	: BCN
Diesel Range Organics (DRO)	97	9.9		mg/Kg	1	4/9/2015 6:49:33 PM	18546
Surr: DNOP	138	63.5-128	S	%REC	1	4/9/2015 6:49:33 PM	18546
EPA METHOD 8015D: GASOLINE RA	ANGE					Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/9/2015 11:27:18 AM	18573
Surr: BFB	107	80-120		%REC	1	4/9/2015 11:27:18 AM	18573
<b>EPA METHOD 8021B: VOLATILES</b>						Analys	: NSB
Benzene	ND	0.048		mg/Kg	1	4/9/2015 11:27:18 AM	18573
Toluene	ND	0.048		mg/Kg	1	4/9/2015 11:27:18 AM	18573
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2015 11:27:18 AM	18573
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2015 11:27:18 AM	18573
Surr: 4-Bromofluorobenzene	99.5	80-120		%REC	1	4/9/2015 11:27:18 AM	18573

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 4

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1504281 10-Apr-15

Client:

Souder, Miller and Associates

Project:

Trunk K #5

Sample ID MB-18546 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 18546 RunNo: 25386 Prep Date: 4/7/2015 Analysis Date: 4/9/2015 SeqNo: 752140 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Surr: DNOP 10 10.00 100 63.5 128

Sample ID LCS-18546	SampT	ype: LC	s	Tes	tCode: El	Organics				
Client ID: LCSS	Batch	n ID: 18	546	F	RunNo: 2	5386				
Prep Date: 4/7/2015	Analysis D	)ate: 4/	9/2015	8	SeqNo: 7	52142	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	10	50.00	0	132	67.8	130	1 1 1 1 1	Fig. 1. Part in	S
Surr: DNOP	6.6		5.000		131	63.5	128			S

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 2 of 4

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1504281

10-Apr-15

Client:

Souder, Miller and Associates

920

Project:

Surr: BFB

Trunk K #5

Sample ID MB-18573 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 18573 RunNo: 25395 Prep Date: 4/8/2015 Units: mg/Kg Analysis Date: 4/9/2015 SeqNo: 751932 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) ND 5.0 Surr: BFB 850 1000 85.2 120 80

Sample ID LCS-18573 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS RunNo: 25395 Batch ID: 18573 Prep Date: 4/8/2015 Analysis Date: 4/9/2015 SeqNo: 751933 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 26 25.00 102 5.0 64 130

91.9

1000

80

120

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 4

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1504281

10-Apr-15

Client:

Souder, Miller and Associates

Project:

Trunk K #5

Sample ID MB-18573 Client ID: PBS	-	ype: ME		Tes	tiles					
Prep Date: 4/8/2015	Analysis D	Date: 4/	9/2015		SeqNo: 7	51943	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050	1-1-1-1		e Plen	- VIIII	7.3	1 2 4		1 C 1 1 1 1
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.1	80	120			
Sample ID LCS-18573	Tes	tCode: El	PA Method	8021B: Vola	tiles		77			

Sample ID LC3-103/3	Janip	ype. Lo		163	LCOUE. L	A Mediod	OUZID. VOIA	uics		
Client ID: LCSS	Batc	h ID: 18	573	F	RunNo: 2	5395				
Prep Date: 4/8/2015	Analysis D	Date: 4/	9/2015		SeqNo: 7	51944	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	112	76.6	128			
Toluene	1.1	0.050	1.000	0	106	75	124			
Ethylbenzene	1.1	0.050	1.000	0	111	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	110	78.8	124			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.3	80	120			

Sample ID 1504281-001AMS  Client ID: SC-5 Base @ 13'	SampTy	ype: MS			tCode: El RunNo: 2		8021B: Vola	tiles		
Prep Date: 4/8/2015	Analysis Da		9/2015		SeqNo: 7		Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.048	0.9542	0	120	69.2	126	134		
Toluene	1.1	0.048	0.9542	0.009847	114	65.6	128			
Ethylbenzene	1.2	0.048	0.9542	0.007837	120	65.5	138			
Xylenes, Total	3.4	0.095	2.863	0	120	63	139			
Surr: 4-Bromofluorobenzene	1.1		0.9542		111	80	120			

Sample ID	1504281-001AMSE	SampT	ype: MS	SD	TestCode: EPA Method 8021B: Volatiles								
Client ID:	SC-5 Base @ 13'	Batch	n ID: 18	573	F	RunNo: 2	5395						
Prep Date:	4/8/2015	Analysis D	Date: 4/	9/2015	S	SeqNo: 7	51947	Units: mg/K	(g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene		1.1	0.048	0.9542	0	116	69.2	126	4.10	18.5			
Toluene		1.1	0.048	0.9542	0.009847	110	65.6	128	4.04	20.6			
Ethylbenzene		1.1	0.048	0.9542	0.007837	117	65.5	138	2.77	20.1			
Xylenes, Total		3.4	0.095	2.863	0	118	63	139	1.89	21.1			
Surr: 4-Brom	nofluorobenzene	1.0		0.9542		107	80	120	0	0			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 4 of 4



4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hailenvironmental.com

# Sample Log-In Check List

SMA-FARM Work Order Number: 1504281 RcptNo: 1 Client Name: Received by/date: Logged By Lindsay Mangin 4/8/2015 6:50:00 AM Lindsay Mangin 4/8/2015 7:30:33 AM Completed By: 04/08/15 Reviewed By: Chain of Custody Not Present V Yes 1. Custody seals intact on sample bottles? No \_ Not Present Yes V 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA Yes V 4. Was an attempt made to cool the samples? No \_ NA 🗌 Were all samples received at a temperature of >0° C to 6.0°C No 🗌 Yes V Sample(s) in proper container(s)? Yes V No . 7. Sufficient sample volume for indicated test(s)? No . 8. Are samples (except VOA and ONG) properly preserved? Yes V No V NA \_ 9. Was preservative added to bottles? Yes No | No VOA Vials 10. VOA vials have zero headspace? Yes \_ No V 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: Yes V 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? No 14. Is it clear what analyses were requested? Checked by No \_ Yes V 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) No . NA V 16. Was client notified of all discrepancies with this order? Yes \_\_ Person Notified: Date eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp C Condition Seal Intact Seal No Seal Date Signed By Good Yes

C	hain	-of-Cu	ustody Record	Turn-Around	Time:						A	_	813	/TF	20	BIB	AER	ITA	
lient:	Sm	A		✓ Standard	□ Rush													ATI 101	
1	011.			Project Name													NA.	.01	
ailing	Address	:110)	111 B 1	- 1	- 12 12 -			400			ww.ha						100		
	_	401	ton, NM 8 NO	Project #: E	adorni so	4	-				s NE								
	Tar	who	ton, not sold	Non-	Mobil 1963			Te	I. 50	5-345	-3975	-	-	-	NAME OF TAXABLE PARTY.	-4107			
none :	#:505	3250	7535	AFE 1	120589		4		A			Anai	ysis	Req	ues	τ		The same	
		teren	vskalpsordernille.com	Project Mana	iger:		1	only	1				304)	S					
	Package:			81.	m 2.0		(8021)	TPH (Gas only)	A		MS)	10	04,8	CB	0 - 1				
Stan	itation		☐ Level 4 (Full Validation)	Sampler: \	Vivoskal		S	H (G	R/		S		)2,P	82 F	12				
NEL		□ Othe	er	On Ice:	Yes	□ No	+ TMB	TP	10	8.1)	3270		3,NC	/ 80		2		1	Î
	(Type)			Sample Tem	-	2	_ (	+ =	GR	141	0 0	8	ON N	des		100			\ \
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + MTBE	BTEX + MTBE	PH 8015B (GRO / DRO ) WRO	TPH (Method 418.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
415	1625	lia	SC-5 Base P13'	407×1	Costed	-001	X		X					3					
					241				100	27 19					134			4	
te: 1/15 te: 1/15	Time: 1545 Time: 1810/	Relinquish Relinquish	and,	Received by:	Whole	Date Time 4/7/5 1545  Date Time 4/08/15 (X-50)	T		o'Ce									ucts	

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

Type of Release: Natural Gas and Natural Gas Liquids

Source of Release: Internal Corrosion/Failed Repair

Was Immediate Notice Given?

## State of New Mexico **Energy Minerals and Natural** Resources

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

OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

AUG 17 2015 Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Volume Recovered: None

2/18/2015 @ 4:00 p.m.

If YES, To Whom? Courtesy Notification: Cory Smith - NMOCD and

Date and Hour of Discovery:

		F	Releas	e Notific	ation and (	Corrective	Action			
					OPERATO	R	☐ Initia	Report		Final Repor
Name of C	ompany:	Enterprise I	Field Ser	vices LLC	Contact:	Thomas Long	No CARREST		de E	
Address: 6	14 Reilly	Ave, Farmin	gton, NN	187401	Telephon	e No. 505-599	-2286			V
Facility Na	me: Truni	K #6 Rele	ase Site	100	Facility T	ype: Natural C	as Gathering	Line	T Shirt	
Surface Ov	wner:BLM			Mineral (	Owner:BLM		APIN	lo.		
				LOCA	ATION OF RE	LEASE				
Unit Letter N	Section 25	Township 27N	Range 8W	Feet from the 415	North South Line	Feet from the 2015	East Vest Line	County San Jua	an	

## Latitude 36.538300 Longitude -107.637030

## NATURE OF RELEASE

Condensate

Volume of Release 5-10 BBLs

Date and Hour of Occurrence:

2/18/2015 @ 2:00 p.m.

By Whom?	Date and Hour
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse
If a Watercourse was Impacted, Describe Fully.*	
	2015, during a routine leak survey, Enterprise discovered a release on and lock out tag out was applied. No surface impacts were observed at 2, 2015.
measured approximately 30 feet long by 15 feet wide by 16 feet dee	ant mass was removed by mechanical excavation. The final excavation ep. Approximately 231 cubic yards of hydrocarbon impacted soil were ted to a New Mexico Oil Conservation approved land farm facility. A
rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The accepta relieve the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In a	adequately investigate and remediate contamination that pose a threat to addition, NMOCD acceptance of a C-141 report does not relieve the
rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The accepta relieve the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In a operator of responsibility for compliance with any other federal, state	certain release notifications and perform corrective actions for releases ance of a C-141 report by the NMOCD marked as "Final Report" does not adequately investigate and remediate contamination that pose a threat to addition, NMOCD acceptance of a C-141 report does not relieve the e, or local laws and/or regulations.
rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The accepta relieve the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In a operator of responsibility for compliance with any other federal, state Signature:	certain release notifications and perform corrective actions for releases ance of a C-141 report by the NMOCD marked as "Final Report" does no adequately investigate and remediate contamination that pose a threat to addition, NMOCD acceptance of a C-141 report does not relieve the
rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The accepta relieve the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In a operator of responsibility for compliance with any other federal, state Signature:  Printed Name on Fields	certain release notifications and perform corrective actions for releases ance of a C-141 report by the NMOCD marked as "Final Report" does no adequately investigate and remediate contamination that pose a threat traddition, NMOCD acceptance of a C-141 report does not relieve the e, or local laws and/or regulations.  OIL CONSERVATION DIVISION
rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The accepta relieve the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In a operator of responsibility for compliance with any other federal, state Signature:  Printed Name Fields  Title: Director, Environmental	certain release notifications and perform corrective actions for releases ance of a C-141 report by the NMOCD marked as "Final Report" does not adequately investigate and remediate contamination that pose a threat the addition, NMOCD acceptance of a C-141 report does not relieve the e, or local laws and/or regulations.  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:

**Enterprise Products** Trunk K #6 Pipeline Release Latitude North 36.538300°, Longitude West -107.637030° SE/SW (Unit N), Section 25, T27N, R8W San Juan County, New Mexico July 30, 2015



## **Submitted To:** Enterprise Products Operating, LLC. Field Environmental-San Juan Basin

614 Reilly Avenue Farmington, NM 87401 Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535





### **Table of Contents**

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2.0	Introduction	1
3.0	Site Ranking and Land Jurisdiction	2
4.0	Summary of Field Activities	2
5.0	Conclusions and Recommendations	3
6.0	Closure and Limitations	3

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Figure 1: Vicinity Map Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

#### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Photographic Documentation Appendix B: Soil Disposal Documentation Appendix C: Laboratory Analytical Reports Appendix D: Archaeological Survey Report

#### 1.0 Executive Summary

From March 7, 2015 through May 12, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Trunk K natural gas pipeline. The release was initially reported to SMA on March 1, 2015 and is a result of a failed carbon fiber I-wrap repair installed in October of 2014. The table below summarizes information about the pipeline remediation activities.

	TABLE 1:	RELEASE INFO	RIVIATION						
Name	Trunk K #6 Pipeline Release								
Location	Latitude	/Longitude	Sec	tion, Towns	ship, Range				
	36.538300°	-107.637030°	SE/SW (Unit N)	Section 25	T27N, R8W				
Date Reported to SMA	March 1, 2015								
Reported by	Tom Long								
Land Owner	Bureau of Lan	Bureau of Land Management (BLM)							
Reported To		NM Oil Conservation Division (NMOCD) and BLM							
Diameter of Pipeline	16 inches	16 inches							
Source of Release	Internal Corros	Internal Corrosion and failed I-wrap repairs							
Release Contents	Natural Gas Li	quids/Condensate	)						
Release Volume	Unknown		BELLIN TELEVISION	THE STATE OF STATE	NEWS (SALE)				
Nearest Waterway		rgo Canyon Wash Canyon Wash	and within	an unnam	ed Tributary				
Depth to Groundwater	Estimated to b	e less than 50 fee	t						
Nearest Domestic Water Source	Greater than 1	,000 feet							
NMOCD Ranking	40		12.4						
SMA Response Dates	March 7 through	gh May 12, 2015							
Subcontractors	Crossfire	CARL CAR STORY							
Disposal Facility	Envirotech								
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	231 (Reported	as part of the atta	ached C-13	8 forms)					

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Trunk K #6 pipeline release site. The site is located in SE/SW (Unit N), Section 25, T27N, R8W, 36.538300°, -107.637030°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

Trunk K#6
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG10

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located in a small unnamed tributary to Largo Canyon Wash, in an area owned by the BLM with an elevation of approximately 6,009 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well was found within a one mile radius of the site. There is no anticipated impact to this well. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 40 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

The location of the Trunk K #6 site was determined by BLM to be within an archaeological and culturally sensitive area. Enterprise contracted Western Cultural Resources Management (WCRM) of Farmington, NM to conduct a complete archaeological survey of the entire Trunk K pipeline right of way. The survey determined the majority of the right of way to be cleared of archaeological significant findings except for the area immediately surrounding the Trunk K #6 release location. Through coordination with the BLM, WCRM identified and delineated the area in order to protect and preserve the integrity of the archaeological site. A representative from WCRM was on site during the repair and remediation activities at Trunk K #6. A copy of the WCRM survey report is enclosed in Appendix D.

# 4.0 Summary of Field Activities

Excavation of the Trunk K #6 site began on March 7, 2015 and continued, periodically, through May 12, 2015. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo ionization detector (PID). Representatives from Enterprise were present to oversee site health and safety and direct repair activities.

Soil samples were initially field screened with the calibrated PID. When the soil at the vertical and horizontal extents of the excavation were suspected of having hydrocarbon contamination concentrations below regulatory standards, five final samples were collected and submitted for confirmation laboratory analysis. Closure sample collection dates were scheduled with the BLM and the NMOCD for the observation of sampling activities on May 1, 2015. Neither party was present to witness the sample collection. Samples were analyzed utilizing United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Five composite samples were collected from the final excavation sidewalls and base using an excavator on May 1, 2015. Sample SC-2 S Wall @ 0-16 feet was above NMOCD Guideline standards with a DRO concentration of 200 mg/kg. All other samples were below NMOCD Guideline standards. On May 12, 2015 the location of sample SC-2 was further excavated approximately 4 feet to the south, with a total depth of 12 feet bgs. A composite sample was collected from this location and labeled SC-2 S Wall and submitted for laboratory analysis. All final laboratory results for this sample were below NMOCD Guideline standards and laboratory detection limits.

The overall excavation measured 30 feet long and 15 feet wide with a maximum depth of 16 feet bgs. The excavation was completed in the same location as the October, 2014 excavation. Neither groundwater nor wet soils were encountered during the excavation. All soil excavated from the Trunk K #6 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 3 detailing sample locations and laboratory results. A summary of laboratory analysis is included in Table 3. Copies of the laboratory reports are included in Appendix C.

SMA recommends no further action at the Trunk K #6 pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact Reid Allan at 505-325-7535.

Submitted by:

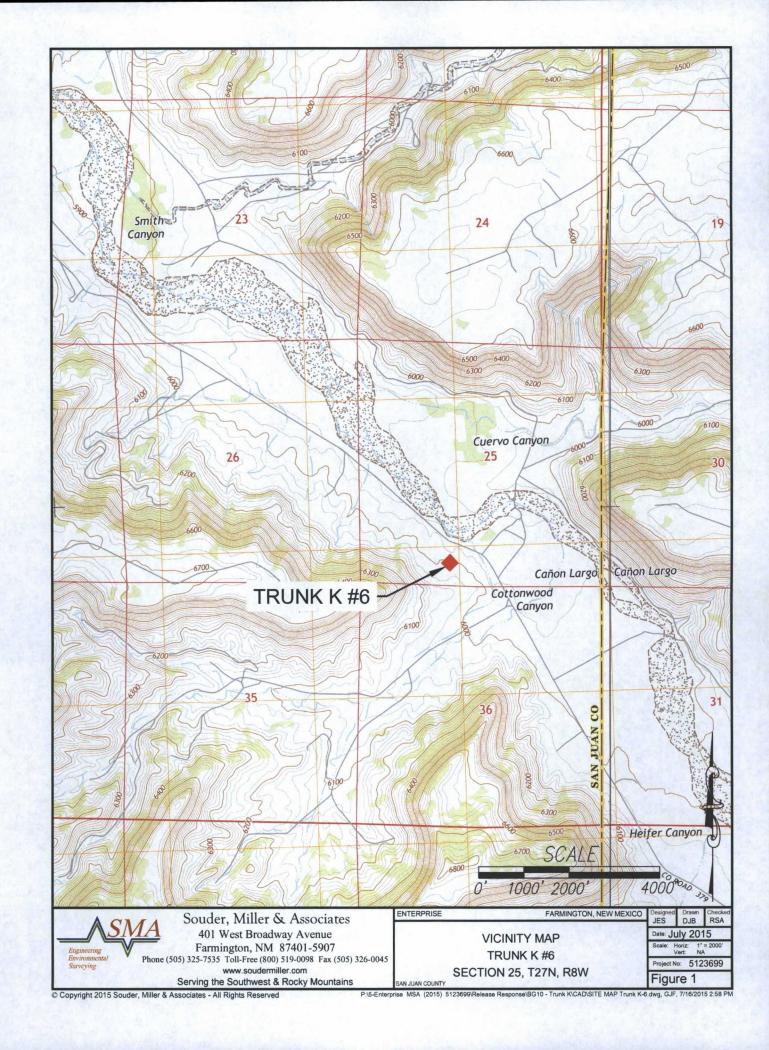
Reviewed by:

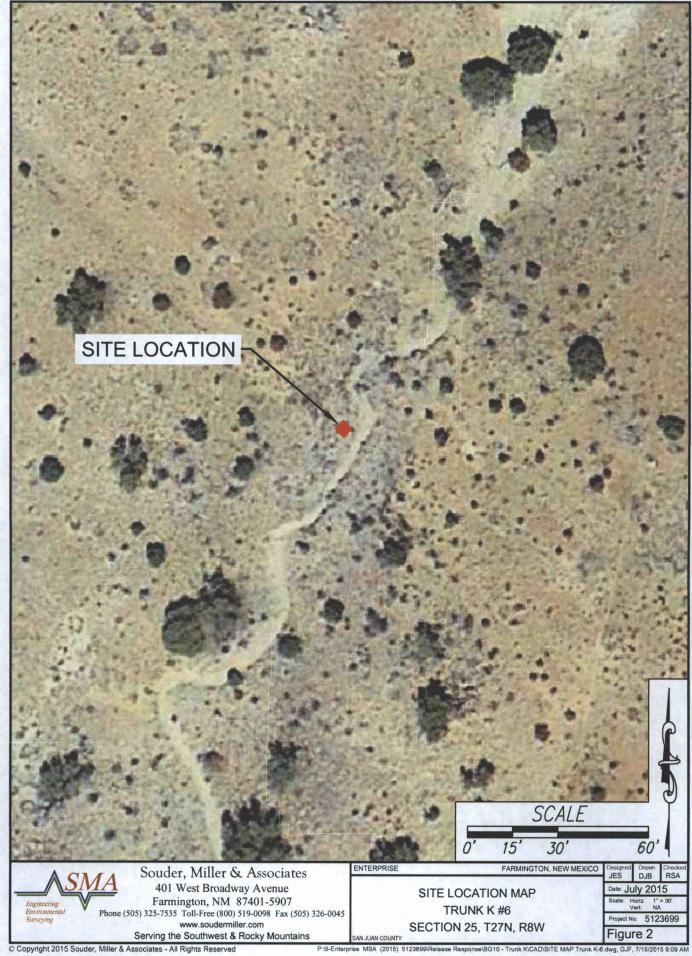
SOUDER, MILLER & ASSOCIATES

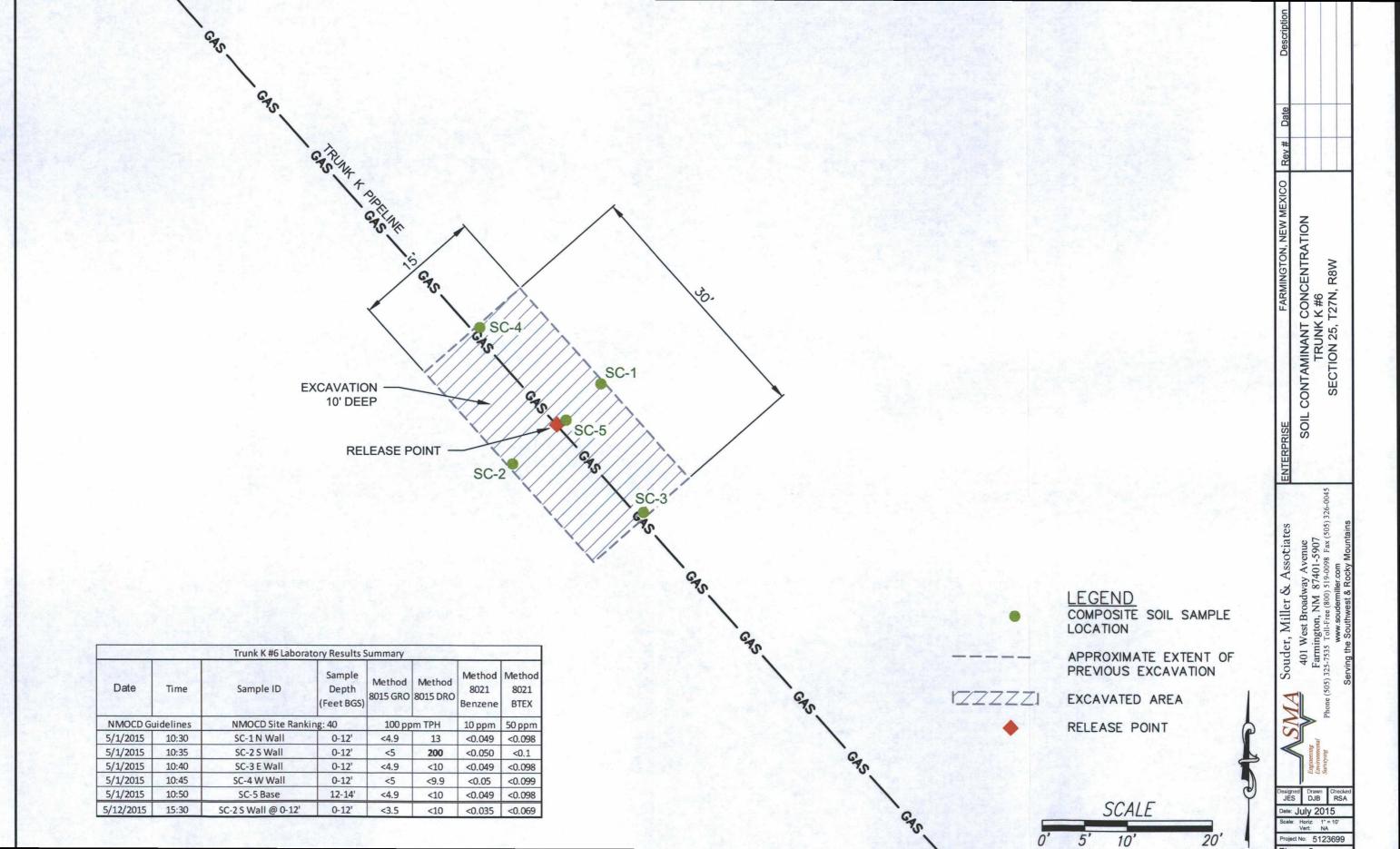
Jesse Sprague Staff Scientist Reid Allan, P.G.

Vice President/Principal Scientist

**Figures** 







**Tables** 

	Site Ranking Information: Tr	runk K #6 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
< 50 BGS = 20 20		Field verification that release is	Groundwater not encountered during		
50' to 99' = 10		located in a small tributary of Largo Canyon Wash	excavation; assumed to be approximately 40' below ground		
>100' = 0		Canyon Wash	surface.		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
< 200' = 20	< 200' = 20				
200'-1000' = 10		Field verification that release is located in a small tributary of Largo	Release is located in a small tributary of Largo Canyon Wash		
>1000'		Canyon Wash			
Ranking Criteria for Horizontal Distance to a Water Well or Water	NMOCD Numeric Rank for this Site	Source for Ranking	No recorded water wells located with 1,000 feet and 1 located within a 1 mile radius		
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database			
Total Site Ranking		40			
Soil Remedation Standards	0 to 9	10 to 19	>19		
Benzene	10 PPM	10 PPM	10 PPM		
BTEX	50 PPM	50 PPM	50 PPM		
TPH	5000 PPM	1000 PPM	100 PPM		



		Trunk K #6 Labora	tory Results S	ummary			
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranki	ng: 40	100 pp	m TPH	10 ppm	50 ppm
5/1/2015	10:30	SC-1 N Wall	0-12'	<4.9	13	<0.049	<0.098
5/1/2015	10:35	SC-2 S Wall	0-12'	<5	200	<0.050	<0.1
5/1/2015	10:40	SC-3 E Wall	0-12'	<4.9	<10	<0.049	<0.098
5/1/2015	10:45	SC-4 W Wall	0-12'	<5	<9.9	<0.05	<0.099
5/1/2015	10:50	SC-5 Base	12-14'	<4.9	<10	<0.049	<0.098
5/12/2015	15:30	SC-2 S Wall @ 0-12'	0-12'	<3.5	<10	<0.035	<0.069



Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Trunk K #6 Pipeline Release



**Photo 1:** Trunk K #6 Excavation exposes the failed I-Wrap repair from October 2014.



Photo 2: Trunk K #6 Excavation nearing maximum extent.

# Site Photographs Enterprise Products Trunk K #6 Pipeline Release



**Photo 3:** Trunk K #6 Excavation waiting for repair, plastic liner used to catch any liquids dripping from pipe before repairs took place.



Photo 4: Trunk K #6 during excavation for resampling of the south wall.

Appendix B
Soil Disposal Documentation

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-0697 Form C-138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
4. Source and Description of Waste: Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200yd³/bols Known Volume (to be entered by the operator at the end of the haul)yd³/bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 3-26-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runny, representative for Environment, Inc. do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Lendra Runung SIGNATURE: TITLE: Waste (Sord: noter DATE: 3-26-15 TELEPHONE NO.:  Surface Waste Management Facility Adminitized Agent  505-632-0615

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
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3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM 4. Source and Description of Waste:
Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200d³/bols Known Volume (to be entered by the operator at the end of the haul)2/2(yd²/bols)
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runger representative for Envirotech, Inc. do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire, Rosenbaum, Kyvek, Bailey's Welding
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Runun V SIGNATURE: Surface Waste Management Facility Authorized Agent  TITLE: Waste Coodinate DATE: 4/3/15  TELEPHONE NO.:  505-632-0615

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410

PRINT NAME:

Surface Waste Management Facility Authorized Agent

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

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

# 1220 S. St. Francis Dr., Santa Fe, NM 87505 REOUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 2. Originating Site: Trunk K Release Sites 3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM 4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release. Estimated Volume 200 3 / bls Known Volume (to be entered by the operator at the end of the haul) yd / bbls GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS , representative or authorized agent for Enterprise Field Services, LLC **Generator Signature** certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete **Generator Signature** the required testing/sign the Generator Waste Testing Certification. Kend I, Running representative for Envirotech, Inc. do hereby certify that Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC. 5. Transporter: Crossfire OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011 Address of Facility: Hilltop, NM Method of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm Landfill Other Waste Acceptance Status: **APPROVED** DENIED (Must Be Maintained As Permanent Record) TITLE: Naste Coordinate DATE: 5-1-15 TELEPHONE NO.:

505-632-0615

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410

State of New Mexico (
Energy Minerals and Natural Resources
Oil Conservation Division

1220 South St. Francis Dr. Santa Fe, NM 87505 Forth C-138
Revised 08/01/11

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

#### 1220 S. St. Francis Dr., Santa Fe, NM 87505 REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 Originating Site: Trunk K Release Sites Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537. -107.649872. 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM 4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release. Estimated Volume 200 6 / bls Known Volume (to be entered by the operator at the end of the haul) GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS 5. , representative or authorized agent for Enterprise Field Services, LLC do hereby **Generator Signature** certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with nonexempt waste. Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 6-15-2013 3-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. representative for do hereby certify that Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC. Transporter: Graning Consider OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011 Address of Facility: Hilltop, NM Method of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm Landfill Other Waste Acceptance Status: APPROVED. DENIED (Must Be Maintained As Permanent Record) TITLE: LA GOS PRINT NAME: SIGNATURE: TELEPHONE NO .:

505-632-0615

Surface Waste Management Facility Authorized Agent

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 07, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K 2015 OrderNo.: 1505060

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 10 sample(s) on 5/2/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

may

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: #6 SC-1 N

Project: Trunk K 2015

Collection Date: 5/1/2015 10:30:00 AM

Lab ID: 1505060-006

Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	13	9.9	mg/Kg	1	5/4/2015 5:28:19 PM	19021
Surr: DNOP	95.2	57.9-140	%REC	1	5/4/2015 5:28:19 PM	19021
<b>EPA METHOD 8015D: GASOLINE RA</b>	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/5/2015 2:45:42 PM	19020
Surr: BFB	92.2	80-120	%REC	1	5/5/2015 2:45:42 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	5/5/2015 2:45:42 PM	19020
Toluene	ND	0.049	mg/Kg	1	5/5/2015 2:45:42 PM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/5/2015 2:45:42 PM	19020
Xylenes, Total	ND	0.098	mg/Kg	1	5/5/2015 2:45:42 PM	19020
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	5/5/2015 2:45:42 PM	19020

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 6 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: #6 SC-2 S

Project: Trunk K 2015

Collection Date: 5/1/2015 10:35:00 AM

Lab ID: 1505060-007

Matrix: SOIL Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS			. Mar-	Analyst	: KJH
Diesel Range Organics (DRO)	200	9.9	mg/Kg	1	5/4/2015 5:55:03 PM	19021
Surr: DNOP	88.5	57.9-140	%REC	1	5/4/2015 5:55:03 PM	19021
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/6/2015 10:17:23 PM	19020
Surr: BFB	107	80-120	%REC	1	5/6/2015 10:17:23 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.050	mg/Kg	1	5/6/2015 10:17:23 PM	19020
Toluene	ND	0.050	mg/Kg	1	5/6/2015 10:17:23 PM	19020
Ethylbenzene	ND	0.050	mg/Kg	1	5/6/2015 10:17:23 PM	19020
Xylenes, Total	ND	0.10	mg/Kg	1	5/6/2015 10:17:23 PM	19020
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	5/6/2015 10:17:23 PM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 7 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: #6 SC-3 E

Project: Trunk K 2015

Collection Date: 5/1/2015 10:40:00 AM

Lab ID: 1505060-008

Matrix: SOIL Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG		Analyst	: KJH			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/4/2015 6:22:07 PM	19021
Surr: DNOP	95.4	57.9-140	%REC	1	5/4/2015 6:22:07 PM	19021
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/6/2015 10:46:04 PM	19020
Surr: BFB	92.1	80-120	%REC	1	5/6/2015 10:46:04 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.049	mg/Kg	1	5/6/2015 10:46:04 PM	19020
Toluene	ND	0.049	mg/Kg	1	5/6/2015 10:46:04 PM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/6/2015 10:46:04 PM	19020
Xylenes, Total	ND	0.098	mg/Kg	1	5/6/2015 10:46:04 PM	19020
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/6/2015 10:46:04 PM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: #6 SC-4 W

Project: Trunk K 2015

Collection Date: 5/1/2015 10:45:00 AM

**Lab ID:** 1505060-009 **Matrix:** SOIL

Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG		Analys	t: KJH			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/4/2015 6:49:10 PM	19021
Surr: DNOP	92.1	57.9-140	%REC	1	5/4/2015 6:49:10 PM	19021
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/5/2015 4:11:51 PM	19020
Surr: BFB	91.7	80-120	%REC	1	5/5/2015 4:11:51 PM	19020
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	5/5/2015 4:11:51 PM	19020
Toluene	ND	0.050	mg/Kg	1	5/5/2015 4:11:51 PM	19020
Ethylbenzene	ND	0.050	mg/Kg	1	5/5/2015 4:11:51 PM	19020
Xylenes, Total	ND	0.099	mg/Kg	1	5/5/2015 4:11:51 PM	19020
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	5/5/2015 4:11:51 PM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 9 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: #6 SC-5 Base

Project: Trunk K 2015

Collection Date: 5/1/2015 10:50:00 AM

**Lab ID:** 1505060-010

Matrix: SOIL Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analys	t: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/4/2015 7:16:15 PM	19021
Surr: DNOP	90.2	57.9-140	%REC	1	5/4/2015 7:16:15 PM	19021
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/6/2015 1:45:41 AM	19020
Surr: BFB	91.2	80-120	%REC	1	5/6/2015 1:45:41 AM	19020
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	5/6/2015 1:45:41 AM	19020
Toluene	ND	0.049	mg/Kg	1	5/6/2015 1:45:41 AM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/6/2015 1:45:41 AM	19020
Xylenes, Total	ND	0.098	mg/Kg	1	5/6/2015 1:45:41 AM	19020
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	5/6/2015 1:45:41 AM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 10 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

Client:

Souder, Miller and Associates

Project:

Trunk K 2015

Sample ID MB-19021	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: PBS	Batch	1D: 19	021	F	RunNo: 2	5918				
Prep Date: 5/4/2015	Analysis D	ate: 5/	4/2015		SeqNo: 7	68279	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10	THE A					1577		A DOMESTIC
Surr: DNOP	9.8		10.00		98.1	57.9	140			

Sample ID LCS-19021	S	TestCode: EPA Method 8015D: Diesel Range Organics										
Client ID: LCSS	F	RunNo: 2										
Prep Date: 5/4/2015	Analysis D	ate: 5/	4/2015	S	SeqNo: 7	68718	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	53	10	50.00	0	105	67.8	130			200		
Surr: DNOP	4.8		5.000		95.6	57.9	140					

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 11 of 14

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

Client:

Souder, Miller and Associates

Project:

Prep Date:

Prep Date:

Trunk K 2015

1	Sample ID	MB-19020	
	Client ID:	PBS	

SampType: MBLK Batch ID: 19020

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 25957

Analysis Date: 5/5/2015

SeqNo: 769854 Units: mg/Kg

Analyte Result PQL Gasoline Range Organics (GRO) ND 5.0

SPK value SPK Ref Val %REC

LowLimit HighLimit **RPDLimit** Qual

Surr: BFB

5/4/2015

910

26

1000

80

%RPD

%RPD

Sample ID LCS-19020

SampType: LCS

91.1

120 TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 19020

RunNo: 25957

25.00

1000

1000

LowLimit

64

80

130

120

Analyte Gasoline Range Organics (GRO)

5/4/2015

Analysis Date: 5/5/2015 Result POL SPK value SPK Ref Val

5.0

SeaNo: 769855

103

101

Units: mg/Kg **HighLimit** 

**RPDLimit** Qual

Surr: BFB

1000 SampType: MBLK

%REC

TestCode: EPA Method 8015D: Gasoline Range

Sample ID 5ML RB PBS Client ID: Prep Date:

Batch ID: R25957

RunNo: 25957

91.8

Units: %REC

120

%RPD

%RPD

Analyte Surr: BFB Analysis Date: 5/5/2015 Result PQL SPK value SPK Ref Val %REC

SegNo: 769884

0

LowLimit

**HighLimit** 

%RPD **RPDLimit** 

Qual

920 SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

80

Client ID: LCSS Batch ID: R25957

RunNo: 25957

Prep Date:

Analysis Date: 5/5/2015

SeqNo: 769885

Units: %REC

Analyte

SPK value SPK Ref Val %REC Result POL

Lowl imit

**HighLimit** 

Qual

Surr: BFB

990

1000

98.9

80 120 **RPDLimit** 

Sample ID 5ML RB

Sample ID 2.5UG GRO LCS

SampType: MBLK

RunNo: 25998

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PRS Prep Date:

Batch ID: R25998 Analysis Date: 5/6/2015

SeqNo: 771159

Units: %REC

Analyte

Result PQL SPK value SPK Ref Val %REC

LowLimit

%RPD **RPDLimit** Qual

Surr: BFB

900

1000 89.6

HighLimit 80 120

Sample ID 2.5UG GRO LCS

SampType: LCS

RunNo: 25998

TestCode: EPA Method 8015D: Gasoline Range

Client ID: Prep Date:

Batch ID: R25998 Analysis Date: 5/6/2015

990

LowLimit

80

Units: %REC

HighLimit

120

Analyte Surr: BFB Result PQL

SPK value SPK Ref Val %REC

ND

1000

SegNo: 771160

98.8

**RPDLimit** 

Page 12 of 14

Qual

R

- Qualifiers: Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

- Analyte detected in the associated Method Blank B
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit Sample pH Not In Range P
- Reporting Detection Limit RL

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

Client:

Souder, Miller and Associates

**Project:** 

Trunk K 2015

Sample ID MB-19020 Client ID: PBS		ype: <b>ME</b>		Tes						
Prep Date: 5/4/2015	Analysis D	Date: 5/	5/2015	5	SeqNo: 7	69908	Units: mg/k	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050			THE VE					
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID LCS-19020	Samp	ype: LC	S	les	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 19	020	F	RunNo: 2	5957				
Prep Date: 5/4/2015	Analysis [	Date: 5/	5/2015		SeqNo: 7	69909	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	76.6	128			1000
Toluene	1.1	0.050	1.000	0	107	75	124			
Ethylbenzene	1.1	0.050	1.000	0	109	79.5	126			
Xylenes, Total	3.2	0.10	3.000	0	107	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID 1505060-001AM	S Samp1	ype: MS	3	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: #9 SC-1 N	Batcl	n ID: 19	020	F	RunNo: 2	5957				
Prep Date: 5/4/2015	Analysis D	Date: 5/	5/2015	8	SeqNo: 7	69911	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9747	0	118	69.2	126	10-	1 4 42	- 4
Toluene	1.1	0.049	0.9747	0	117	65.6	128			
Ethylbenzene	1.2	0.049	0.9747	0	120	65.5	138			
Xylenes, Total	3.4	0.097	2.924	0	117	63	139			
Surr: 4-Bromofluorobenzene	1.1		0.9747		110	80	120			

Sample ID 1505060-001AMSD	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: #9 SC-1 N	Batch	ID: 19	020	F	RunNo: 2	5957				
Prep Date: 5/4/2015	Analysis D	ate: 5/	5/2015	8	SeqNo: 7	69912	Units: mg/k	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9862	0	113	69.2	126	3.29	18.5	10 10
Toluene	1.1	0.049	0.9862	0	111	65.6	128	4.00	20.6	
Ethylbenzene	1.1	0.049	0.9862	0	115	65.5	138	3.46	20.1	
Xylenes, Total	3.3	0.099	2.959	0	113	63	139	2.63	21.1	
Surr: 4-Bromofluorobenzene	1.1		0.9862		111	80	120	0	0	

# Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 13 of 14

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

**Client:** 

Souder, Miller and Associates

Project:

Trunk K 2015

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID: PBS

Batch ID: R25998

RunNo: 25998

Prep Date:

Analysis Date: 5/6/2015

SeqNo: 771207 Units: %REC

> %RPD **RPDLimit**

Qual

Analyte

Result **PQL** 1.0

SPK value SPK Ref Val %REC 1.000

SPK value SPK Ref Val

LowLimit

HighLimit

Surr: 4-Bromofluorobenzene

99.8

80 120

Sample ID 100NG BTEX LCS

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS

Batch ID: R25998

RunNo: 25998 SeqNo: 771210

%REC LowLimit

Units: %REC HighLimit

%RPD

Prep Date: Analyte

Result

**RPDLimit** 

Qual

Surr: 4-Bromofluorobenzene

80

120

1.000 1.1 109

Analysis Date: 5/6/2015

PQL

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Sample pH Not In Range
- Reporting Detection Limit

Page 14 of 14



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM	Work Order Number:	1505060		RcptNo:	1
Received by/date:	05/02/15				
Logged By: Lindsay Mangin	5/2/2015 8:30:00 AM		Analy House		
Completed By: Lindsay Mangin	5/2/2015 10:14:59 AM		Amaly Hope		
Reviewed By: AT 0104/1T			000		
Chain of Custody					
Custody seals intact on sample bottles?		Yes	No 🗆	Not Present	
2. Is Chain of Custody complete?		Yes 🖝	No 🗆	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the sample	es?	Yes 🐼	No 🗆	NA 🗆	
5. Were all samples received at a temperate	ure of >0° C to 6.0°C	Yes 🐼	No 🗆	NA 🗆	
6. Sample(s) in proper container(s)?		Yes 🕝	No 🗆		
7. Sufficient sample volume for indicated te	st(s)?	Yes 🖈	No 🗆		
8. Are samples (except VOA and ONG) pro	perly preserved?	Yes 🖈	No 🗆		
9. Was preservative added to bottles?		Yes 🗆	No 🗹	NA 🗆	
10.VOA vials have zero headspace?		Yes 🗆	No 🗆	No VOA Vials	
11. Were any sample containers received br	roken?	Yes	No 🗹	# of preserved	
				bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🖈	No 🗆	for pH: (<2 o	r >12 unless noted)
13. Are matrices correctly identified on Chair		Yes 🐼	No 🗆	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🖈	No 🗆		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗭	No 🗆	Checked by:	
Special Handling (if applicable)					
16. Was client notified of all discrepancies w	ith this order?	Yes	No 🗆	NA 🗹	
Person Notified:	Date:				
By Whom:	Via:	eMail _	Phone Fax	_ In Person	
Regarding:				Control of the Contro	
Client Instructions:	100 114				
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C Condition	Seal Intact   Seal No	Seal Date	Signed By		
1 3.6 Good	Yes	EL TON CARTO OF THE PROPERTY O			

C	Chain-of-Custody Record						-Around							Н	A	LL	EI	V	IR	20	NP	1EI	NT	AL	
Client:	Soul	5 M	الع	Assoc	iales	The second second	tandard		Rush_	72 h							272						TO		
						Proje	ct Name	э:						,	www	.hall	envi	ironn	nent	al.cc	om				
Mailing	Address	40	L	Brown	luga	-	Trun	k 1	K	2015		49	01 H	awki	ns N	E -	Alb	uque	erque	e, NI	M 87	109			
and the second	mingto		NM	Juc	0	Proje	ect #:					Te	Tel. 505-345-3975 Fax 505-345-4107												
			The second	7535	Fa. 17 (17)	N20589					To the second	Analysis Request													
email o	Fax#:	Steven.	moske	Jesoud	willia	Design Manager					1)	nly)	( <del>MRO</del> )					04)	(0)						
	Package:									1	* (8021)	(Gas only)	本			(3)		O4,S	PCB's			10.00			
	☐ Standard ☐ Level 4 (Full Validation						steve		oska		£	1 (G	(8/			SIMS)		)2,P(	82 P						
	Accreditation  □ NELAP  □ Other						pler: :e:	A Yes	Spra	ave	1	TPH	TPH 8015B(GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	8270		Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	line i	2				S io
	□ EDD (Type)						The state of the s	perature	7		1	8E +	GR.	941	d 50	or	tals	8,	des	7	100				ە ك
			T		4:43			100		A Commence of the second	1	MT	15B	etho	etho	831(	3 Me	(F,C	estic	0	emi				ples
Date	Time	Matrix	Sa	mple Red	quest ID	1	ntainer e and #	Preserv		HEAL No.	A	BTEX + MTBE +	180	N T	3 (3	PAH's (8310 or	RCRA 8 Metals	suc	1 Pe	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
				- CONT. 12 - 4-4		.,,,				1505010	BTEX			T F	E	PAI	RC	Ani	808	826	827				Air
1-1-15	1000	501	#9	Sc-1	N	14	20	_		-001	X		X												
1	1005		#9	56-2	5			1		-102	X		X												
	1000		H 9	5C-3	E					-003	×		X												
	1015		- 1	5C-4						-004	X		X	10				T .							
	0501			56-5						-005	X		X												
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	1035			56-7	5					-007	X		X									12			
	1040	alge A		52-3	E				Ti Ali	-008	×		X		1						7				
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	1050		#6		Base		1	Tite		-010	×		X		4										
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A		N			yella-1		V	V			100		1-												
Date:	Time:	Relinquis	hea by:			Recei	ved by:	. 1		Date Time	Rer	nark	s: -	Ino	oice		B.	to	pris	C			9 11	z. CON	
3/1/15	1835	(	1-	25/	2	14	Auth	-Wal	les	7/1/15 1835	18	4 57		COP	(	1	25%	.5	rag	me.	250	ulu	rille	5.000	1
Date:	Time:	Relinqui	hed by:	1	1.	Recei	ved by:	M		Date Time	11.0		Ry	'-	2			1	(	)					
11/15	11944	IN	iste	e Wa	elen	1		T		05/02/15 08	10	).			10				45		-				_
	f necessary,	samples su	ibmitted to	Hall Environmen	ntal may be sub	contracte	ed to other a	accredited la	boratorie	s. This serves as notice of this	s possi	bility.	Any su	ib-cont	racted	d data	will be	e clear	ly nota	ated or	n the ar	nalytical	report.		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 14, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K OrderNo.: 1505542

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/13/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505542

Date Reported: 5/14/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 S Wall @ 0-12'

Project: Trunk K

Collection Date: 5/12/2015 3:30:00 PM

Lab ID: 1505542-002

Matrix: MEOH (SOIL) Received Date: 5/13/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/13/2015 1:19:13 PM	19199
Surr: DNOP	105	57.9-140	%REC	1	5/13/2015 1:19:13 PM	19199
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/13/2015 10:08:48 AM	R26157
Surr: BFB	95.4	80-120	%REC	1	5/13/2015 10:08:48 AM	R26157
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.035	mg/Kg	1	5/13/2015 10:08:48 AM	R26157
Toluene	ND	0.035	mg/Kg	1	5/13/2015 10:08:48 AM	R26157
Ethylbenzene	ND	0.035	mg/Kg	1	5/13/2015 10:08:48 AM	R26157
Xylenes, Total	ND	0.069	mg/Kg	1	5/13/2015 10:08:48 AM	R26157
Surr: 4-Bromofluorobenzene	111	80-120	%REC	1	5/13/2015 10:08:48 AM	R26157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 5

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1505542

14-May-15

Client:

Souder, Miller and Associates

Project:

Trunk K

Sample ID	1505542-001AMS
Sample ID	1000042-00 IANS

SampType: MS

TestCode: EPA Method 8015D: Diesel Range Organics

SC-5 Base @ 37' Client ID:

Batch ID: 19199

RunNo: 26152

Prep Date: 5/13/2015 Analysis Date: 5/13/2015

SeqNo: 776062

Units: mg/Kg

Analyte Diesel Range Organics (DRO) Result PQL 280 9.7

SPK value SPK Ref Val %REC LowLimit **HighLimit** 

**RPDLimit** Qual

Surr: DNOP

4.8

251.4 48.26 4.826

59.1 99.5 42.3 146 57.9 140

Sample ID 1505542-001AMSD

SampType: MSD Batch ID: 19199 TestCode: EPA Method 8015D: Diesel Range Organics RunNo: 26152

%RPD

Prep Date: 5/13/2015

SC-5 Base @ 37'

SegNo: 776613

SPK value SPK Ref Val %REC LowLimit

0

Analyte

Client ID:

Analysis Date: 5/13/2015

Units: mg/Kg

%RPD PQL %REC HighLimit **RPDLimit** Result SPK value SPK Ref Val LowLimit 42.3 Diesel Range Organics (DRO) 230 9.6 48.12 251.4 -51.9 146 21.1 Surr: DNOP 5.6 4.812 115 57.9 140 0

Sample ID MB-19199

SampType: MBLK

RunNo: 26152

TestCode: EPA Method 8015D: Diesel Range Organics

%RPD

Client ID: Prep Date: 5/13/2015

Batch ID: 19199 Analysis Date: 5/13/2015

SeqNo: 776614

Units: mg/Kg

HighLimit

Qual

S

Result PQL Diesel Range Organics (DRO) ND 10

10.00

107

57.9 140 **RPDLimit** 

28.9

0

Qual

Sample ID LCS-19199

5/13/2015

SampType: LCS

11

Result

TestCode: EPA Method 8015D: Diesel Range Organics

LCSS Client ID:

Batch ID: 19199

RunNo: 26152

Analyte

Analysis Date: 5/13/2015

PQL

SeqNo: 776615

Units: mg/Kg HighLimit

%RPD **RPDLimit** 

Qual

Diesel Range Organics (DRO) Surr: DNOP

Prep Date:

Surr: DNOP

SPK value SPK Ref Val %REC LowLimit 48 10 50.00 5.1 5.000

96.4 101

57.9

67.8 130 140

# Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit ND
- Sample pH Not In Range P
- Reporting Detection Limit RL

Page 3 of 5

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1505542

14-May-15

Client:

Souder, Miller and Associates

Project:

Trunk K

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

Client ID: PBS

Batch ID: R26157

RunNo: 26157

Prep Date:

Analysis Date: 5/13/2015

PQL

SeqNo: 776429

%REC

Units: mg/Kg

%RPD

**RPDLimit** 

Qual

Analyte Gasoline Range Organics (GRO)

ND 5.0

SPK value SPK Ref Val

95.5

80

Surr: BFB

120

HighLimit

960

Result

1000

Sample ID 2.5UG GRO LCS

SampType: LCS

Client ID: LCSS

Batch ID: R26157

PQL

5.0

TestCode: EPA Method 8015D: Gasoline Range RunNo: 26157

130

120

Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776430

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Result 23 SPK value SPK Ref Val

%REC LowLimit

100

**HighLimit** 

**RPDLimit** 

Surr: BFB

1000

25.00 1000 92.5

64

80

%RPD

Qual

Client ID: SC-5 Base @ 37'

Client ID: SC-5 Base @ 37'

Sample ID 1505542-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 26157

Prep Date:

Analysis Date: 5/13/2015

SeqNo: 776431

Units: mg/Kg

Analyte Surr: BFB

Result Gasoline Range Organics (GRO) 700

PQL

Batch ID: R26157

66

66

Batch ID: R26157

328.1

13120

328.1

13120

SPK value SPK Ref Val %REC 364.6

364.6

LowLimit

**HighLimit** 144

120

**RPDLimit** 

Qual

S

Sample ID 1505542-001AMSD

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

107

164

101

163

RunNo: 26157

47.9

80

47.9

80

Units: mg/Kg

144

120

Analyte Gasoline Range Organics (GRO)

Prep Date:

Surr: BFB

Analysis Date: Result **PQL** 

720

21000

21000

5/13/2015

SeqNo: 776432 SPK value SPK Ref Val

%REC LowLimit

HighLimit

%RPD 2.62

0

%RPD

**RPDLimit** 

Qual 29.9 S 0

#### **Oualifiers:**

R

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit P Sample pH Not In Range
- Reporting Detection Limit

Page 4 of 5

## **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1505542

Page 5 of 5

14-May-15

Client: Souder, Miller and Associates

Project: Trunk K

Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8021B: Volatiles

Client ID: PBS Batch ID: R26157 RunNo: 26157

Prep Date: Analysis Date: 5/13/2015 SeqNo: 776458 Units: mg/Kg

**RPDLimit** Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Qual ND 0.050 Benzene Toluene ND 0.050 Ethylbenzene ND 0.050 Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 1.1 1.000 109 80 120

Sample ID 100NG BTEX LCS SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: R26157 RunNo: 26157 Prep Date: Analysis Date: 5/13/2015 SeqNo: 776459 Units: mg/Kg SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result PQL LowLimit Qual 1.0 0.050 1.000 0 101 76.6 128 Benzene Toluene 1.0 0.050 1.000 0 101 75 124 Ethylbenzene 1.0 0.050 1.000 0 103 79.5 126 3.1 0.10 3.000 0 102 78.8 124 Xylenes, Total Surr: 4-Bromofluorobenzene 1.1 1.000 113 80 120

Sample ID 1505542-002AMS SampType: MS TestCode: EPA Method 8021B: Volatiles

Client ID: SC-2 S Wall @ 0-12' Batch ID: R26157 RunNo: 26157

Prep Date:	Analysis Date: 5/13/2015				SeqNo: 776460			Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.035	0.6940	0	103	69.2	126	D. A.	10000	N. P.
Toluene	0.71	0.035	0.6940	0.007558	102	65.6	128			
Ethylbenzene	0.73	0.035	0.6940	0	105	65.5	138			
Xylenes, Total	2.2	0.069	2.082	0	104	63	139			
Surr: 4-Bromofluorobenzene	0.76		0.6940		110	80	120			

SampType: MSD Client ID: SC-2 S Wall @ 0-12' Batch ID: R26157 RunNo: 26157 Prep Date: Analysis Date: 5/13/2015 SeqNo: 776461 Units: mg/Kg Analyte SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Benzene	0.73	0.035	0.6940	0	105	69.2	126	1.43	18.5	
Toluene	0.74	0.035	0.6940	0.007558	105	65.6	128	3.13	20.6	
Ethylbenzene	0.76	0.035	0.6940	0	110	65.5	138	4.14	20.1	
Xylenes, Total	2.2	0.069	2.082	0	107	63	139	2.10	21.1	
Surr: 4-Bromofluorobenzene	0.75		0.6940		109	80	120	0	0	

#### **Oualifiers:**

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range

Sample ID 1505542-002AMSD

- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B

TestCode: EPA Method 8021B: Volatiles

- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- Reporting Detection Limit RL

Sample pH Not In Range P



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: SMA-FARM	Work Order Number: 1505542		RcptNo: 1
Received by/date:	5/13/15		
Logged By: Lindsay Mangin 5	/13/2015 7:00:00 AM	James Hongs	
	/13/2015 7:26:25,AM	Simbul Hayapo	
Reviewed By:	05/12/15	000	
Chain of Custody	02/12/12		
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present
Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present
How was the sample delivered?	Courier		
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗆	NA 🗆
5. Were all samples received at a temperature of	f >0° C to 6.0°C Yes	No 🗆	NA 🗆
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗆	
7. Sufficient sample volume for indicated test(s)?	Yes 🖈	No 🗆	
8. Are samples (except VOA and ONG) properly		No 🗌	
9. Was preservative added to bottles?	Yes 🗌	No 🖝	NA 🗆
10.VOA vials have zero headspace?	Yes 🗌	No 🗆	No VOA Vials
11. Were any sample containers received broken	? Yes	No 🐼	
			# of preserved bottles checked
12. Does paperwork match bottle labels?	Yes 🖈	No 🗔	for pH: (<2 or >12 unless not
(Note discrepancies on chain of custody)  13 Are matrices correctly identified on Chain of C	Custody? Yes	No 🗆	Adjusted?
14. Is it clear what analyses were requested?	Yes 🗹	No 🗆	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:
Special Handling (if applicable)			
16. Was client notified of all discrepancies with th	is order? Yes	No 🗌	NA 🗹
Person Notified:	Date:	MOR AGENT DESCRIPTION OF THE SECOND	
By Whom:	Via: eMail	Phone Fax	In Person
Regarding:	de plus anti-una anti-una del cada de un altra anti-una de una cada de una esta de una esta de una esta de un c		The control of the co
Client Instructions:			
17. Additional remarks:			
18. Cooler Information			
	al Intact   Seal No   Seal Date	Signed By	
1 3.0 Good Yes			

C	hain-	of-Cu	stody Record	Turn-Around	Time:						IA		E	NIX	TE	20	NIA	1EN	TA	
Client:	TRANSPORT	m A		□ Standard	Rush	Sanc Day						-	100					RAT		
				Project Name	):	J				1	NWW	v.hall	lenv	ironr	ment	tal.co	om			
Mailing	Address	40	(1.) Rm. A	Trunk	k			490	01 H	awkii	ns N	IE -	Alb	ugue	erqu	e, N	M 87	109		
Far. Phone	mington #:	. N		Trunk Project #:	20589					5-34		975	F	ах	505-		4107		The state of the s	
email o			osked@Soudonillo.com	Project Mana	ger:		=	nly)	1					04)	"					
QA/QC	Package: idard		☐ Level 4 (Full Validation)	Stew	en M. J. Spreu	ookal	EMB's (8021)	TPH (Gas only)	ROT			SIMS)		,PO4,S	2 PCB's					
Accred	AP	□ Othe	er	Sampler: On Ice:	Yes perature:	ANO	1	+ TPH	RO/D	118.1)	504.1)	r 8270	S	O3,NO2	s / 808;		(AC			or N
□ EDE	(Type)			Sample Tem	perature:	V 3,0	14	TBE	9	pol 7	pou	100	letal	CI,N	cide	(A)	)-ic			\\ \S
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1505542	BTEX MARRA	BTEX + MTBE	TPH 8015B GRO / DRO / WIRE	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
-12	430	501)	5c-5 Base @ 37'	1402 mest . 1	MON	-001	X	_	X											
5-12	1530	Soil	SC-2 5 wall @ 0-12	1 402 Mests	ney	-002	X		×											
																	4			
												T								-
														58						
Date: 5/12/15/Date: 5/12/15	Time: 1754 Time: 1837	Relinquish Relinquish	e E Spran	Received by:	Water	Date Time 5/14/5 1754  Date Time 5/13/15 0700	1 .	marks euse Jes		apy Sp	)			2 St		le,	mil	હ.	COM	^

Appendix D
Archeological Survey Reports



July 16, 2015

Mr. Tom Long Enterprise Products Company 614 Reilly Ave. Farmington, NM 87401

Dear Tom:

As requested, the client copy of our report on the archaeological monitor of the repair locations on the Trunk K pipeline has been submitted electronically to you. During the monitor, no cultural material was encountered.

With completion of the monitor, all stipulations and conditions of cultural resource compliance have been met.

Please contact us if you have any questions concerning the report.

Sincerely,

Charles W. Wheeler, Ph.D., RPA

Vice President

enc.

cc: Jim Copeland, BLM-FFO

Steve Moskal, Souder, Miller, and Associates (electronic)

Tom Lennon, WCRM

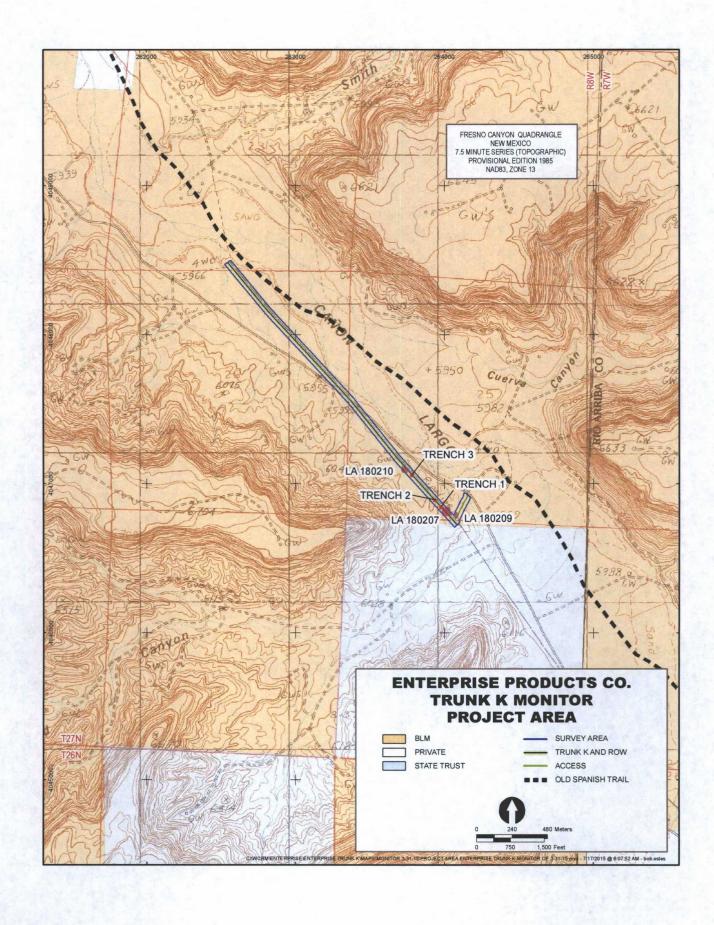
	Bureau of Land Management Farmington Field Office	t, Agency(i	es):		
	rchaeological Monitoring of th Juan County, New Mexico	e Enterprise Products Con	npany Trunk K	Pipeline	5. Type of Report  ⊠ Negative □ Positive
Author(s) Cindy J.	Bunker				
6. Investigation Type Research Design	☐ Survey/Inventory	☐ Test Excavation	☐ Excavation		ections/Non-Field Study
Overview/Lit Review	w Monitoring	☐ Ethnographic study	☐ Site specif	ic visit	Other
At the request of Tom Lo	ertaking (what does the proje ong of Enterprise Products Connc. (WCRM), monitored activi	npany, personnel from W			of Investigation: 2-June 24, 2015
repair of leaks on the Tru BLM-FFO) stipulations	nk K pipeline. Bureau of Land required that protective measu Temporary barriers were const	d Management, Farmingtonies be taken to protect sit	on Field Office es LA 180207,	9. Report	t <b>Date</b> : July 16, 2015
10. Performing Agen Principal Investi	cy/Consultant: Western Cu gator: Thomas J. Lennon Michael J. Proper, Sarah M.			Repo	rming Agency/Consultant rt No.: WCRM(F)1394 ct No.: 15F014
Foster Field Personnel Virginia Foster	Names: Michael J. Proper, S	Sarah M. Morgan, Cindy	. Bunker, and		cable Cultural Resource o(s): 25-2920-14-PP (BLM-FFO)
13. Client/Customer Contact: Thomas	lly Ave, Farmington, New Me			14. Clien	t/Customer Project No.:
5. Land Ownership	Status (Must be indicated or	n project map):	the state of the s		
Land Owner	Mark To Fig.		Acres Survey	ed* Acres	s in APE
S. Part Land			- T		
		TOTALS			
*as calculated in A	utoCAD				
Proper and Bunker 2014		documentation of six new	ly recorded site	s two of which	pipeline, was completed by WCRM ch required protective measures, LA
D Mi-1 - 17 - 17	Cindy J. Bunker rce Inventory of Enterprise Pro		ipeline Repair L		and Access Road San Juan County
2014 Cultural Resour New Mexico. R Bunker, Cindy J. 2014 Archaeological	Monitoring of the Enterprise	Products Company Trunk	K Pipeline Rep	air Locations	n, New Mexico. (NMCRIS 131697) s in San Juan County, New
2014 Cultural Resour New Mexico. R Bunker, Cindy J. 2014 Archaeological Mexico. Repor	Monitoring of the Enterprise t No. WCRM(F)1349. Wester	Products Company Trunk rn Cultural Resource Man	K Pipeline Repa	air Locations	n, New Mexico. (NMCRIS 131697)
2014 Cultural Resour New Mexico. R Bunker, Cindy J. 2014 Archaeological Mexico. Repor	Monitoring of the Enterprise t No. WCRM(F)1349. Wester	Products Company Trunk rn Cultural Resource Man  Name of Reviewe	K Pipeline Repa agement, Inc., F	air Locations	n, New Mexico. (NMCRIS 131697) s in San Juan County, New
New Mexico. R Bunker, Cindy J. 2014 Archaeological Mexico. Repor	Monitoring of the Enterprise t No. WCRM(F)1349. Wester e Review le Review	Products Company Trunk rn Cultural Resource Man	K Pipeline Repagement, Inc., F	air Locations	n, New Mexico. (NMCRIS 131697) s in San Juan County, New

17. Survey Dat	ta (continued):					
d. Nearest Cit	y or Town: Blanco, No	ew Mexico				
e. Legal Desc	cription:					
	Township (N/S)	Pango (EAM)	Section	1/ 1/ 1/		
	27N	Range (E/W)	25*	1/4 1/4 1/4 SE1/4, SE1/4, SW1/4		
		1278 211972				
	*template anchored on	SE corner and souther	rn section line			
Projected lega	description? Yes [	], No [ X ] L	Inplatted [ ]			
f. Other Descri	iption (e.g. well pad	footages, mile mar	kers plats land	grant name, etc.):		
18. Survey Fie		- Colugoo, Illio Illian	Norte, plate, lane	grant name, otol).		
Intensity:	100% coverage	<100% coverage				
Configuration:	block survey units	s 🗌 linear survey	units (I x w):	other survey	units (specify):	
Scope: non	-selective (all sites re-	corded)	ve/thematic (sele	cted sites recorded)		
Coverage Meth	hod: systematic p	edestrian coverage	other metho	d (describe)		
Survey Interva	al (m): N/A Crew Siz	ze: 1 Fieldwork D	ates: March 2, 7,	31, April 1, 2, 3, 6, 23, 24,	27, 28, 29, 30, May 1, 12, 13,	14,
	), 22, and 24, 2015.					
Survey Person		g Person Hours:				
Additional Nar	by Michael J. Proper as	stipulated by the BLM	uction on the failed M-FFO. Activities	repair locations on the Trur related to the repairs condu	k K pipeline, temporary barrier cted at the failed repair location	s were
monitored between	en March 2, and June 24	, 2015 by Michael J. Pr	roper, Sarah M. Mo	rgan, Cindy J. Bunker, and V	Virginia Foster. To protect LA 18	80207
					ducted within the site boundar, as placed along the northern edge	
					0 a temporary fence was placed	
	of the ROW through the ded in Appendix A.	e site area. As require	ed by the BLM pho	tographs were taken during	and after the repairs were comp	pleted
					The segment of the Trunk K pi ween Cottonwood and Onofre	
	ginal survey report for n				ween cottonwood and onone	aquez
20.a. Percent C	Ground Visibility:	b. Condition of S	Survey Area (gra	zed, bladed, undisturbe	ed, etc)	9
21. CULTURAL	L RESOURCE FINDIN	NGS ☐ Yes. 🌣	No. Discuss Wh	v: No cultural material wa	s encountered during the monit	or.
	Attachments (check			,, rio cartara material ira	T The state of the	
	opographic Map wit			learly drawn	23. Other Attachments:	
Copy of NN	<b>MCRIS Mapserver Ma</b>	p Check			Photographs and Lo	g
A REAL PROPERTY AND ADDRESS OF THE PARTY AND A	ms - new sites ( <u>with</u> ms (update) - previo			(first 2 pages minimum)	Other Attachments	
Historic Cu	Itural Property Inver	ntory Forms		(mor z pages minimum)	(Describe):	
	escription of isolates scription of Collection		0. 3)			
		The second secon	t and accurate a	and meets all applicable	agency standards.	
Princinal Inves	stigator/Responsible	Archaeologist: (	Charles W Wheeler	Ph D RPA		
Timoipai iiivo	stigutoi// tesponsible	Al chacologist.	charles W. Wheeler	i, i i.b., Ki A		
	1 11 11	1		J. 71 4.80		
Signature	harblow	ul	Date	7/16/15 Title	(if not PI):	
25. Reviewing	Agency:		26. SHPO			
Reviewer's Na			Reviewer's Nan	ne/Date:		
Accepted (	) Rejected (		UDD I on #			
	) UCICCIEN I	)	HPD LOG #:			
	ation (if applicable):	,	HPD Log #: SHPO File Loca	tion:		

## **CULTURAL RESOURCE FINDINGS**

[fill in appropriate section(s)]

No.: 133832		ensoring) Agenc and Management,	y: Farmington Field Office	3. Lead Agency Report No.:
BURVEY RESULTS: No	new cultural mater	rials were encounte	ered during the monitor.	
Sites discovered and resites discovered and No Previously recorded site Previously recorded site FOTAL SITES VISITED: Fotal isolates recorded: Fotal structures recorded	OT registered: es revisited (site es not relocated 3 0 Non-sel ed (new and previo	update form requir I (site update form ective isolate re ously recorded, inclu	cording?  uding acequias): 0	s for cultural resource compliance have been
net.				
SURVEY LA NUMBER L		PORT IS NEGATI	VE YOU ARE DONE AT THIS P	POINT.
Sites Discovered:				
LA No.	Field/Ac	ency No. Eligib	ble? (Y/N, applicable criteri	ia)
EA NO.	Tielding	choy No. Engli	oie : (1714, applicable official	
LA No.	Field/Ag	ency No. Eligib	le? (Y/N, applicable criteria	a)
MONITORING LA NUME Sites Discovered (site for		Previously re	ecorded sites (Site update for Field/Agency No.	rm required):
		LA 180207 LA 180209	14F111-S1 14F111-S4	
		LA 180210	14F115-S5	
	Asia .	211100210		
Areas outside known ne	earby site boun	daries monitored	d? Yes □, No □ If no exp	lain why:
ESTING & EXCAVATION	N LA NUMBER	LOG (site form red	quired)	
	_		-h(-)	
Tested LA number(s)	E	cavated LA nun	nber(s)	
Tested LA number(s)	E	ccavated LA nun	nber(s)	



Appendix A

Photographs



Trench 1 repair location from southern end of trench looking north.



Trench 1 repair location from northern end of trench looking south toward Site LA 179207.



Trench 1 excavation in progress.



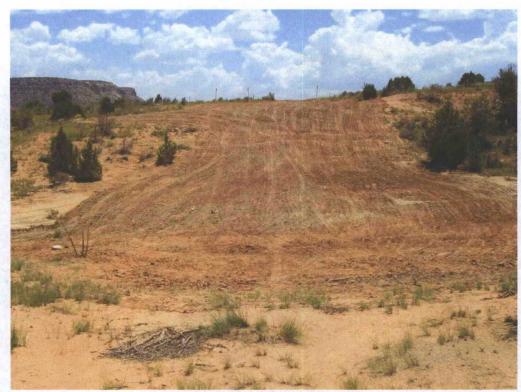
Trench 1 area clean-up after repair completion facing north.



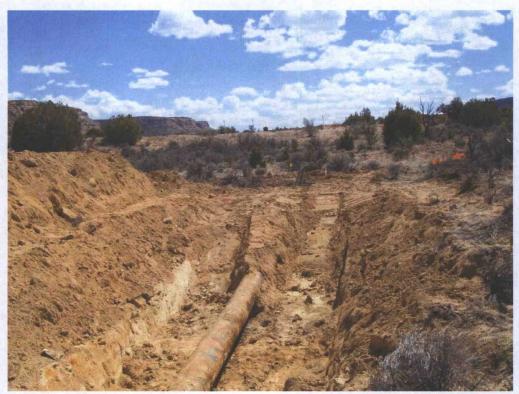
Trench 2 with repaired pipe.



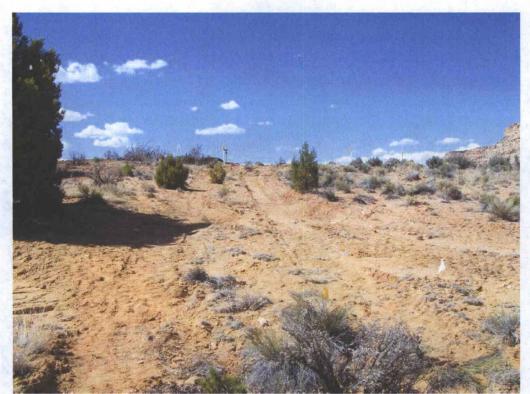
Trench 2 area clean-up after repair completion facing north.



Trench 2 area clean-up after repair completion facing south.



Trench 3 repair location from northern end of trench looking south.

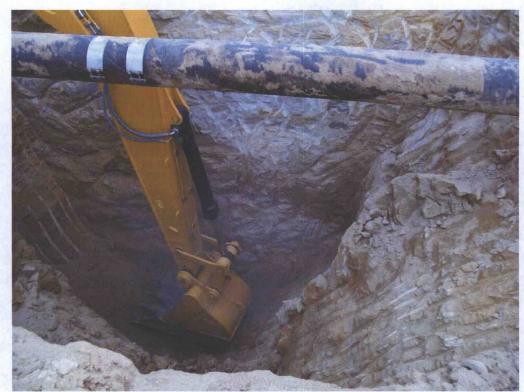


From the northern end of Trench 3 repair location looking towards site LA 180210.

The riser is located within the site.



Trench 3 excavation in progress.



Trench 3 excavation in progress.



Trench 3 area clean-up after repair completion facing south.

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

#### State of New Mexico **Energy Minerals and Natural** Resources

Oil Conservation Division 1220 South St. Francis Dr.

## OIL CONS. DIV DIST. 3

AUG 17 2015

Form C-141 Revised August 8, 2011

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

				Sai	nta Fe, NM 8	7505				
1		F	Releas	e Notific	ation and (	Corrective	Action			A
					OPERATO	OR	☐ Initia	l Report		Final Report
Name of C	company:	Enterprise I	Field Ser	vices LLC	Contact:	Thomas Long			133	
Address: 6	14 Reilly A	Ave, Farmin	gton, NN	187401	Telephon	e No. 505-599	-2286			
Facility Na	me: Trunk	k K #9 Rele	ase Site		Facility T	ype: Natural C	Sas Gathering	Line	-	
Surface O	wner:BLM			Mineral C	Owner:BLM		APIN	No.	Der.	
				LOCA	TION OF RE	LEASE				
Unit Letter N	Section 25	Township 27N	Range 8W	Feet from the 201	North South Line	Feet from the 2298	East Vest Line	County San Jua	ın	
			L		37394 Longitu URE OF REI		70			
Type of Rel	ease: Natur	ral Gas and N	latural Ga	s Liquids	Volume	of Release 5-10	BBLs Volume	e Recovered	d: Non	e

	Condensate	
Source of Release: Internal Corrosion/Failed Repair	Date and Hour of Occurrence: 2/18/2015 @ 2:00 p.m.	Date and Hour of Discovery: 2/18/2015 @ 4:00 p.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? Courtesy No	tification: Cory Smith - NMOCD and
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the V	Vatercourse
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action: On February 1 the Trunk K pipeline. The pipeline was isolated and de-pressurize any of the release locations. Remediation was complete on May	ed and lock out tag out was applied.	No surface impacts were observed at
Describe Area Affected and Cleanup Action Taken.* The contami measured approximately 33 feet long by 25 feet wide by 34 feet of excavated from the area of the identify release point and transport party corrective action report is included with this "Final" C-141.	deep. Approximately 810 cubic yard	ls of hydrocarbon impacted soil were
I hereby certify that the information given above is true and comprules and regulations all operators are required to report and/or fil which may endanger public health or the environment. The accerelieve the operator of liability should their operations have failed ground water, surface water, human health or the environment. I operator of responsibility for compliance with any other federal, st	le certain release notifications and properties of a C-141 report by the NM to adequately investigate and remedin addition, NMOCD acceptance of a tate, or local laws and/or regulations	perform corrective actions for releases OCD marked as "Final Report" does not diate contamination that pose a threat to a C-141 report does not relieve the
Printed Name: Jon Fields	Approved by Environmental Speci	ialist: any
Title: Director, Environmental	Approval Date: 9/4/15	Expiration Date.
E-mail Address:jefields@eprod.com	Conditions of Approval:	Attached
Date: 8-12-2015 Phone: (713)381-6684	(Table 5-7)	

#NCS 1507253264

Enterprise Products
Trunk K #9 Pipeline Release
Latitude North 36.537394°, Longitude West -107.635970°
SE/SW (Unit N), Section 25, T27N, R8W
San Juan County, New Mexico
July 30, 2015



#### Submitted To: Enterprise Products Operating, LLC. Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401

Enterprise Products

#### Submitted By: Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505)325-7535



#### **Table of Contents**

1.0	Executive Summary	
2.0	Introduction	1
3.0	Site Ranking and Land Jurisdiction	
4.0	Summary of Field Activities	
5.0	Conclusions and Recommendations	3
6.0	Closure and Limitations	3

#### Figures:

Figure 1: Vicinity Map Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

#### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

#### Appendices:

Appendix A: Photographic Documentation Appendix B: Soil Disposal Documentation Appendix C: Laboratory Analytical Reports Appendix D: Archaeological Survey Report

#### 1.0 Executive Summary

From March 7, 2015 through May 1, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of a hydrocarbon release associated with the Trunk K natural gas pipeline. The release was initially reported to SMA on March 1, 2015 and is a result of internal pipeline corrosion. The table below summarizes information about the pipeline remediation activities.

	TABLE 1:	RELEASE INFO	RMATION		
Name	36.27	Trunk K #9	Pipeline R	Release	1000年100日。
the Yalk Level of	Latitude	/Longitude	Sec	tion, Towns	ship, Range
Location	36.537394°	-107.635970°	SE/SW (Unit N)	Section 25	T27N, R8W
Date Reported to SMA	March 1, 2015				
Reported by	Tom Long			世	
Land Owner	Bureau of Land	d Management (B	LM)	6.40	
Reported To		vation Division (N		d BLM	
Diameter of Pipeline	16 inches	DATE OF		The second	
Source of Release	Internal Corros	sion			
Release Contents	Natural Gas Li	quids/Condensate			Elevanor de la companya de la compa
Release Volume	Unknown				
Nearest Waterway		rgo Canyon Wash Canyon Wash	and within	an unname	ed Tributary
Depth to Groundwater	Estimated to b	e less than 50 fee	t		
Nearest Domestic Water Source	Greater than 1	,000 feet			
NMOCD Ranking	30	and the second second	Harry Control		
SMA Response Dates	March 7 through	gh May 1, 2015			<b>建</b> 取者的意
Subcontractors	Crossfire		Contract of	1000	STATE LONG
Disposal Facility	Envirotech	-1	C FY E	T. T.	OF THE SECOND
Yd³ Contaminated Soil Excavated and Disposed	810 (Reported	as portion of atta	ched C-138	3 forms)	

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Trunk K #9 pipeline release site. The site is located in SE/SW (Unit N), Section 25, T27N, R8W, 36.537394°, -107.635870°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

Trunk K#9
Pipeline Release
San Juan County, New Mexico
SMA Reference # 51236999 BG10

#### 3.0 Site Ranking and Land Jurisdiction

The release site is located in a small unnamed tributary to Largo Canyon Wash, in an area owned by the BLM with an elevation of approximately 5,963 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs). Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well was found within a one mile radius of the site. There is no anticipated impact to this well. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 30 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

The location of the Trunk K #9 site was determined by BLM to be within an archaeological and culturally sensitive area. Enterprise contracted Western Cultural Resources Management (WCRM) of Farmington, NM to conduct a complete archaeological survey of the entire Trunk K pipeline right of way. The survey determined the majority of the right of way to be cleared of archaeological significant findings except for the area immediately surrounding the Trunk K #9 release location. Through coordination with the BLM, WCRM identified and delineated the area in order to protect and preserve the integrity of the archaeological site. A representative from WCRM was on site during the repair and remediation activities at Trunk K #9. A copy of the WCRM survey report is enclosed in Appendix D.

#### 4.0 Summary of Field Activities

Excavation of the Trunk K #9 site began on March 7, 2015 and continued, periodically, through May 1, 2015. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo-ionization detector (PID). Representatives from Enterprise were present to oversee site health and safety and direct repair activities.

Soil samples were initially field screened with the calibrated PID. When the soil at the vertical and horizontal extents of the excavation were suspected of having hydrocarbon contamination concentrations below regulatory standards, five final samples were collected and submitted for confirmation laboratory analysis. Closure sample collection dates were scheduled with the BLM and the NMOCD for the observation of sampling activities on May 1, 2015. Neither party was present to witness the sample collection. Samples were analyzed utilizing United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

#### 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Five composite samples were collected from the final excavation sidewalls and base using an excavator on May 1, 2015. All laboratory analytical results for all samples collected at the Trunk K #9 Excavation were below laboratory detection limits and NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm).

The overall excavation measured 30 feet long and 25 feet wide with a maximum depth of 34 feet bgs. The excavation encountered competent sandstone bedrock from approximately 7 feet bgs to the total depth. No saturated soils were encountered during the excavation. All soil excavated from the Trunk K #9 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 3, detailing sample locations and laboratory results. A summary of laboratory analysis is included in Table 3. Copies of the laboratory reports are included in Appendix C.

SMA recommends no further action at the Trunk K #9 pipeline release location.

#### 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact Reid Allan at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES

Jan & Sprague

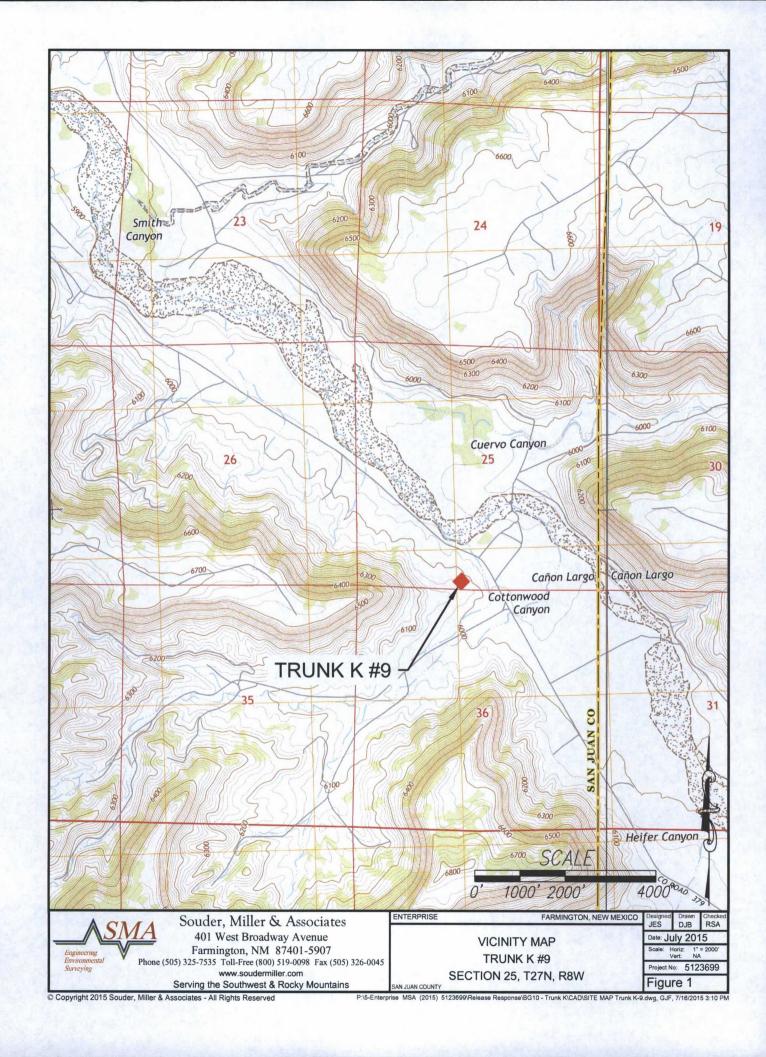
Jesse Sprague Staff Scientist 1.

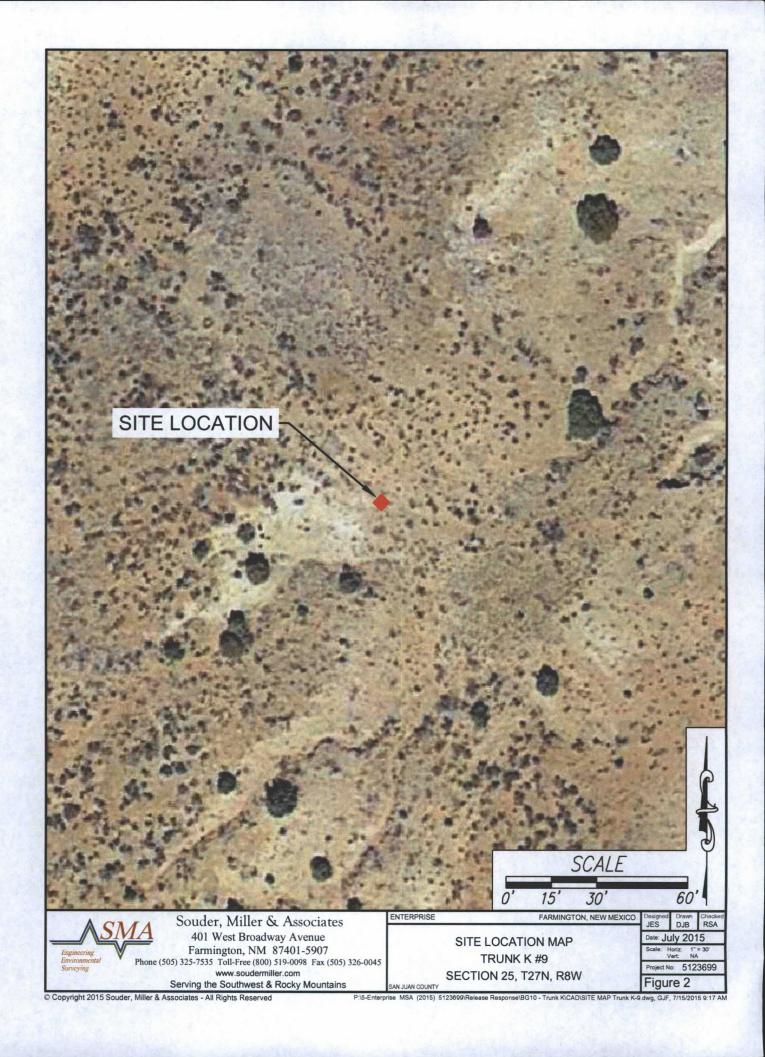
Reviewed by:

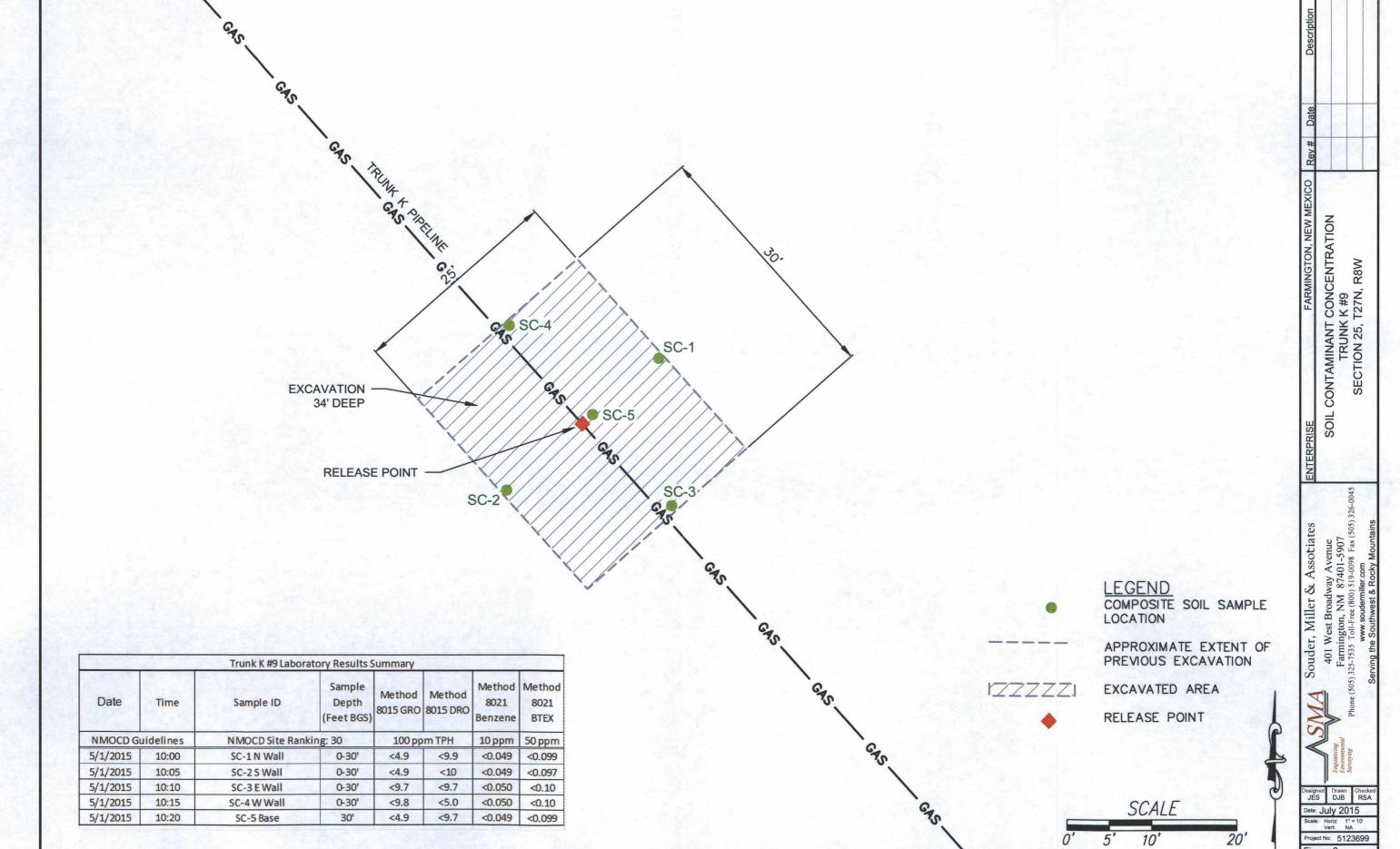
Reid Allan, P.G.

Vice President/Principal Scientist

**Figures** 







**Tables** 

Depth to Groundwater	NMOCD Numeric Rank for this	Source for Ranking	Notes
Deptil to droulidwater	Site	Source for Kanking	Notes
< 50 BGS = 20	20	Field verification that release is	Groundwater not encountered durin
50' to 99' = 10		located 370 feet west of Largo Canyon Wash	excavation; assumed that groundwater is <50' below ground surface.
>100' = 0			surface.
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20			
200'-1000' = 10	10	Field verification that release is located 850 feet west of Largo Canyon Wash	Release is located between 200' - 1,000' from Largo Canyon Wash
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
		30	
Total Site Ranking		30	
Soil Remedation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
ТРН	5000 PPM	1000 PPM	100 PPM



		Trunk K #9 Labo	ratory Results Si	ummary			
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD G	uidelines	NMOCD Site Ranking: 30		100 ppm TPH		10 ppm	50 ppm
5/1/2015	10:00	SC-1 N Wall	0-30'	<4.9	<9.9	<0.049	<0.099
5/1/2015	10:05	SC-2 S Wall	0-30'	<4.9	<10	<0.049	<0.097
5/1/2015	10:10	SC-3 E Wall	0-30'	<9.7	<9.7	<0.050	<0.10
5/1/2015	10:15	SC-4 W Wall	0-30'	<9.8	<5.0	<0.050	<0.10
5/1/2015	10:20	SC-5 Base	30'	<4.9	<9.7	<0.049	<0.099



Appendix A
Photographic Documentation

# Site Photographs Enterprise Products Trunk K #9 Pipeline Release



Photo 1: Trunk K #9 Excavation exposes the release point.



Photo 2: Trunk K #9 Excavation increasing in depth through sandstone.

## Site Photographs Enterprise Products Trunk K #9 Pipeline Release

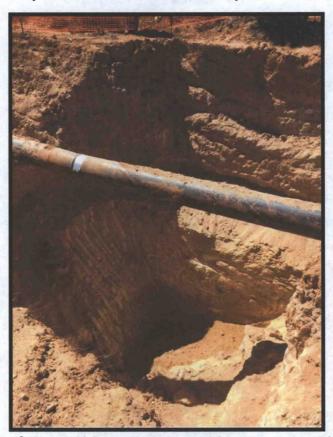


Photo 3: Trunk K #9 Excavation encountered Sandstone at about 7 feet BGS.



Photo 4: Trunk K #9 Excavation nearing maximum depth of 34 feet BGS.

Appendix B
Soil Disposal Documentation

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-0697 Form C-138 Revised 08/01/11

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

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM  4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release Estimated Volume 200 13/bols Known Volume (to be entered by the operator at the end of the haul) 15/bols Known Volume (to be entered by the operator at the end of the haul)
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 3-26-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.  I, Remain presentative for Envirobed The do hereby certify that Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM  Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Lendra Runger Signature: Surface Waste Management Facility Adminized Agent TELEPHONE NO.:  Surface Waste Management Facility Adminized Agent 505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM 4. Source and Description of Waste: Source: Natural Gas Pipeline Release
Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200d <sup>3</sup> /bols Known Volume (to be entered by the operator at the end of the haul)12_/2(yd) bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runny representative for Envirotech, Inc. do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire, Rosenbaum, Kuvek, Bailey's Welding
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Runun V TITLE: Waste Coodinator DATE: 4/3/15 SIGNATURE: Surface Waste Management Facility Authorized Agent 505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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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

97057-06-50m C/138 Revised 08/01/11

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

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk K Release Sites  May 2015
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter B and H of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM  4. Source and Description of Waste: Source: Natural Gas Pipeline Release  Description: Hydrocarbon impacted soils associated with excavation activities for a natural gas pipeline release  Estimated Volume200vd³/bols Known Volume (to be entered by the operator at the end of the haul)304/bols
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, representative or authorized agent for Enterprise Field Services, LLC do hereby  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, 5-1-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Runce representative for Envirotech Inc do hereby certify that
Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: Crossfire Baileys Fosenbaum
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Level 2 Title: Waste Coordinate DATE: 5-1-15 SIGNATURE: Surface Waste Management Facility Authorized Agent  Title: Waste Coordinate DATE: 5-1-15  TELEPHONE NO.:  505-632-0615

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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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

77057-069 FOTTD C-138 Revised 08/01/11

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

	REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
<ol> <li>Generator Name : Enterprise Field Serv</li> </ol>	and Address: rices, LLC, 614 Reilly Ave, Farmington NM 87401
. Originating Site:	Trunk K Release Sites
Init Letter B and H	rial (Street Address, City, State or ULSTR): of Section 26 and Unit Letter N of Section 25 Township 27 North Range 8 West: GPS 36.549537, -107.649872, 62, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657; Rio Arriba, NM
Jan Ly R	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
Generator Signa ertify that according t	sentative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby ture to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 on, the above described waste is: (Check the appropriate classification)
	ot: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
characteristics esta	exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by ablished in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, anded. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check ems)
MSDS Information	☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
	TOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
3-1-13,	representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete
Konto	n the Generator Waste Testing Certification.
Representative/Agei	
ave been found to con	of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples inform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results amples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
. Transporter: GR	face Waste Management Facility RICH. 181 (Cotal) Bros. Kelley Cil to
Name and Facility Address of Facility	Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011
	ent and/or Disposal: aporation
Waste Acceptance S	tatus:  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: SIGNATURE:	Lenda Runing TITLE: Ukste CarelianterDATE: 6-15-15
Suria	ce Waste Management Facility Authorized Agent 505-632-0615

Appendix C
Laboratory Analytical Reports



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 07, 2015

Steve Moskal Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667

FAX

RE: Trunk K 2015

OrderNo.: 1505060

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 10 sample(s) on 5/2/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K 2015

Lab ID: 1505060-001 Client Sample ID: #9 SC-1 N

Collection Date: 5/1/2015 10:00:00 AM Received Date: 5/2/2015 8:30:00 AM

Result RL Qual Units DF Date Analyzed Batch

Matrix: SOIL

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/4/2015 3:14:22 PM	19021
Surr: DNOP	96.5	57.9-140	%REC	1	5/4/2015 3:14:22 PM	19021
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/5/2015 12:22:08 PM	19020
Surr: BFB	91.6	80-120	%REC	1	5/5/2015 12:22:08 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.049	mg/Kg	1	5/5/2015 12:22:08 PM	19020
Toluene	ND	0.049	mg/Kg	1	5/5/2015 12:22:08 PM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/5/2015 12:22:08 PM	19020
Xylenes, Total	ND	0.099	mg/Kg	1	5/5/2015 12:22:08 PM	19020
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	5/5/2015 12:22:08 PM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 14

- Sample pH Not In Range P
- Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K 2015

Lab ID: 1505060-002

Client Sample ID: #9 SC-2 S

Cheft Sample 1D. #7 5C-2 5

**Collection Date:** 5/1/2015 10:05:00 AM **Received Date:** 5/2/2015 8:30:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/4/2015 3:41:05 PM	19021
Surr: DNOP	96.2	57.9-140	%REC	1	5/4/2015 3:41:05 PM	19021
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/5/2015 12:50:52 PM	19020
Surr: BFB	94.3	80-120	%REC	1	5/5/2015 12:50:52 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.049	mg/Kg	1	5/5/2015 12:50:52 PM	19020
Toluene	ND	0.049	mg/Kg	1	5/5/2015 12:50:52 PM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/5/2015 12:50:52 PM	19020
Xylenes, Total	ND	0.097	mg/Kg	1	5/5/2015 12:50:52 PM	19020
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/5/2015 12:50:52 PM	19020

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K 2015

Lab ID: 1505060-003

Client Sample ID: #9 SC-3 E

Collection Date: 5/1/2015 10:10:00 AM

Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS			1	Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/4/2015 4:07:43 PM	19021
Surr: DNOP	95.6	57.9-140	%REC	1	5/4/2015 4:07:43 PM	19021
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/5/2015 1:19:35 PM	19020
Surr: BFB	92.0	80-120	%REC	1	5/5/2015 1:19:35 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	5/5/2015 1:19:35 PM	19020
Toluene	ND	0.050	mg/Kg	1	5/5/2015 1:19:35 PM	19020
Ethylbenzene	ND	0.050	mg/Kg	1	5/5/2015 1:19:35 PM	19020
Xylenes, Total	ND	0.10	mg/Kg	1	5/5/2015 1:19:35 PM	19020
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	5/5/2015 1:19:35 PM	19020

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Trunk K 2015

Lab ID: 1505060-004

Client Sample ID: #9 SC-4 W

Collection Date: 5/1/2015 10:15:00 AM

Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/4/2015 4:34:26 PM	19021
Surr: DNOP	100	57.9-140	%REC	1	5/4/2015 4:34:26 PM	19021
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	5/5/2015 1:48:19 PM	19020
Surr: BFB	91.8	80-120	%REC	1	5/5/2015 1:48:19 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	5/5/2015 1:48:19 PM	19020
Toluene	ND	0.050	mg/Kg	1	5/5/2015 1:48:19 PM	19020
Ethylbenzene	ND	0.050	mg/Kg	1	5/5/2015 1:48:19 PM	19020
Xylenes, Total	ND	0.10	mg/Kg	1	5/5/2015 1:48:19 PM	19020
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	5/5/2015 1:48:19 PM	19020

Matrix: SOIL

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1505060

Date Reported: 5/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: #9 SC-5 Base

Project: Trunk K 2015

**Collection Date:** 5/1/2015 10:20:00 AM

Lab ID: 1505060-005

Matrix: SOIL Received Date: 5/2/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/4/2015 5:01:28 PM	19021
Surr: DNOP	101	57.9-140	%REC	1	5/4/2015 5:01:28 PM	19021
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/5/2015 2:17:03 PM	19020
Surr: BFB	90.8	80-120	%REC	1	5/5/2015 2:17:03 PM	19020
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.049	mg/Kg	1	5/5/2015 2:17:03 PM	19020
Toluene	ND	0.049	mg/Kg	1	5/5/2015 2:17:03 PM	19020
Ethylbenzene	ND	0.049	mg/Kg	1	5/5/2015 2:17:03 PM	19020
Xylenes, Total	ND	0.099	mg/Kg	1	5/5/2015 2:17:03 PM	19020
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	5/5/2015 2:17:03 PM	19020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 14

- P Sample pH Not In Range
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

4.8

WO#:

1505060

07-May-15

Client:

Souder, Miller and Associates

Project:

Surr: DNOP

Trunk K 2015

Sample ID MB-19021 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 19021 RunNo: 25918

Prep Date: 5/4/2015 Analysis Date: 5/4/2015 SeqNo: 768279 Units: mg/Kg

Result PQL SPK value SPK Ref Val %RPD **RPDLimit** Analyte %REC LowLimit HighLimit Qual

Diesel Range Organics (DRO) ND 10

Surr: DNOP 9.8 10.00 98.1 57.9 140

5.000

Sample ID LCS-19021 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 19021 RunNo: 25918 Prep Date: 5/4/2015 Analysis Date: 5/4/2015 SeqNo: 768718 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 53 10 50.00 0 105 67.8 130 95.6

57.9

140

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

Client:

Souder, Miller and Associates

Project:

Trunk K 2015

Sample	ID	MB-19020
--------	----	----------

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

Batch ID: 19020

RunNo: 25957

Prep Date: 5/4/2015 Analysis Date: 5/5/2015 Result

SeqNo: 769854

Units: mg/Kg HighLimit

Analyte Gasoline Range Organics (GRO)

ND

SPK value SPK Ref Val %REC

Qual

91 1

%RPD **RPDLimit** 

910

1000

80

Surr: BFB

120

Sample ID LCS-19020 Client ID:

SampType: LCS

5.0

Batch ID: R25957

PQL

Analysis Date: 5/5/2015

PQL

5.0

TestCode: EPA Method 8015D: Gasoline Range

5/4/2015

LCSS

Batch ID: 19020

RunNo: 25957 SeqNo: 769855

0

SPK value SPK Ref Val %REC

LowLimit

Units: mg/Kg

Gasoline Range Organics (GRO)

Prep Date:

Analysis Date: 5/5/2015 Result PQL

SPK value SPK Ref Val 25.00

%REC LowLimit

103

64

80

%RPD **RPDLimit HighLimit** 

Qual

Surr: BFB

Client ID: PBS

Sample ID 5ML RB

1000 SampType: MBLK

Result

920

990

26

1000

1000

101 TestCode: EPA Method 8015D: Gasoline Range

120

130

RunNo: 25957

SeqNo: 769884

80

Units: %REC

HighLimit

%RPD

**RPDLimit** 

Qual

Analyte Surr: BFB

Prep Date:

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

91.8

LowLimit

120

Client ID: LCSS Batch ID: R25957

RunNo: 25957

Units: %REC

120

Prep Date: Analyte

Surr: BFB

PBS

Analysis Date: 5/5/2015 Result POI

SPK value SPK Ref Val

1000

1000

1000

SPK value SPK Ref Val

SeqNo: 769885 %REC

98.9

I owl imit

80

HighLimit %RPD **RPDLimit** 

Qual

Qual

Sample ID 5ML RB

SampType: MBLK Batch ID: R25998

Analysis Date: 5/6/2015

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 25998

LowLimit

LowLimit

80

Units: %REC

HighLimit

**HighLimit** 

120

Prep Date: Analyte Surr: BFB

Prep Date:

Client ID:

900

Result

Result

990

SampType: LCS

Analysis Date: 5/6/2015

SPK value SPK Ref Val %REC 89.6

80 120 TestCode: EPA Method 8015D: Gasoline Range

Sample ID 2.5UG GRO LCS Client ID: LCSS

Batch ID: R25998

RunNo: 25998 SeqNo: 771160

%REC

98.8

SeqNo: 771159

Units: %REC

%RPD

%RPD

**RPDLimit** 

**RPDLimit** Qual

Analyte Surr: BFB

### Qualifiers:

- Value exceeds Maximum Contaminant Level. E Value above quantitation range
- Analyte detected below quantitation limits 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range RL Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

WO#:

1505060

07-May-15

Client:

Souder, Miller and Associates

**Project:** 

Trunk K 2015

Sample ID MB-19020	SampType: MBLK Batch ID: 19020			Tes						
Client ID: PBS				F	RunNo: 2	5957				
Prep Date: 5/4/2015	Analysis E	Date: 5/	5/2015	5	SeqNo: 7	69908	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050	Many John B.		Did Ay	The Marie W.		200		
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID LCS-19020	Sampl	ype: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 19	020	RunNo: <b>25957</b> SeqNo: <b>769909</b>						
Prep Date: 5/4/2015	Analysis D	Date: 5/	5/2015				Units: mg/h			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	76.6	128	138	-	
Toluene	1.1	0.050	1.000	0	107	75	124			
Ethylbenzene	1.1	0.050	1.000	0	109	79.5	126			
Xylenes, Total	3.2	0.10	3.000	0	107	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID 1505060-001AM	S Samp	Type: MS	3	Tes	tCode: E	PA Method	1 8021B: Volatiles				
Client ID: #9 SC-1 N	Bato	h ID: 19	020	RunNo: 25957							
Prep Date: 5/4/2015	Analysis I	Date: 5/	5/2015		SeqNo: 7	69911	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.049	0.9747	0	118	69.2	126	ERC BL			
Toluene	1.1	0.049	0.9747	0	117	65.6	128				
Ethylbenzene	1.2	0.049	0.9747	0	120	65.5	138				
Xylenes, Total	3.4	0.097	2.924	0	117	63	139				
Surr: 4-Bromofluorobenzene	1.1		0.9747		110	80	120				

Sample ID 1505060-001AN	ample ID 1505060-001AMSD SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: #9 SC-1 N Batch ID: 19020			F	RunNo: 2	5957					
Prep Date: 5/4/2015	Analysis E	Analysis Date: 5/5/2015			SeqNo: 769912			(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9862	0	113	69.2	126	3.29	18.5	55.0
Toluene	1.1	0.049	0.9862	0	111	65.6	128	4.00	20.6	
Ethylbenzene	1.1	0.049	0.9862	0	115	65.5	138	3.46	20.1	
Kylenes, Total	3.3	0.099	2.959	0	113	63	139	2.63	21.1	
Surr: 4-Bromofluorobenzene	1.1		0.9862		111	80	120	0	0	

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#: 1505060

07-May-15

Client:

Souder, Miller and Associates

Project:

Trunk K 2015

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

80

Client ID:

Batch ID: R25998

RunNo: 25998

Analysis Date: 5/6/2015

Units: %REC

Prep Date: Analyte

Result

SeqNo: 771207

99.8

SPK value SPK Ref Val

Surr: 4-Bromofluorobenzene

1.0

1.000

%REC LowLimit **HighLimit** %RPD 120

**RPDLimit** Qual

Sample ID 100NG BTEX LCS

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

%RPD

Client ID: LCSS

Batch ID: R25998 Analysis Date: 5/6/2015 RunNo: 25998

Units: %REC

SeqNo: 771210

**RPDLimit** 

Qual

Analyte

Prep Date:

120

Surr: 4-Bromofluorobenzene 1.1 1.000 109

SPK value SPK Ref Val %REC LowLimit **HighLimit** 80

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits В Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

Reporting Detection Limit RL

Page 14 of 14



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: S	MA-FARM		Work C	rder Number	1505060		RcptNo: 1
Received by/date:	A	<del>-</del>	05/02	15			
Logged By:	Lindsay Ma	angin	5/2/2015	8:30:00 AM		Streety Hoping	
Completed By:	Lindsay Ma	ingin	5/2/2015	10:14:59 AM		James Happy	
Reviewed By:	AT	05/04/1	-				
Chain of Custo							
1. Custody seals	intact on sa	mple bottles?			Yes 🗌	No 🗆	Not Present
2. Is Chain of Cu	stody compl	lete?			Yes	No 🗆	Not Present
3. How was the s	ample deliv	ered?			Courier		
Log In							
4. Was an attern	pt made to	cool the samp	les?		Yes 🗹	No 🗆	NA 🗆
5. Were all samp	oles received	d at a tempera	iture of >0° C	to 6.0°C	Yes 🐼	No 🗆	NA 🗆
6. Sample(s) in p	oroper conta	iner(s)?			Yes 🗭	No 🗆	
7. Sufficient sam	ple volume	for indicated to	est(s)?		Yes 🖈	No 🗆	
8. Are samples (	except VOA	and ONG) pro	operly preserve	ed?	Yes 🕏	No 🗌	
9. Was preserva	tive added to	bottles?			Yes	No 🛃	NA 🗆
10.VOA vials hav	e zero head	space?			Yes 🗌	No 🗌	No VOA Vials
11. Were any san	nple contain	ers received b	proken?		Yes 🗆	No 🗹	# of preserved bottles checked
12. Does paperwo			)		Yes 🖈	No 🗆	for pH: (<2 or >12 unless
13. Are matrices of					Yes 🗹	No 🗌	Adjusted?
14. Is it clear what	analyses w	ere requested	1?		Yes 🖈	No 🗌	
15. Were all holdin (If no, notify co					Yes 🖈	No 🗆	Checked by:
Special Handli	ng (if apr	olicable)					
16. Was client not	No. of the last of	THE RESERVE	with this order?		Yes 🗌	No 🗆	NA 🗹
Person I	Notified:			Date:		mucromoscopio de la compania del compania del compania de la compania del la compania de la comp	
By Who		STATE CONTRACTOR STATE OF THE S		Via:	eMail	Phone Fax	In Person
Regardii							SOMEONE SOME SOME SOME SOME SOME SOME SOME SOM
	structions:						
17. Additional ren	narks:				OF FEMALES IN SOUTH		
18. Cooler Inform	nation						
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By	
1	3.6	Good	Yes			1	

C	hain	-of-C	usto	dy Rec	ord	Turn	-Around	Time:							LAI		E1	NIX	TE	-	MIR	AEI	NTA	A.I	
Client:				4 Assoc			Standard		Rush	72 1				A	N	AL	YS	SIS	S L	AE	30		ТО		
11. 11.						1				^					www	/.hal	lenv	ironr	nent	al.co	om				
Mailing	Address	40	1 4	1 Brown	lucy			k '	K	2015		49	01 H	awki	ns N	IE -	Alb	uque	erque	e, NI	M 87	109			
Far	minat	on,	NM		U	Proje						Te	el. 50	5-34	5-39	75	F	ax	505-	345-	4107	7			Uh
			325	7535			1	120	158	39						Α	naly	sis	Req	uest					
email o	r Fax#:	Steven	. mosk	1esoud	whileso	Proje	ect Mana	ager:			=	nly)	(OH)					04)	(0)		4				
	Package:			evel 4 (Full \				M	osk	1	TMB's (8021)	TPH (Gas only)	\$ (S)			SIMS)		PO4,S	PCB's						
Accred				Et .		Sam				ave-		PH	/ D	1	=	8270		102	308			9			9
O NEL	AP	□ Ot	her			On lo	Charles and Appropriate	Yes Yes		(LNo	t	+	R	118	504	r 82	S	03,1	8/8		(A)				or N
	(Type)	T		P. II		Sam	ple Tem	perature	2	10	基	TBE	9	po	po	0 0	etal	Z	cide	(A)	j-\	10	1		> 8
Date	Time	Matri	x Sa	ample Red	quest ID		ntainer e and #	Preser Typ		HEAL No.	BTEX LA	BTEX + MTBE +	TPH 8015B(GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
1-1-15	1000	501	# 9	Sc-1	N	1 4	07			-001	X		X			14.13					354				To de
١	1005		#9		5				Orah L	-502-	X		X								20				
	1000		# 9	5C-3	E		S-New	95.4		-003	×		X							A TOP					
	1015			5C-4						-rouf	X		X						7		LIV.				
	0501		Sale of	56-5						-005	X		X										$\top$	-	
	1030		#6		N			-		-000	X		X							2					
	1035		PARTIE NO.	SC-7	5					-007	X		X	100								- S			
	1040			54-3	F	12.3	4	2.5		-008	×		X			14			di i	1		O.			
	1043			56-4						-089	2		X								30				
	1050		#6	5C-E	Base	,				-010	×		X										312		
1									1	-OH-											1	The A			
A		N	10.1				V	V																	
Date: 5/1/5	Time:	Relinqu	shed by:	25/	7	111	ved by:	Wae	les	Date Time 5/1/15 1835	Rem	narks	3: -	[no	oice	- 1	Er	tr.	pris	-	2.50	تال	rille	r.com	1
Date:	Time:	M	shed by: With	re Wa	elen (	Recei	ved by:	X		05/02/5 05	0								(	)					10
	f necessary,	amples s	ubmitted to	Hall Environmen	ntal may be sub	contracte	d to other a	ccredited la	boratori	es. This serves as notice of this	possib	oility.	Any su	ib-cont	racted	data	will be	clearl	y nota	ted on	the ar	nalytica!	report.		

Appendix D
Archeological Survey Reports



July 16, 2015

Mr. Tom Long Enterprise Products Company 614 Reilly Ave. Farmington, NM 87401

Dear Tom:

As requested, the client copy of our report on the archaeological monitor of the repair locations on the Trunk K pipeline has been submitted electronically to you. During the monitor, no cultural material was encountered.

With completion of the monitor, all stipulations and conditions of cultural resource compliance have been met.

Please contact us if you have any questions concerning the report.

Sincerely,

Charles W. Wheeler, Ph.D., RPA

Vice President

enc.

cc: Jim Copeland, BLM-FFO

Steve Moskal, Souder, Miller, and Associates (electronic)

Tom Lennon, WCRM

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

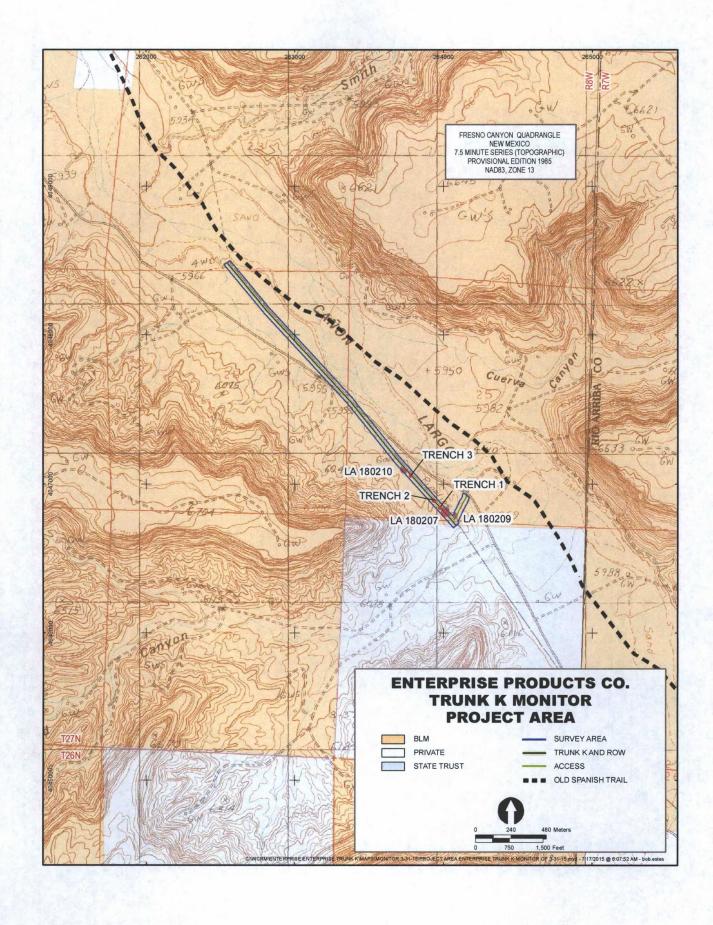
	Bureau of Land Management Farmington Field Office	Agency: nt,	2b. Other Permitting Agency(ies):		3. Lead Agency Report No.:
Repair Locations in San .  Author(s) Cindy J.	rchaeological Monitoring of th Juan County, New Mexico	ne Enterprise	Products Company Trunk I	C Pipeline	5. Type of Report  ⊠ Negative □ Positive
6. Investigation Type Research Design Overview/Lit Review	☐ Survey/Inventory	☐ Test Exc	cavation		ollections/Non-Field Study
	ertaking (what does the proje		aprile study _ Oile spe		s of Investigation:
At the request of Tom Lo Resource Management, I	ong of Enterprise Products Cor Inc. (WCRM), monitored activi	mpany, person vities associate	ed with the repairs for failed	March	2-June 24, 2015
(BLM-FFO) stipulations	ink K pipeline. Bureau of Lan- required that protective measu Temporary barriers were const	ures be taken	to protect sites LA 180207,		ert Date: July 16, 2015
10. Performing Agen Principal Investi	igator: Thomas J. Lennon r: Michael J. Proper, Sarah M.			Rep	forming Agency/Consultant ort No.: WCRM(F)1394 ject No.: 15F014
Foster	Names: Michael J. Proper, S			12. App	licable Cultural Resource No(s): 25-2920-14-PP (BLM-FFO)
13. Client/Customer Contact: Thomas	illy Ave, Farmington, New Mo		ets Company	14. Clie	nt/Customer Project No.:
Phone: (505) 599	1-2286				
Phone: (505) 599	9-2286 Status ( <u>Must</u> be indicated o	on project ma	p):		AND SHALL STATE
Phone: (505) 599		on project ma	p): Acres Surve	yed* Acre	es in APE
Phone: (505) 599  15. Land Ownership		on project ma		yed* Acre	es in APE
Phone: (505) 599  15. Land Ownership			Acres Surve	yed* Acre	es in APE
Phone: (505) 599  15. Land Ownership     Land Owner  *as calculated in A	Status ( <u>Must</u> be indicated on the indicated of the indic		Acres Surve		
*as calculated in A  16. Records Search(e (Proper and Bunker 2014 180207 and LA 180209.  Proper, Michael J., and C 2014 Cultural Resou. New Mexico. R  Bunker, Cindy J. 2014 Archaeological	AutoCAD  es): Cultural resource inventor  4). The survey resulted in the The initial monitoring of the Cindy J. Bunker  arce Inventory of Enterprise Pro Report No. WCRM(F)1339. Wo	ory of the products Compared Cestern Cultural	Acres Surve TOTALS  Doposed Repair Locations for on of six newly recorded six was conducted by WCRM ( any Trunk K Pipeline Repair al Resource Management, In the survey of the six of the s	the Trunk kes two of whe Bunker 2014  Locations 1-the, Farmington pair Location	Expipeline, was completed by WCRM ich required protective measures, LAC).  So and Access Road, San Juan County, on, New Mexico. (NMCRIS 131697)  Ins in San Juan County, New
*as calculated in A  16. Records Search(e (Proper and Bunker 2014 180207 and LA 180209.  Proper, Michael J., and C 2014 Cultural Resou. New Mexico. R  Bunker, Cindy J. 2014 Archaeological Mexico. Repor	AutoCAD  es): Cultural resource inventor  4). The survey resulted in the The initial monitoring of the Cindy J. Bunker  arce Inventory of Enterprise Pro Report No. WCRM(F)1339. Wo	ory of the products Compa destern Cultural Products Concern Cultural	Acres Surve  TOTALS  Doposed Repair Locations for on of six newly recorded six was conducted by WCRM (  Interpretation of the second of the se	the Trunk kes two of whe Bunker 2014  Locations 1-the, Farmington pair Location	Expipeline, was completed by WCRM pitch required protective measures, LA plants.  Sound Access Road, San Juan County, on, New Mexico. (NMCRIS 131697)
*as calculated in A  16. Records Search(e (Proper and Bunker 2014 180207 and LA 180209.  Proper, Michael J., and C 2014 Cultural Resou. New Mexico. R  Bunker, Cindy J. 2014 Archaeological	AutoCAD  es): Cultural resource inventor  4). The survey resulted in the The initial monitoring of the Cindy J. Bunker  Proce Inventory of Enterprise Proce Report No. WCRM(F)1339. World Monitoring of the Enterprise  et No. WCRM(F)1349. Wester  the Review	ory of the products Compared Cestern Cultural Romann Cultural	Acres Surve TOTALS  Doposed Repair Locations for on of six newly recorded six was conducted by WCRM ( any Trunk K Pipeline Repair al Resource Management, In the survey of the six of the s	the Trunk kes two of whe Bunker 2014  Locations 1-the, Farmington pair Location	Expipeline, was completed by WCRM ich required protective measures, LAC).  So and Access Road, San Juan County, on, New Mexico. (NMCRIS 131697)  Ins in San Juan County, New

17. Survey Dat	a (continued):		- Albanasia A		
d. Nearest City	y or Town: Blanco, Ne	ew Mexico			
e. Legal Desc	ription:				
Miller of the	Township (N/S)	Range (E/W)	Section	1/4 1/4 1/4	
	27N	8W	25*	SE1/4, SE1/4, SW1/4	
	*template anchored on	SE corner and souther	ern section line		
Projected lega	I description? Yes [		Unplatted [ ]		
f. Other Descri	ption (e.g. well pad i	ootages, mile ma	rkers, plats, land	grant name, etc.):	
18. Survey Fie	eld Methods: 100% coverage	<100% coverage			
Configuration:	☐ block survey units	linear surve	y units (I x w):	other survey	units (specify):
Scope: non-	-selective (all sites red	corded)	ive/thematic (selec	ted sites recorded)	
	nod: Systematic p				
	All of the second second	and the state of the			27 28 20 20 M 1 12 12 14
15, and June 8, 9	, 22, and 24, 2015.			51, April 1, 2, 3, 6, 23, 24	, 27, 28, 29, 30, May 1, 12, 13, 14,
Survey Person		g Person Hours:			
were constructed monitored betwee BLM-FFO stipul archaeologist was access road and the the western edge	by Michael J. Proper as en March 2, and June 24, ated that all vehicular t is to be present during any the eastern edge of the Tr	stipulated by the BL, 2015 by Michael J. Fraffic be restricted to repair activities. To unk K ROW along the	M-FFO. Activities re Proper, Sarah M. Mor the existing ROW protect LA 180209 a e site boundary. For	elated to the repairs condu- gan, Cindy J. Bunker, and and no excavation be con- temporary barrier fence we the protection of LA 1802	nk K pipeline, temporary barrier fences cted at the failed repair locations were Virginia Foster. To protect LA 180207, ducted within the site boundary. An as placed along the northern edge of the 10 a temporary fence was placed along and after the repairs were completed.
10 Environmo	ntal Satting (NPCS	coil designation: v	regetative commu	nity: elevation: etc.):	The segment of the Trunk K pipeline
needing repairs is		terrace above the floo	od plain, on the west	side of Largo Canyon, bet	the segment of the Trunk K pipeline sween Cottonwood and Onofre Jaquez
20.a. Percent C	Ground Visibility:	b. Condition of	Survey Area (graz	ed, bladed, undisturb	ed, etc)
21. CULTURAL	RESOURCE FINDIN	IGS 🗌 Yes,	No, Discuss Why	: No cultural material wa	is encountered during the monitor.
USGS 7.5 T Copy of NM LA Site For LA Site For Historic Cu List and De	Itural Property Invenscription of isolates scription of Collection	n sites, isolates, a p Check sketch map & topogi usly recorded & u itory Forms , if applicable (see ens, if applicable	nd survey area cl raphic map) n-relocated sites p. 3)	(first 2 pages minimum)	23. Other Attachments:  Photographs and Log Other Attachments (Describe):
24. I certify the	e information provid	ed above is corre	ct and accurate a	nd meets all applicable	e agency standards.
Principal Inves	stigator/Responsible	Archaeologist:	Charles W. Wheeler	Ph.D., RPA	
Signature	harblow	ul	Date _	7/14/15	e (if not PI):
25. Reviewing Reviewer's Na			26. SHPO Reviewer's Nam	e/Date:	
Accepted (	) Rejected (	)	HPD Log #:		
Tribal Consulta	ation (if applicable):	☐ Yes ☐ No	SHPO File Local Date sent to ARI		

# **CULTURAL RESOURCE FINDINGS**

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 133832		onsoring) Agency Land Management, I	/: Farmington Field Office	3. Lead Agency Report No.:
BURVEY RESULTS: No	new cultural mater	rials were encounter	red during the monitor.	
Sites discovered and re				
Sites discovered and N				
Previously recorded sit				
Previously recorded sit FOTAL SITES VISITED:	3			
otal isolates recorded		ective isolate rec		
Total structures record	ed (new and previo	ously recorded, inclu	ding acequias): 0	
MANAGEMENT SUMMA net.	ARY: With comple	etion of the monitor	, all stipulations and condition	ns for cultural resource compliance have been
SUDVEY LA NUMBER I		EPORT IS NEGATIV	E YOU ARE DONE AT THIS	POINT.
BURVEY LA NUMBER L	.UG			
Sites Discovered:				
LA No.	Field/Ac	ancy No. Eligib	le? (Y/N, applicable crite	ria)
LA NO.	rielu/Ag	jelicy No. Eligib	ie : (1714, applicable crite	na)
The Market of the	7		A THE WITH THOSE AN	
				the second of th
reviously recorded re	visited sites:			
Previously recorded rev		gency No. Eligibl	e? (Y/N, applicable criter	ia)
		jency No. Eligibl	e? (Y/N, applicable criter	ia)
		gency No. Eligibl	e? (Y/N, applicable criter	ia)
		jency No. Eligibl	e? (Y/N, applicable criter	ia)
LA No.	Field/Ag		e? (Y/N, applicable criter	ia)
LA No.	Field/Ag	m required)		
LA No.	Field/Ag	m required)	e? (Y/N, applicable criter	
LA No.  MONITORING LA NUME  Sites Discovered (site fo	Field/Ag	m required)  Previously re  LA No.	corded sites (Site update for	
LA No.  MONITORING LA NUME  Sites Discovered (site fo	Field/Ag  BER LOG (site for required):	Previously re  LA No.  LA 180207	corded sites (Site update for Field/Agency No.	
LA No.  MONITORING LA NUME  Sites Discovered (site fo	Field/Ag  BER LOG (site for required):	Previously re  LA No.  LA 180207  LA 180209	corded sites (Site update for Field/Agency No. 14F111-S1 14F111-S4	
LA No.  MONITORING LA NUME  Sites Discovered (site fo	Field/Ag  BER LOG (site for required):	Previously re  LA No.  LA 180207	corded sites (Site update for Field/Agency No.	
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag  BER LOG (site for required):	Previously re  LA No.  LA 180207  LA 180209	corded sites (Site update for Field/Agency No. 14F111-S1 14F111-S4	
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag  BER LOG (site for rm required):	Previously re LA No. LA 180207 LA 180209 LA 180210	corded sites (Site update for Field/Agency No. 14F111-S1 14F111-S4 14F115-S5	orm required):
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag  BER LOG (site for rm required):  eld/Agency No.	Previously re LA No. LA 180207 LA 180209 LA 180210 daries monitored	corded sites (Site update for Field/Agency No.  14F111-S1  14F111-S4  14F115-S5	orm required):
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag  BER LOG (site for rm required):  eld/Agency No.	Previously re LA No. LA 180207 LA 180209 LA 180210 daries monitored	corded sites (Site update for Field/Agency No.  14F111-S1  14F111-S4  14F115-S5	orm required):
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag BER LOG (site for rm required): eld/Agency No. earby site bound	Previously re LA No. LA 180207 LA 180209 LA 180210  daries monitored LOG (site form req	corded sites (Site update for Field/Agency No.  14F111-S1  14F111-S4  14F115-S5	orm required):
MONITORING LA NUME Sites Discovered (site fo LA No. Fie	Field/Ag BER LOG (site for rm required): eld/Agency No. earby site bound	Previously re LA No. LA 180207 LA 180209 LA 180210 daries monitored	corded sites (Site update for Field/Agency No.  14F111-S1  14F111-S4  14F115-S5	orm required):
LA No.  MONITORING LA NUME Sites Discovered (site fo	Field/Ag BER LOG (site for rm required): eld/Agency No. earby site bound	Previously re LA No. LA 180207 LA 180209 LA 180210  daries monitored LOG (site form req	corded sites (Site update for Field/Agency No.  14F111-S1  14F111-S4  14F115-S5	orm required):



Appendix A

Photographs



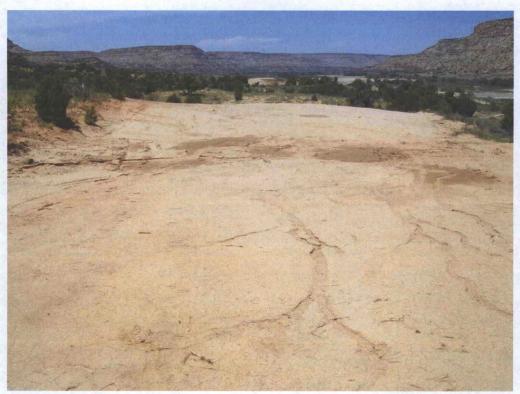
Trench 1 repair location from southern end of trench looking north.



Trench 1 repair location from northern end of trench looking south toward Site LA 179207.



Trench 1 excavation in progress.



Trench 1 area clean-up after repair completion facing north.



Trench 2 with repaired pipe.



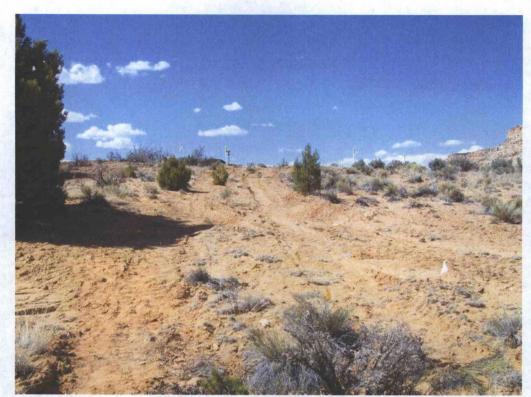
Trench 2 area clean-up after repair completion facing north.



Trench 2 area clean-up after repair completion facing south.



Trench 3 repair location from northern end of trench looking south.



From the northern end of Trench 3 repair location looking towards site LA 180210.

The riser is located within the site.



Trench 3 excavation in progress.



Trench 3 excavation in progress.



Trench 3 area clean-up after repair completion facing south.