3R-1012

Release Report/ General Correspondence

Enterprise RA

Date: Jan-Mar 2015

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

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

JAN 0 2 2015

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

Santa Fe, NM 87505													
	Release Notification and Corrective Action												
					OP	ERATO	₹	\boxtimes] Initial R	eport		Final Report	
Name of C	ompany: I	Enterprise F	ield Serv	rices LLC		Contact: T	nomas Long						
		ve, Farmin			7	Telephone No. 505-599-2286							
Facility Na	me: Latera	ıl K-36; Saı	n Juan 2	8-7 Unit #3	F	acility Ty	e: Natural Ga	s Gatl	nering Lir	ne Valve			
Surface Ov	vner BLM		<u></u>	Mineral O	wner:	er: BLM API No.							
,						OF REI	EASE					,	
Unit Letter	Section	Township	Range	Feet from	North	orth South Feet from East Vest County							
, N	6	27N	7W	the	Line		the	Line		Rio Arril	oa		
		· ····		1255	<u> </u>	· · · · · ·	1367	<u> </u>					
		Latitude_	36.59	9037	·	Longitud	le <u>-107.619</u>	455					
NATURE OF RELEASE													
		al Gas Liquio			f Release 3-5 B		Volume R						
Source of Release: Leaking Valve							Hour of Occurre 4 @ 4:40 p.m.	ence:	Date and 12/16/201			ry:	
Was Immed	iate Notice			<u> </u>		If YES, To	Whom?						
		☐ Ye:	s U No	Not Req	uired								
By Whom?		110				Date and Hour. If YES, Volume Impacting the Watercourse							
Was a Wate	rcourse Re		☐ Yes	⊠ No		If YES, V	olume impacting	the Wa	atercourse			,	
				<u> </u>								*	
If a Waterco	urse was Ir	npacted, Des	scribe Full	y.*									
28-7 Unit #3 Repairs and	l well tie. Er I remediatio	iterprise tech	nnicians co tly being s	onfirmed a leak	c. The li	ine was isol	ird party reporte ated and de-pre nental contracto	ssurize	d and lock	out tag or	it was	applied.	
Unit #3 well and remedia	tie. Enterpration are cu	ise technicia rrently being	ns confirm scheduled	ied a leak. The d. A third part	e line wa y enviro	as isolated onmental co	arty reported a verant de-pressuriant actor will over the third party	zed and ersee ex	l lock out ta	ag out was	s appliend colle	ed. Repairs ect closure	
rules and re which may e relieve the c ground wate	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 OIL CONSERVATION DIVISION												
Printed Nam	ne: Ivan W.	Zirbes			/	Approved b	y Environmental	Specia	alist:	en C]/ <u>(</u>	W.	
Title: Sr. Dir	ector, Envir	onmental				Approval Da	ate: 2/6/1	5	Expiration [Date:		· · · · · · · · · · · · · · · · · · ·	
E-mail Addr	ess:snolan(@eprod.com				Conditions of Approval:							

Phone: (713)381-6595

* Attach Additional Sheets If Necessary

ANCS 1503738901

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

State of New Mexi Energy Minerals and N ural Resources

Oil Conservation Division

1220 South St. Francis Qr.

MAR 92115 Copy to propriate District Office in according with 19.15.29 NMAC.

Form C-141 Revised August 8, 2011

MMOCD

DISTR :

RECLIVED

Santa Fe, NM 87505 Release Notification and Corrective Action

					OP	ERATOR	₹	\boxtimes] Initial I	Report		Final Report	
Name of C	ompany: {	Enterprise F	ield Serv	rices LLC			nomas Long					•	
		ve, Farmin	gton, NM	87401			No. 505-599-2						
Facility Na	me: Latera	l K-7			F	acility Typ	e: Natural Ga	s Gatl	hering Pi	peline			
Surface Ov	vner: BLM			Mineral O	wner:	BLM			API No).			
				LOCA	TION	ON OF RELEASE							
Unit Letter	Section	Township	Range	Feet from		South	Feet from		Vest	County			
N	27	26N	7W	the 225	Line		the 2086	Line		Rio Arrib	а		
	,		Lat		46422	 _Longitud	e <u>-107.565</u>	<u>05</u>					
	NATURE OF RELEASE												
		al Gas and N					Release Unkn	own	Volume I	Recovered:	None	e	
Source of R	elease: Inte	rnal Corrosi	on				Hour of Occurre	nce:		Hour of Di		ery:	
Was Immed	iata Notica	Given?					@ 3:12 p.m. Whom? Courte	ev Not		5 @ 7:00 p		MOCD: Shari	
was illilled	iale Nouce	☐ Ye	s 🗌 No	Not Req	uired	Ketcham		ssy INOL	ilication –	Cory Sirilar	- 1414	nood, Shan	
By Whom?	Thomas Lo					Date and	,		V				
Was a Wate							olume Impacting	the W	atercourse	<u> </u>			
			☐ Yes	⊠ No									
	f a Watercourse was Impacted, Describe Fully.*												
pipeline was	Describe Cause of Problem and Remedial Action: On February 18, 2015, Enterprise discovered a leak on the Lateral K-7 pipeline. The pipeline was isolated, blown down, locked out and tagged out. An area of staining of approximately five feet in diameter was observed on the ground surface. Pipeline repairs began February 26, 2015.												
staining of a	pproximate activities and	ly five feet in d has collect	diameter	was observed	on the	ground surf	discovered a lea ace. A third par submitted upon	ty envi	ronmental	contractor	is ma	naging	
rules and re which may e relieve the o ground wate operator of a	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:	()						6	me X) -				
Printed Nam	ne/Jon E. F	ields			<i>A</i>	Approved by	/ Environmental	Specia	alist:			<u>~~</u>	
Title: Directo	or, Environn	nental			/	Approval Da	ite: 3/13/19	5	Expiration	Date:			
	ess:jefields	@eprod.com	· · · ·	(742)204 00		Conditions o	of Approval:			Attached	ı 🗆		
Date: Δttach Δddi	tional She	ets If Neces		e: (713)381-66		//	> 160		\	1			

#NC 150 7252901

<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 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

RECLIVED

Form C-141 Revised August 8, 2011

MAR 99 2 in accordance with 19.15.29 NMAC.

Oil Conservation Division 1220 South St. Francis Dr.

MAAOC

						e, NM 87		!VIU	•••			
		F	Releas	e Notifica	atio	n and C	orrective	Acti	on :/			
					0	PERATO	₹		Initial I	Report F	inal Report	
Name of C							homas Long					
Address: 6							No. 505-599-2					
Facility Na	me: Latera	I K-31 (Tw	o Releas	se Sites)		Facility Typ	ne					
Surface Ov	wner: State	<u> </u>		Mineral O	wnei	r:BI M		API No.				
Carra co Cr	mor. Deac					ON OF RELEASE						
Unit Letter	Section	Township	Range	Feet from		th/South	Feet from	East/	West	County		
D/N	16	25N	6W	the	Line	е	the	Line		Rio Arriba		
L		<u> </u>	l at	itude 36.404	1829	Longitud	e 107.478125	L		<u> </u>		
				atitude 36.39			e 107.47519	<u>-</u>				
					_	_ •						
				NATI	URE	OF RELI						
Type of Rele		··				fluids	f Release: 3-5 E			Recovered: Unkn		
Source of R		ion 		2/19/2015	Hour of Occurre 6 @ 3:00 p.m.	ence:		I Hour of Discover 5 @ 5:00 p.m.	r y : 			
Was Immed	liate Notice		Not Req	uired	If YES, To Whom?							
By Whom?	By Whom?						Hour:					
Was a Wate	ercourse Re		☐ Yes	⊠ No			olume Impacting	the W	atercourse)		
If a Waterco	urse was In	npacted Des	scribe Full	V.*.								
Describe Ca GPS locatio	ause of Prob ns for the le	olem and Re aks are 36.4	medial Ac 104829, -1	tion: On Februa 07.478125 and	36.3	89373, <mark>-107.4</mark>	rprise discovere 7519. The pipel n March 2, 2015	ine was	eaks on the sisolated,	e Lateral K-31 pip blown down, locke	eline. The ed out and	
							observed. Impa ironmental contr			face were confirm	ied on	
I hereby cer rules and re which may e relieve the o ground wate	tify that the gulations all endanger pu pperator of li er, surface v	information of loperators a liblic health of ability should vater, humar	given abor are require or the envi d their ope n health or	ve is true and or d to report and ronment. The erations have fa the environme	compl /or file accepailed tent. In	ete to the bese certain release of a Cotance of a Cotance of a Cotante addition, NM addition, NM	st of my knowled ase notifications -141 report by the investigate and	dge and and pe ne NMC remed ce of a	I understal erform corr OCD marke liate contal C-141 rep	nd that pursuant to rective actions for ed as "Final Repor mination that pose port does not relieve	releases rt" does not e a threat to	
			/ 11				OIL CON	SER\	<u>/ATION</u>	DIVISION\		
Signature:	Jav.	7. Ju	ulf							ne M	A.	
Printed Nam	ne: Jon E. F	ields	•			Approved by	y Environmental	Specia	alist:	- {/X-		
Title: Directo	or, Environn	nental				Approval Da	ate: 3/13/	15	Expiration	Date:		
E-mail Addro	ess:jefields	@eprod.com	l 		Conditions of Approval:							
Date: 3- Attach Addi	5-201	5	Phor	ne: (713)381-66	684	7/	- /					
Attach Addi	tional She	ets If Neces	ssary			# NC	> 150	72	525	576		



District I
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State of New Mexico/ Energy Minerals and Natural Resources

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

Form C-141 Revised August 8, 2011

FEB รุ่นผู้ทุ้า(15 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

MMOCD.

FEB 1 8 2015

			Releas	e Notifica	atio	n and C		Acti			~-	
		•	.oiou3			PERATOR			_	Report		Final Report
Name of C	ompany.	Enterprise I	Field Sen	vices LLC		·	nomas Long	<u>K</u>	<u> 1 miliai</u>	report		rinarropor
		Ave, Farmin					No. 505-599	-2286				
		uan 29-5#					e: Natural G		her Pipe	line		
Surface O	wner: Priv	ate		Mineral C)wne	r: BLM	_		API N	D.		
						N OF REL	FASE	·····	<u></u>			
Unit Letter	Section	Township	Range	Feet from		th/South	Feet from	East	West	County		
G	27	29N	10W	the 1401	Lin	e	the 1350	Line		Rio Arri	iba	
		La	titude	36.699905		Ło	ongitude	<u>-107.34</u>	0519			
				NAT	URE	OF RELI	EASE					
Type of Rele	ease: Natur	al Gas and N	latural Ga	s Liquids		Volume o	f Release Unk	nown	Volume	Recovere	d: Unk	nown
		ernal Corrosio	on			1/26/2015	Hour of Occur @ 1:45 p.m.		1/26/201	d Hour of I 1 5@ 3:30	p.m.	
Was Immed	iate Notice	Given?	s 🗌 No	√ ⊠ Not Req	uired		Whom? Cour	tesy Not	tification –	Cory Sm	ith - NI	MOCD
By Whom?	Thomas Lo	ong				Date and Hour 2/9/2015 @ 8:20 a.m.						
Was a Watercourse Reached? ☐ Yes ☒ No						If YES, Volume Impacting the Watercourse						
If a Waterco	urse was Ir	npacted, Des	scribe Full	v.*								
The single v	vell tie line v		de-pressi	end of the mete ured and lock o les.								
two feet from tie line was i and collect o	n the downs isolated, de closure sam	stream end o -pressured a ples. A third	f the mete nd lock οι party envi	On January 26, er run. An Ente ut tag out was a fronmental con rd party enviro	rprise applie tracto	gathering ted d. A third pa or will oversee	chnician was d arty environme excavation ac	ispatche ntal cont ctivities a	d and veri ractor will and collect	fied the le oversee e	ak. The excavat	e single well ion activities
rules and re- which may e relieve the o ground water	gulations al endanger pu perator of li er, surface v	I operators a ublic health o iability should vater, human	re required r the envir d their ope health or	ve is true and of d to report and conment. The a trations have fa the environme any other feder	or file accepailed tent. Ir	e certain relea stance of a C- o adequately n addition, NM	se notification 141 report by t investigate an IOCD accepta	s and pe the NMC d remed nce of a	erform cor OCD marke iate conta	rective act ed as "Fina mination tl	ions fo al Repo hat pos	r releases ort" does not se a threat to
Signature: Full							OIL CON	<u>ISER\</u>		7 1	ON .	5/
Printed Nam	ie: Jon Field	ds				Approved by	Environmenta	al Specia	alist:	mo/	1 1	
Title: Directo	or, Environn	nental				Approval Da	- 1. 1	استر.	Expiration	Date:		
E-mail Addre	ess:jefields	eprod.com				Conditions o	' -/			Attache	ed 🗌	
Date: 2 - Attach Addit	10-20	15	Phon	e: (713)381-66								
Attach Ăddit	tional She	ets If Neces	sary		-	HUCS	150 7	24	1952	ے ک		

District I 1625 N. French Dr., Hobbs, NM 88240 District III

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 RECEIVED Resources

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office FEB 0 4 2015 NMAC.

Oil Conservation Division 1220 South St. Francis Dr.

				San	ta Fe	<u>, NM 87</u>	005, 🙌	1416		<i></i>		
.		F	Releas	e Notifica	ation	and C	orrective	Actio	on::			
						ERATOR			Initial	Report		Final Report
Name of C	ompany:	Enterprise I	Field Serv	ices LLC			nomas Long					
		ve, Farmin					No. 505-599-2	2286				
Facility Na	me: Latera	al K-31 Re	lease Sit	е	F	acility Typ	e: Natural Ga	as Gath	nering L	ine		
Surface Ov	vner: State	e of NM		Mineral O	wner:	er: BLM API No.						
				LOCA	TION	OF REL	.EASE					
Unit Letter	Section	Township	Range	Feet from	North	South	Feet from	East	Vest	County		
D	16	25N	6W	the 1293	Line		the 1092	Line		Rio Arri	ba	
		Latitude	36.40	3565		Longitud	le <u>-107.477</u>	7592				
					IDE (OF RELE						
Type of Rele	ease: Natur	al Gas and N	Natural Ga		317L 1		Release Unkn	own	Volume	Recovered	d: Unkr	nown
		ernal Corrosi				Date and	Hour of Occurre		Date and	d Hour of D	Discove	
	·	0: 0					@ 11:30 a.m.			5 @ 12:30		
Was Immed	iate Notice	Given?	s 🗌 No	Not Requ ■	uired	If YES, To	Whom? Courte	esy Noti	fication –	Cory Smit	:h, NMC	CD
By Whom?						Date and	Hour 1/26/2015	0 7:19	a.m.			
Was a Wate	rcourse Re	ached?		57		If YES, Vo	olume Impacting	g the Wa	atercourse	•		
				⊠ No								
		mpacted, Des		-								
The pipeline	was isolat	ed, de-press	urized and		ut was	applied. Re	orise technicians epairs and reme ure samples.					
pipeline was	isolated, d	le-pressurize	d and lock	out tag out wa	ıs appli	ed. Repairs	echnicians conf	on bega	ın on Janı	uary 26, 20	015. A	third party
				activities and c action report.	collecte	d closure sa	amples. A "Fina	II" C-141	will be su	ubmitted u	pon rec	ceipt of the
rules and re which may e relieve the o ground wate	gulations al endanger po perator of l er, surface v	ll operators a ublic health o iability shoul water, humar	are require or the envirued their ope on health or	d to report and ronment. The a rations have fa the environme	or file of accepta ailed to ent. In a	certain releance of a C- adequately addition, NN	at of my knowled ase notifications 141 report by the investigate and MOCD acceptant aws and/or regu	s and pe he NMO d remedi nce of a	rform cor CD marke ate conta	rective acti ed as "Fina mination th	ions for al Repo hat pos	r releases ort" does not se a threat to
Signature:	Ju 9	tall					OIL CON	<u>ISERV</u>	<u>/ATION</u>	DIVISI	ON	/ 5
Printed Nam	ne: Jon Fiel	ds			1	Approved by	/ Environmenta	ıl Specia	ılist: C	any	Vi	
Title: Directo	or, Environr	nental				Approval Da	71.	1	Expiration	Date:		
E-mail Addr	, ,	@eprod.com	1			Conditions o	of Approval:			Attache	ed 🗌	
Date: //a	28/2015			e: (713)381-66	84							
Attach Addi	tional She	ets If Neces	ssary		7	tus	15078	248	889	}		

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

Oil Conservation Division

Form C-141

Revised August 8, 2011

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

FEB 0 4 2015

1220 S. St. Francis Dr., Santa Fe, NM 87505 1220 Sou							ою Ц т.		£ 2015				
	-					e, NM 87		NEAS		/_			
		F	Releas	e Notifica				Acti	on				
						DPERATOR ☐ Initial Report ☐ Final Report							
		Mid-Americ				Contact: Thomas Long							
		Ave, Farmin ook Station	gion, iviv	10/401		Telephone No. 505-599-2286 Facility Type: NGL Pumping Station							
Surface O	wner: Priva	ate		Mineral O	wner:	BLIVI	· · · · · ·		API No).			
	1					OF REI							
Unit Letter C	Section 14	Township 23N	Range 7W	Feet from the 123	Viorth South Line Feet from the 2202 East Vest County Rio Arriba						oa		
Latitude 36.232608						Lo	ongitude	107.546	<u> 6006</u>				
NATURE OF RELEASE													
Type of Release: Natural Gas Liquids						Volume o	f Release 23.74	4	Volume	Recovered	: Non	е	
Source of Release: Piping Freeze							Hour of Occurr @ 11:30 a.m			d Hour of D		ery:	
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required						If YES, To Whom? Courtesy Notification - Cory Smith, NMOCD, NRC							
By Whom?							Hour 1/26/201						
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, V	olume Impactin	g the Wa	atercours	е			
If a Waterco	ourse was Ir	mnacted Des	scribe Full	v *									
odor in the detected in excavating NGL piping environment detected in excavating NGL piping environment third party of the reby cerules and rewhich may relieve the	Describe Cause of Problem and Remedial Action: On January 19, 2015, technicians were completing a station check and discovered a gas odor in the control building. The technicians began monitoring the conduit raceways and conduit floor pits. High LEL readings were detected in the conduit. Hydro-excavating of potholes at the facility were initiated to determine the source of the high LELs. The hydro-excavating was directed to the area of highest LEL readings. Hydro- excavating and mechanical excavating determined the leak was on the NGL piping to the main suction header. The piping was isolated, depressurized and lock out tag out was applied. A third party environmental contractor will oversee excavation activities and collect closure samples. Describe Area Affected and Cleanup Action: On January 19, 2015, technicians were completing a station check and discovered a gas odor in the control building. The technicians began monitoring the conduit raceways and conduit floor pits. High LEL readings were detected in the conduit. Hydro-excavating of potholes at the facility were initiated to determine the source of the high LELs. The hydro-excavating was directed to the area of highest LEL readings. Hydro- excavating and mechanical excavating determined the leak was on the NGL piping to the main suction header. The piping was isolated, depressurized and lock out tag out was applied. A third party environmental contractor will oversee excavation activities and collect closure samples. A "Final" C-141 will be submitted upon receipt of the third party environmental contractor corrective action report. Inhereby 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												
Signature: In Full							OIL CON		/ATION	DIVISION	M		
Printed Name: Jon Fields						Approved b	y Environmenta	al Specia	list:	her	<u>V</u>	- N	
Title: Direct	or, Environr	mental			Approval Date: 3//3/15 Expiration Date:								
E-mail Address:jefields@eprod.com						Conditions of Approval: Attached							
Date: //	Date: 1/25/2015 Phone: (713)381-6684												

* Attach Additional Sheets If Necessary

HAXS 150 72 48615

District I
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* Attach Additional Sheets If Necessary

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141 Revised August 8, 2011

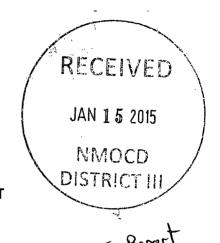
JAN 1 Subdits Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1000 Rio Brazi						Fe, NM 87505	1			accordance with	19.15.29 NMAC.
1220 S. St. Fra	ancis Dr., Sa	nta Fe, Nivi 87	505	Release No	tificat	ion and Corre	ctive Action '	UNAOCI		/	
				11010000 110				STRICT	· 11 <u>1</u> /	/	_
		. 5:110				0	OPERATOR			Initial Report	☐ Final Repor
Name of Con					\longrightarrow	Contact: Thor	nas Long), 505-599-2286				
Address: 614 Facility Name					-		Natural Gas Gat	thering Line			
Tability Ivairie	Latoraria	on roloa				. ченку туро.			<u> </u>		
Surface Own	er:BLM/State	е		Mineral Owr	er:BL	.M		1	API No.		
Heit Letter	Continu	Township	Dance	,		ON OF RELEA th/South Line		East/Wes	t Lina	County	
Unit Letter SW/SW	Section 9/16	Township 25N	Range 6W	Feet from the	Non	in/South Line	Feet from the	East/vves	Line	County Rio Arriba	
011/011	0,10	-5								1	
	<u></u>	<u> </u>		/						<u> </u>	
			Latitude_	36.3986		Longitude					
			Latitude_ Latitude	36.3979 36.40734		Longitude Longitude					
			Latitude	36.39985		Longitude					
			Latitude	36.39557		Longitude					•
			Latitude	36.39408		Longitude					
							_				
T	ana Natural	Cas and Nati	ral Cas Lisu		ATUR	E OF RELEAS		5		No.	
Type of Relea	ase: Natural	Gas and Matu	irai Gas Liqu	lias			Release 752 MCI mated 20-30 bbl		nume R	Recovered: NON	ie.
						fluids	mateu 20-30 bbi	5 01			
Source of Re	lease: Intern	al Corrosion					our of Occurrence	e: Da	ate and	Hour of Discove	ery: 8/22/2014 @
							@ 1:00 p.m.	2:	00 p.m.		
Was Immedia	ate Notice Gi					If YES, To	Whom? NMOCE	– Cory Smi	th onsit	e when discove	red; Courtesy
		☐ Yes	□ No ☒	Not Required		notification	to BLM - Shari K	(etcham on s	9/17/20	14	
5 14" 0						-					
By Whom? Was a Water	aguraa Daga	hod?	****			Date and F		- 10/-1			
vvas a vvalen	course neac		Yes ⊠ N	0		11 123, VOI	ume Impacting th	ie vvatercoui	se		
			103 23 11	•							
If a Watercou	ree was Imn	acted Describ	oo Eully *								
Describe Cal	ise of Proble	m and Reme	dial Action	On August 22, 2	014 a	third party ren	orted possible lin	ne leake on	an Ente	rorise Right of	Way. Technicians
were dispatch	ned to the loc	cations and th	e two leaks	were confirmed	The li	ne was isolated	d and de-pressuri	zed and lock	out tac	nout was applie	ed. On September
8, 2014, Ente	rprise Produ	cts applied pr	essure to th	e Lateral K-31 pi	peline	and surveyed	the pipeline right	of-way to de	termine	e if there were a	dditional sections
											ere completed on
											land farm facility.
Additionally, a	approximatel	y 1635 bbls o	f water was	removed from the	e exca	vations and tra	insported to an a	pproved NM	OCD fa	cility for proper	disposal.
Describe Area	a Affected ar	nd Cleanup A	ction Taken:	On August 22, 2	014.	a third party rei	oorted possible li	ne leaks on	an Ente	rorise Right of	Way. Technicians
											ed. On September
8, 2014, Ente	rprise Produ	cts applied pr	essure to th	e Lateral K-31 pi	peline	and surveyed	the pipeline right	of-way to de	termine	e if there were a	dditional sections
											ere completed on
											s. Approximately proximately 1635
											tive action reports
are included v				a nameponea to		p. 010	b taomity for prop	or alopodal.	1 110 111	na party concer	ivo addon reports
I hereby certif	fy that the inf	ormation give	n above is t	rue and complete	to the	e best of my kn	owledge and und	erstand that	pursua	int to NMOCD r	ules and
							perform corrective				
							"Final Report" do				
							threat to ground erator of responsi				
local laws and			planec of a	C-141 Teport doe	53 1101	reneve the ope	rator or responsi	bility for con	phance	with any other	ederal, state, or
		سر ۱	1/11		- :- · ·		OIL C	ONSERVA	IQN DI	VISION	
Signature:	JO.	NE	elds					/		/ V 🗡	. 4
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Printed Name	Jon Fields					Approved by I	Environmental Sp	pecialist: \	- 1		
Title: Director	, Environme	ntal				Approval Date	3/22/15	Exn	iration [Date:	
	,									,	
E-mail Addres	ss:jefields@e	eprod.com				Conditions of	Approval:	_	۱ م		_
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				*Note D	enador Fre	m Raid	Bun	≤ Attached □	]
Date: /-	- 8-70	7/5	Phone: (71	3)381-6684	- 1	Not Com					

ANOS 150 82 32107







**CORRECTIVE ACTION REPORT** 

Property:

Lateral K-31 Truby #2 Pipeline Releases SW 1/4, S16 T25N R6W Rio Arriba County, New Mexico

> November 17, 2014 Apex Project No. 7030414G031

> > Prepared for:

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

Prepared by:

Heather M. Woods, P.G. Senior Project Manager

Elizabeth Scaggs, P.G. Senior Program Manager

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#### **CORRECTIVE ACTION REPORT**

Lateral K-31 Truby #2 Pipeline Releases SW 1/4, S16 T25N R6W Rio Arriba County, New Mexico

**Apex Project No. 7030414G031** 

#### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Lateral K-31 Truby #2 Pipeline Release Site is comprised of two (2) pipeline repair locations in close proximity to each other within the Enterprise Field Services LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 16 in Township 25 North and Range 6 West in rural Rio Arriba County, New Mexico (North Release 36.3986N, 107.4765W; South Release 36.3979N, 107.4763W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land owned by the State of New Mexico, and consists of native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

On September 3, 2014, Enterprise shut in the Lateral K-31 pipeline and initiated excavation activities at the Site in an effort to locate and repair two (2) subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were identified by the instrument detection of natural gas at the ground surface.

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 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 to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



Rankin	Ranking Criteria								
	<50 feet	20							
Depth to Groundwater	50 to 99 feet	10	20						
	>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	10						
	0								
Total Ran	30								

Based on Apex's evaluation of the scoring criteria, the Site would have a maximum Total Ranking Score of "30". This ranking is based on the following:

- Depth to groundwater is approximately 15 feet below ground surface (bgs) as observed in nearby groundwater monitoring wells and elevation differential between the Site and Largo Wash, resulting in a depth to groundwater ranking of "20". No nearby water wells were identified on the Office of the State Engineer (OSE) website database.
- 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.
- The Site is located approximately 600 feet west of Largo Wash. Based on this proximity, a ranking for distance to surface water was assigned at "10".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On September 3, 2014, Enterprise shut in the Lateral K-31 pipeline and initiated excavation activities at the Site in an effort to locate and repair two subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were identified by the instrument detection of natural gas at the ground surface. During the corrective action activities, Energy Maintenance Services provided heavy equipment and labor support, and Kyle Summers, an Apex environmental professional, provided environmental support.

The surface expression of North Excavation measured approximately 25 feet long by 9 feet wide and 4.5 feet in depth and the South Excavation measured approximately 15 feet long by 6 feet wide and 3.5 feet in depth. The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty and clayey sands.

A total volume of approximately 48 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm in Hilltop, New Mexico for disposal/remediation. The majority of the spoils removed from the southern excavation were unaffected by hydrocarbon impact and were sampled for re-use as backfill material. The excavations were subsequently backfilled with clean imported fill and remaining stockpiled soils, and the Site was contoured to the surrounding grade. The executed C-138 form is provided in Appendix B.



Figures 3A and 3B are site maps indicating the approximate locations of the excavated areas 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 estimate excavation limits.

Apex's soil sampling program included the collection of five (5) final confirmation samples (S-1 through S-5) from the North Excavation and five (5) final confirmation samples (C-1 through C-5) from the South Excavation for laboratory analysis. Additionally, one (1) composite sample (SP-1) was collected from remaining stockpiled soils near the South Excavation to determine the potential to reuse these soils as excavation backfill. Figures 3A and 3B depict the approximate locations of the excavated areas and show the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

The confirmation soil 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 rush analysis.

# 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing EPA SW-846 Method #8021, and 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 forms 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 *Remediation Plan.* 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 reporting limits associated with the final confirmation samples (S-1 through S-5 and C-1 through C-5) collected from the excavated areas and stockpile sample (SP-1) to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of "30".

 The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD Remediation Action Level.



- 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 1.91 mg/kg, which are below the OCD Remediation Action Levels.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 24.1 mg/kg, which are below the OCD *Remediation Action Levels* for a Site ranking of "30".

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

# 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral K-31 Truby #2 Pipeline Release Site is comprised of two (2) pipeline repair locations in close proximity to each other within the Enterprise pipeline ROW in the SW ¼ of Section 16 in Township 25 North and Range 6 West in rural Rio Arriba County, New Mexico (North Release 36.3986N, 107.4765W; South Release 36.3979N, 107.4763W). The Site is located on land owned by the State of New Mexico, and consists of native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

On September 3, 2014, Enterprise shut in the Lateral K-31 pipeline and initiated excavation activities at the Site in an effort to locate and repair two subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were identified by the instrument detection of natural gas at the ground surface.

- 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 silty and clayey sands with clay lenses.
- The surface expression of North Excavation measured approximately 25 feet long by 9 feet wide and 4.5 feet in depth and the South Excavation measured approximately 15 feet long by 6 feet wide and 3.5 feet in depth.
- Prior to backfilling, five (5) final confirmation samples were collected from each of the resulting excavations for laboratory analysis. Additionally, one (1) composite sample was collected from stockpiled soils to determine the potential to reuse these soils as excavation backfill. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD Remediation Action Levels for a Site ranking of "30".
- A total of approximately 48 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm in Hilltop, New Mexico for disposal/remediation. The excavations were backfilled with clean imported fill and unaffected stockpiled soils, and The Site was contoured to the surrounding grade.

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

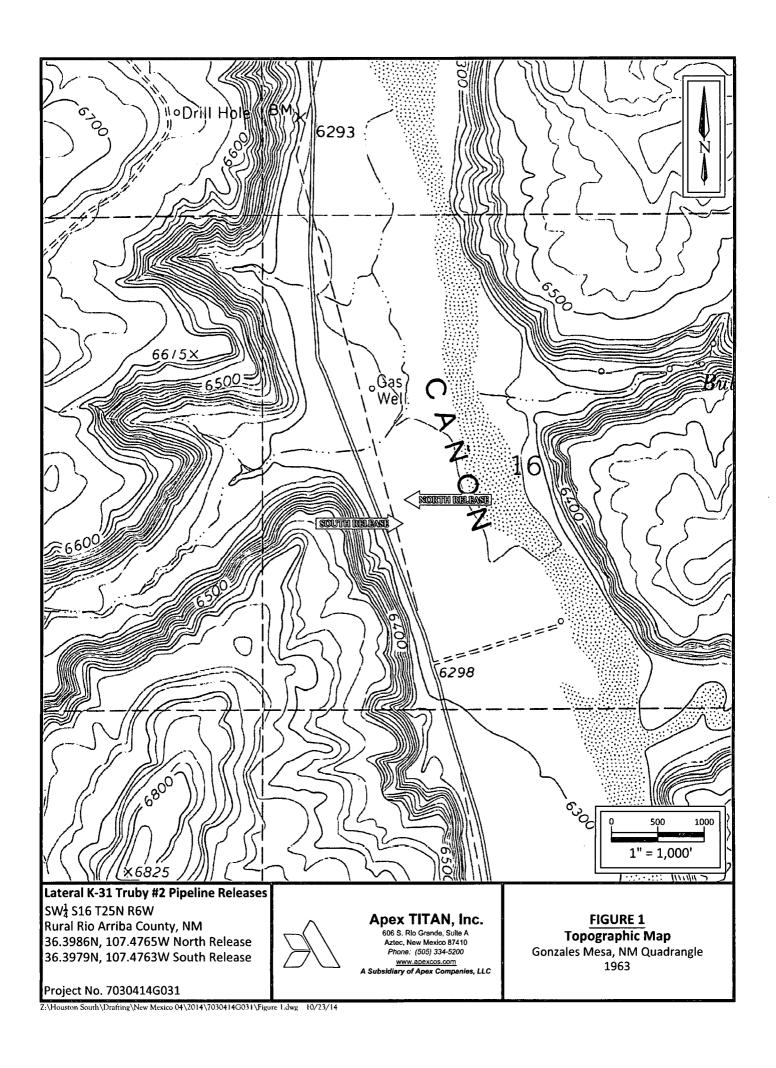


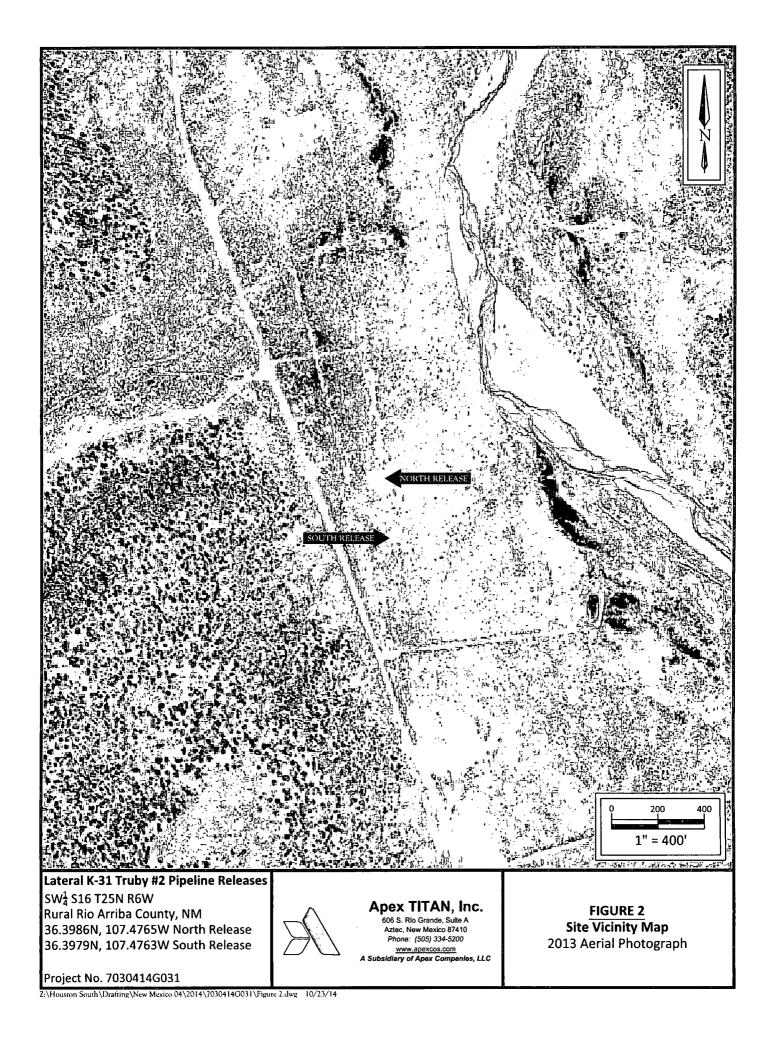
# 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

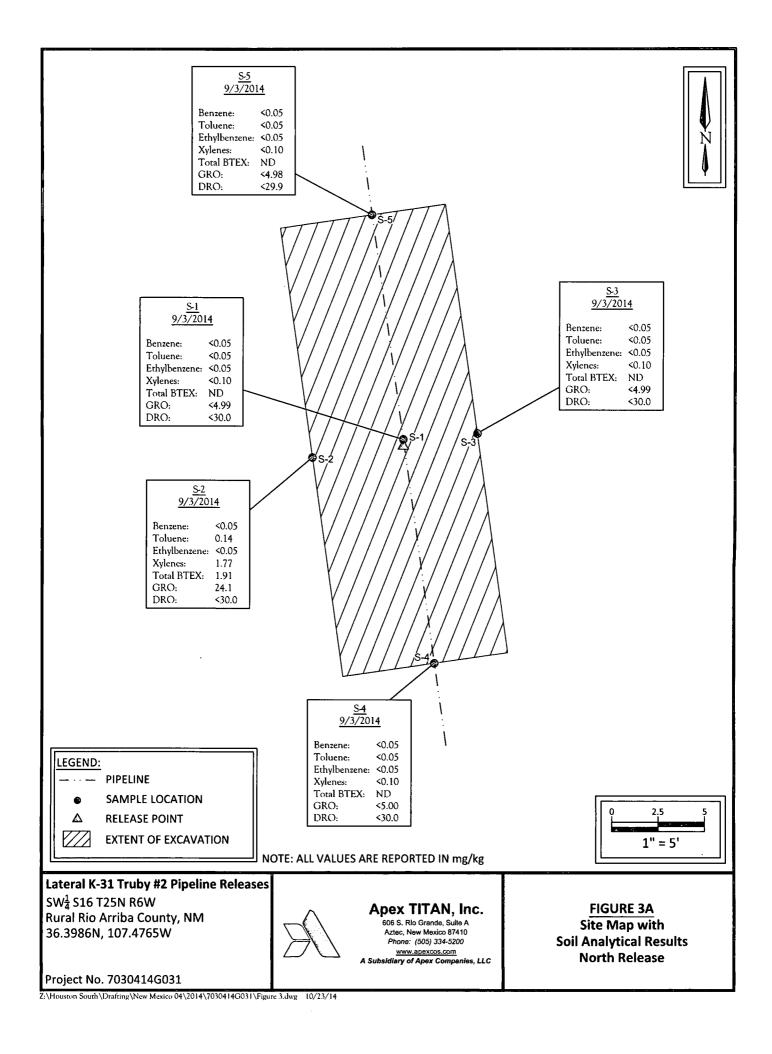
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work 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.

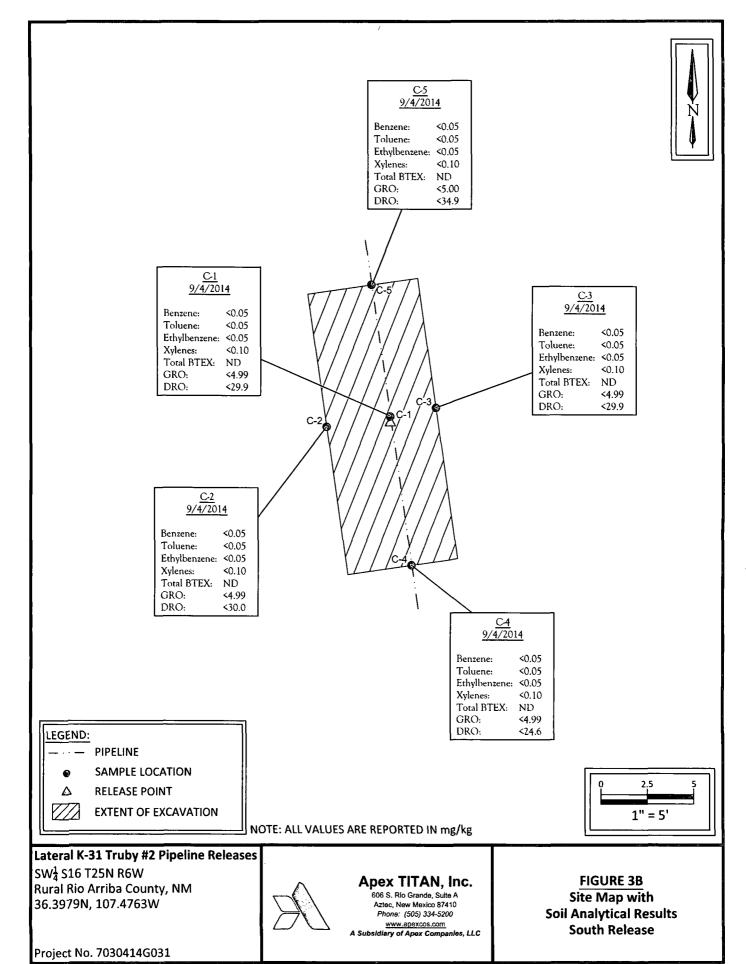
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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.









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

97257-06-69

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: Lateral K-31  Sep 2014
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter K Section 16 T 25N R 6W, GPS 36.39791, -107.47631, San Juan County, NM
4. Source and Description of Waste:  Source: Natural Gas Pipeline Release  Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.  Estimated Volume50 (vd³) bbls 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 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, 9-2-14, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Renewarepresentative for Environtech, Tro 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: West States Energy Contractors: iT   True Lin 9
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:  ☐ DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Kendra Runnag TITLE: Waste Consider DATE: 9/3/14 SIGNATURE: Surface Waste Management Facility Authorized Agent 505-632-0615



# SITE PHOTOGRAPHS

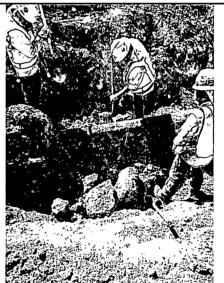
# Photograph 1

View of final excavation at the North release location, facing north.



# Photograph 2

View of excavation at the south release location during repair activities, facing east.





# TABLE 1 Lateral K-31 Truby #2 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)
ii e	New Mexico Entergy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			NE	NE	NE	50	10	00
			No	rth Excavation Fin	al Confirmation Sam	ples			
S-1	9/3/2014	4.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<30.0
S-2	9/3/2014	2 to 4.5	<0.05	0.14	<0.05	1.77	1.91	24.1	<30.0
S-3	9/3/2014	2 to 4.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<30.0
S-4	9/3/2014	2 to 4.5	<0.05	<0.05	<0.05	<0.10	ND	<5.00	<30.0
S-5	9/3/2014	2 to 4.5	<0.05	<0.05	<0.05	<0.10	ND	<4.98	<29.9
			So	uth Excavation Fin	al Confirmation Sam	ples			
C-1	9/4/2014	3.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<29.9
C-2	9/4/2014	1 to 3.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<30.0
C-3	9/4/2014	1 to 3.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<29.9
C-4	9/4/2014	1 to 3.5	<0.05	<0.05	<0.05	<0.10	ND	<4.99	<24.6
C-5	9/4/2014	1 to 3.5	<0.05	<0.05	<0.05	<0.10	ND	<5.00	<34.9
				Stockp	ile Sample				
SP-1	9/4/2014	Stockpile	<0.05	<0.05	<0.05	<0.10	.ND	<5.00	<30.0

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

NE = Not Established

ND = Not Detected above Laboratory Reporting Limits



# **Analytical Report**

# **Report Summary**

Client: Enterprise Products

Chain Of Custody Number: 17390

Samples Received: 9/3/2014 4:28:00PM

Job Number: 97057-0352 Work Order: P409017

Project Name/Location: K-31 #2 Truby

Entire Report Reviewed By:

Date: 9/5/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



Project Name:

K-31 #2 Truby

614 Reilly Ave Farmington NM, 87401 Project Number:

97057-0352

Project Manager:

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:56

# **Analyical Report for Samples**

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
S-1	P409017-01A	Soil	09/03/14	09/03/14	Glass Jar, 4 oz.
S-2	P409017-02A	Soil	09/03/14	09/03/14	Glass Jar, 4 oz.
S-3	P409017-03A	Soil	09/03/14	09/03/14	Glass Jar, 4 oz.
S-4	P409017-04A	Soil	09/03/14	09/03/14	Glass Jar, 4 oz.
S-5	P409017-05A	Soil	09/03/14	09/03/14	Glass Jar, 4 oz.

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865



Farmington NM, 87401

Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:56

# S-1 P409017-01 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		81.6%	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		97.4 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		126 %	50-2	200	1436024	09/04/14	09/04/14	EPA 8015D	

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865



Farmington NM, 87401

Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number:

97057-0352

Project Manager: Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:56

# S-2 P409017-02 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	0.14	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	1.39	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	0.38	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	1.77	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	1.91	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		87.4 %	50-1	50	1436025	09/04/14	09:04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		69.0 %	50-1	50	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	24.1	5.00	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzofa/pyrene		107 %	50-2	200	1436024	09/04/14	09/04/14	EPA 8015D	

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Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number:

97057-0352

Farmington NM, 87401 Project Manager:

Kyle Summers-Apex TITAN 05-Sep-14 10:56

Reported:

# S-3 P409017-03 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021	<i>-</i>								
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		77.7 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Surragate: 1,3-Dichlarobenzene		90.0 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015		=-							
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		119 %	50-2	200	1436024	09/04/14	09/04/14	EPA 8015D	

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Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number:

97057-0352

Reported:

Farmington NM, 87401

Project Manager:

Kyle Summers-Apex TITAN

05-Sep-14 10:56

# S-4 P409017-04 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021	····								
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	ı	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogute: 1,3-Dichlorobenzene		89.0 %	50-13	50	1436025	09/04/14	09/04/14	EPA 8021B	<del></del>
Surrogate: Bromochlorobenzene		79.1 %	50-13	50	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015			<del></del>						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		111%	50-20	20	1436024	09/04/14	09/04/14	EPA 8015D	

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Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number:

97057-0352

Reported:

Farmington NM, 87401

Project Manager:

Kyle Summers-Apex TITAN

05-Sep-14 10:56

# S-5 P409017-05 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		88.5 %	50-	-150	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		75.1 %	50-	-150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.98	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		103 %	50-	200	1436024	09/04/14	09/04/14	EPA 8015D	

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Project Name:

K-31 #2 Truby

Spike

614 Reilly Ave Farmington NM, 87401 Project Number:

97057-0352

Project Manager:

Reporting

Kyle Summers-Apex TITAN

Source

**Reported:** 05-Sep-14 10:56

RPD

%REC

# Volatile Organics by EPA 8021 - Quality Control

# **Envirotech Analytical Laboratory**

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1436025 - Purge and Trap EPA 5030A										
Blank (1436025-BLK1)				Prepared &	Analyzed:	04-Sep-14				
Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	n							
Ethylbenzene	ND	0.05	**							
p,m-Xylene	ND	0.10	*							
o-Xylene	ND	0.05	**							
Total Xylenes	ND	0.05	н							
Total BTEX	ND	0.05	"							
Surrogate: 1,3-Dichlorobenzene	48.9		ug/L	50.0		97.7	50-150			
Surrogate: Bromochlorobenzene	42.5		"	50.0		85.0	50-150			
Duplicate (1436025-DUP1)	Sour	ce: P409017-	01	Prepared &	: Analyzed:	04-Sep-14				
Benzene	ND	0.05	mg/kg		ND				30	
Toluene	ND	0.05	*		ND				30	
Ethylbenzene	ND	0.05	*		ND				30	
p,m-Xylene	ND	0.10	**		ND				30	
o-Xylene	ND	0.05	"		ND				30	
Surrogate: 1,3-Dichlorobenzene	45.9		ug/L	50,0		91.8	50-150			
Surrogate: Bromochlorobenzene	39.7		"	50.0		79.4	50-150			
Matrix Spike (1436025-MS1)	Sour	ce: P409017-	01	Prepared &	: Analyzed:	04-Sep-14				
Benzene	47.9		ug/L	50.0	ND	95.7	39-150			
Toluene	46.9		**	50.0	ND	93.7	46-148			
Ethylbenzene	45.7		**	50.0	ND	91.5	32-160			
o,m-Xylene	86.9		**	100	ND	86.9	46-148			
o-Xylene	43.3		"	50.0	ND	86.5	46-148			
Surrogate: 1,3-Dichlorobenzene	45.6		"	50.0		91.2	50-150			
Surrogate: Bromochlorobenzene	39.8		"	50.0		79.5	50-150			

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Project Name:

K-31 #2 Truby

614 Reilly Ave

Farmington NM, 87401

Project Number:

97057-0352

Project Manager:

Kyle Summers-Apex TITAN

Reported:

05-Sep-14 10:56

# Nonhalogenated Organics by 8015 - Quality Control

#### **Envirotech Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1436024 - DRO Extraction EPA 35	50M									
Blank (1436024-BLK1)			_	Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	ND	24.9	mg/kg							
Surrogate: Benza[a]pyrene	22.9		"	19.9		115	50-200			
LCS (1436024-BS1)				Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	530	29.9	mg/kg	499		106	38-132			
Surrogate: Benzo[a]pyrene	20.9		"	20.0		105	50-200	_		
Matrix Spike (1436024-MS1)	Sour	ce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	528	30.0	mg/kg	499	ND	106	38-132			
Surrogate: Benzo[a]pyrene	24.8		"	20.0		124	50-200	_		
Matrix Spike Dup (1436024-MSD1)	Sour	ce: P409017-	01	Prepared &	Analyzed	04-Sep-14		_		
Diesel Range Organics (C10-C28)	569	30.0	mg/kg	499	ND	114	38-132	7.49	20	
Surrogate: Benzo[u]pyrene	25.8		"	20.0		129	50-200			

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Farmington NM, 87401

Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

Reported:

05-Sep-14 10:56

# Nonhalogenated Organics by 8015 - Quality Control

### **Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
radiatio	100011			Bever	Result	- June	Lilling	IG D	- Email	Trotes
Batch 1436025 - Purge and Trap EPA 5030A										
Blank (1436025-BLK1)			_	Prepared &	Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg							
Duplicate (1436025-DUP1)	Sour	ce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	ND	4.96	mg/kg		ND				30	_
Matrix Spike (1436025-MS1)	Sour	ce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	0.41		mg/L	0.450	0.03	83.7	75-125		-	

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Farmington NM, 87401

Project Name:

K-31 #2 Truby

614 Reilly Ave

Project Number: Project Manager: 97057-0352

**Reported:** 05-Sep-14 10:56

Kyle Summers-Apex TITAN

**Notes and Definitions** 

DET

Analyte DETECTED

ND

Analyte NOT DETECTED at or above the reporting limit

NR

Not Reported

dry

Sample results reported on a dry weight basis

RPD

Relative Percent Difference

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# CHAIN OF CUSTODY RECORD

17390

Client: Entgrp	0150	, P	roject Name / Locati	on:	2 Tr	WK		og s	$\overline{)}$			A	NALY	/SIS	/ PAF	RAMI	ETER	RS			
Email, results to: KSUM Me PSO	04 pexi	oor. Os	ampler Name: 50	mm	10/6	5		1	+1	8260)	S				+						
Client Phone No.: 903 82	1560		lient No.: 9787					TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion		TCLP with H/P	ble 910-1	(418.1)	RIDE			e Cool	Sample Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.		/olume ntainers	Pr HNO ₃	eservativ нсі	TPH (S	BTEX	voc (	RCRA	Cation	RCI	TCLP	CO Table	) HAT	CHLORIDE			Sample	Sampl
5-1	पिन्न/ग्रम	1130	P409017-01	1 X	400			7	X											Y	Y
5-2,		1/35	_θ Z																		
5-3		1140	-03																		
5-4		1145																			
5-5	V	1150	-05	1	•			-   ₩	1											1	+
			NF.	5																	<u> </u>
			NJ																		
				Détec	Time	<u> </u>			L												
Relinquished by: (Signature)				12/14	Time /628	Hecei	ved by	/: (Si <b>g</b> na	iture) 				_ (	7	-				9/3/12		ime 028
Relinquished by: (Signature)						Recei	ved by	r: (Signa	iture)												
Sample Matrix Soil Solid Sludge	Aqueous [	] Other [	]							<del>.</del>										-	
Sample(s) dropped off after	hours to se	cure drop			P N V Anal									•			/	5.6			



# **Analytical Report**

# **Report Summary**

Client: Enterprise Products

Chain Of Custody Number: 17391

Samples Received: 9/4/2014 2:45:00PM

Job Number: 97057-0352 Work Order: P409018

Project Name/Location: K-31 #2 Truby South

Fatine Demont Devices of Dev			5.	0/5/4.4	
Entire Report Reviewed By:	Tim Cain Lab		Date:	9/5/14	
	rim Cain, Lab	oratory Manager			

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



Project Name:

K-31 #2 Truby South

614 Reilly Ave Farmington NM, 87401 Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:59

# **Analyical Report for Samples**

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
C-1	P409018-01A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.
C-2	P409018-02A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.
C-3	P409018-03A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.
C-4	P409018-04A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.
C-5	P409018-05A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.
SP-1	P409018-06A	Soil	09/04/14	09/04/14	Glass Jar, 4 oz.

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

Reported:

05-Sep-14 10:59

## C-1 P409018-01 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		94.9 %	50-15	50	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		98.7 %	50-13	50	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		128 %	50-20	00	1436024	09/04/14	09/04/14	EPA 8015D	

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:59

## C-2 P409018-02 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		95.2 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		96.5 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		115 %	50-2	200	1436024	09/04/14	09/04/14	EPA 8015D	

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number:

97057-0352

Project Manager:

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:59

C-3

#### P409018-03 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		97.4 %	50-1	150	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		96.2 %	50-1	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015						<del></del>			
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		143 %	50-2	?00	1436024	09/04/14	09/04/14	EPA 8015D	

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

Reported: 05-Sep-14 10:59

## C-4

#### P409018-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021						<u> </u>			
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		94.5 %	50-1	50	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		95.5 %	50-1	50	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	24.6	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		116%	50-2	00	1436024	09/04/14	09/04/14	EPA 8015D	<del></del>

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Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number:

97057-0352

Reported:

Farmington NM, 87401

Project Manager:

Kyle Summers-Apex TITAN

05-Sep-14 10:59

## C-5 P409018-05 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: Bromochlorobenzene		97.2 %	50-1	150	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		97.6%	50-1	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	34.9	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		132 %	50-2	?00	1436024	09/04/14	09/04/14	EPA 8015D	

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:59

## SP-1 P409018-06 (Solid)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	ì	1436025	09/04/14	09/04/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
p,m-Xylene	ND	0.10	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
o-Xylene	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total Xylenes	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Total BTEX	ND	0.05	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8021B	
Surrogate: 1,3-Dichlorobenzene		98.3 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	_
Surrogate: Bromochlorobenzene		99.5 %	50-	150	1436025	09/04/14	09/04/14	EPA 8021B	
Nonhalogenated Organics by 8015						B-5			
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1436025	09/04/14	09/04/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1436024	09/04/14	09/04/14	EPA 8015D	
Surrogate: Benzo[a]pyrene		120 %	50-	200	1436024	09/04/14	09/04/14	EPA 8015D	

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Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number:

97057-0352

Reported:

Farmington NM, 87401

Project Manager:

Kyle Summers-Apex TITAN

05-Sep-14 10:59

## Volatile Organics by EPA 8021 - Quality Control

#### **Envirotech Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1436025 - Purge and Trap EPA 5030A									_	
Blank (1436025-BLK1)				Prepared &	: Analyzed:	04-Sep-14				
Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	"							
Ethylbenzene	ND	0.05								
p,m-Xylene	ND	0.10	"							
o-Xylene	ND	0.05	"							
Total Xylenes	ND	0.05	"							
Total BTEX	ND	0.05	**							
Surrogate: 1,3-Dichlorohenzene	48.9		ug/L	50.0		97.7	50-150			
Surrogate: Bromochlorobenzene	42.5		"	50.0		85.0	50-150			
Duplicate (1436025-DUP1)	Sou	rce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Benzene	ND	0.05	mg/kg		ND				30	
Toluene	ND	0.05	"		ND				30	
Ethylbenzene	ND	0.05	11		ND				30	
p,m-Xylene	ND	0.10	**		ND				30	
o-Xylene	ND	0.05	n		ND				30	
Surrogate: 1,3-Dichlorohenzene	45.9		ug/L	50.0		91.8	50-150			
Surrogate: Bromochlorobenzene	39.7		"	50.0		<b>79. 4</b>	50-150			
Matrix Spike (1436025-MS1)	Sou	rce: P409017-	01	Prepared &	: Analyzed:	04-Sep-14				
Benzene	47.9		ug/L	50.0	ND	95.7	39-150			
Toluene	46.9			50.0	ND	93.7	46-148			
Ethylbenzene	45.7			50.0	ND	91.5	32-160			
o,m-Xylene	86.9			100	ND	86.9	46-148			
o-Xylene	43.3			50.0	ND	86.5	46-148			
Surrogate: 1,3-Dichlorohenzene	45.6		"	50.0		91.2	50-150	•		
Surrogate: Bromochlorobenzene	39.8		"	50.0		79.5	50-150			

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number: Project Manager: 97057-0352

Kyle Summers-Apex TITAN

**Reported:** 05-Sep-14 10:59

#### Nonhalogenated Organics by 8015 - Quality Control

#### **Envirotech Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1436024 - DRO Extraction EPA 3	3550M	<del></del>								
Blank (1436024-BLK1)				Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	ND	24.9	mg/kg							
Surrogate: Benzolu/pyrene	22.9		"	19.9		115	50-200			
LCS (1436024-BS1)				Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	530	29.9	mg/kg	499		106	38-132			
Surrogate: Benzo[a]pyrene	20.9		,,	20.0		105	50-200			
Matrix Spike (1436024-MS1)	Sour	ce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	528	30.0	mg/kg	499	ND	106	38-132			
Surrogate: Benzo[a]pyrene	24.8		"	20.0		124	50-200			
Matrix Spike Dup (1436024-MSD1)	Sour	ce: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Diesel Range Organics (C10-C28)	569	30.0	mg/kg	499	ND	114	38-132	7.49	20	
Surrogate: Benzo[a]pyrene	25.8		"	20.0		129	50-200			

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Project Name:

K-31 #2 Truby South

Spike

Source

614 Reilly Ave

Project Number: Project Manager:

Reporting

97057-0352

Reported:

%REC

Farmington NM, 87401

Kyle Summers-Apex TITAN

05-Sep-14 10:59

RPD

#### Nonhalogenated Organics by 8015 - Quality Control

#### **Envirotech Analytical Laboratory**

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1436025 - Purge and Trap EPA 5030A										
Blank (1436025-BLK1)				Prepared &	Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	ND	4.99	mg/kg						-	
Duplicate (1436025-DUP1)	Sourc	e: P409017-	01	Prepared &	: Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	ND	4.96	mg/kg		ND				30	
Matrix Spike (1436025-MS1)	Sourc	e: P409017-	01	Prepared &	Analyzed:	04-Sep-14				
Gasoline Range Organics (C6-C10)	0.41		mg/L	0.450	0.03	83.7	75-125			

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Farmington NM, 87401

Project Name:

K-31 #2 Truby South

614 Reilly Ave

Project Number:

97057-0352

Reported:

Project Manager:

Kyle Summers-Apex TITAN

05-Sep-14 10:59

#### **Notes and Definitions**

DET

Analyte DETECTED

ND

Analyte NOT DETECTED at or above the reporting limit

NR

Not Reported

dry

Sample results reported on a dry weight basis

RPD

Relative Percent Difference

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## CHAIN OF CUSTODY RECORD

17391

Client: Enternois	e	Pro	ject Name / Locatio	#2 Tru	by.	500	vth.	(Z)				Α	NALY	/SIS	/ PAF	RAME	ETER	s			
Email results to: Summers@Ap	OCX CO G	Sar . COM	npler Name / Location	Sum.	mo	15	(0)	3015	8021)	8260)	S				<del>-</del>						
Client Rhone No.: 903-821-560		Clie	ent No.: 9705	7-0352				Method	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion		TCLP with H/P	CO Table 910-1	418.1)	RIDE			Sample Cool	Sample Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Pr HNO ₃	eservativ HCI	e i	Hdl	BTEX	) ooc	RCRA	Cation	RCI	TCLP	со та	TPH (418.1)	CHLORIDE			Samp	Sampl
C-1	9/4/14	1200	P409018-01	1 X 40 Z.			1	X	X											X	丛
C-2 C-3		1205	P409018-02																	$X_j$	M
<del></del>		1210	P409018-03					$\prod$												X	X
C-4		1215	P409018.04																	X	X
C-5		1220	P409018-05												:					X	
-SP-1	de	1240	P40901806																	X	N
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Sample Matrix													- "							+	
Soil 🕅 Solid 🗌 Sludge 🗌	Aqueous 🗌	Other 🗌																			l
□ Sample(s) dropped off after	hours to sec	cure drop of	area.	3 env	ir (	D†€	e C	h		k	ا، د	\	0	个,一	7	ς	6.3	(	7.5	)	
5795 US Highway 64	4 • Farmingto	on, NM 8740	1 • <i>5</i> 05-632-0615 • T	hree Springs • 65	Merca	do Stree	et, Suit	e 11	5, Di	urang	10, C	O 813	01 •	labor	atory	∕@en\	virote	ch-ind	Pag	a 13	of 13





**CORRECTIVE ACTION REPORT** 

Property:

JUD ROPE, Lateral K-31 September 2014 Pipeline Releases **SW 1/4, S9 T25N R6W** NW 1/4 and SW 1/4, S16 T25N R6W Rio Arriba County, New Mexico

> December 15, 2014 Apex Project No. 7030414G034

> > Prepared for:

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

Prepared by:

her M. Wards Heather M. Woods, P.G. Senior Project Manager

Elizabeth Scaggs, P.G. Senior Program Manager

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#### **CORRECTIVE ACTION REPORT**

Lateral K-31 September 2014 Pipeline Releases SW 1/4, S9 T25N R6W NW 1/4 and SW 1/4, S16 T25N R6W Rio Arriba County, New Mexico

**Apex Project No. 7030414G034** 

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Lateral K-31 September 2014 Pipeline Release Sites are located within the Enterprise Field Services LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 9, and the northwest (NW) ¼ and SW ¼ of Section 16, in Township 25 North and Range 6 West in rural Rio Arriba County, New Mexico (North Release 36.40734N, 107.47930W; Mid-North Release 36.39985N, 107.47667W; Mid-South Release 36.39557N, 107.47572W; and South Release 36.39408N, 107.47519W), referred to hereinafter as the "Sites" or "subject Sites". The North Release Site is located on public land managed by the United States Bureau of Land Management (BLM) and the Mid-North, Mid-South, and South Releases are located on land owned by the State of New Mexico. The Sites are surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

Beginning on September 11, 2014, Enterprise initiated excavation activities at the Sites in an effort to locate and repair four subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were initially identified by releases of natural gas and/or minor staining at the ground surface.

A topographic map depicting the location of the Sites 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 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 Sites. The ranking criteria and associated scoring are provided in the following tables:

North, Mid-North and Mid-South Sites									
Rankin	g Criteria		Ranking Score						
	<50 feet	20							
Depth to Groundwater .	50 to 99 feet	10	20						
	>100 feet	0							
Wellhead Protection Area • < 1,000 feet from a water	Yes	20	Λ						
source, or; <200 feet from private domestic water source.	No	0	V						
	<200 feet	20							
Distance to Surface Water Body	200 to 1,000 feet	10	10						
	>1,000 feet 0								
Total Ran	Total Ranking Score								

Based on Apex's evaluation of the scoring criteria, the North, Mid-North, and Mid-South Sites would have a maximum Total Ranking Score of "30".

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

Based on Apex's evaluation of the scoring criteria, the South Site would have a maximum Total Ranking Score of "20" The rankings are based on the following:

- Depth to groundwater is approximately 15 feet below grade surface (bgs) as observed in nearby groundwater monitoring wells and elevation differential between the Site and Largo Wash, resulting in a depth to groundwater ranking of "20". No nearby water wells were identified on the Office of the State Engineer (OSE) website database.
- 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 North and Mid-North release points are located between 500 feet to 700 feet of small ephemeral washes which drain to the Largo Wash east of the Sites. The Mid-South release point is located approximately 870 feet southwest of a stockpond. These proximities result in a distance to surface water body ranking of "10" for the North, Mid-North, and Mid-South Sites. The South release point is located approximately 1,500 feet west of the Largo Wash, resulting in a distance to surface water body ranking of "0



#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

Beginning on September 11, 2014, Enterprise initiated excavation activities at the Sites in an effort to locate and repair four subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were initially identified by releases of natural gas and/or minor staining at the ground surface. During the corrective action activities, Energy Maintenance Services USA, Inc. provided heavy equipment and labor support, and Heather Woods, an Apex environmental professional, provided environmental support.

The surface expression of the North excavation measured approximately 36 feet long by 8 feet wide and 4 feet bgs in depth; the Mid-North excavation measured approximately 24 feet long by 10.5 feet wide and 6 feet bgs in depth; the Mid-South excavation measured approximately 38 feet long by 8 feet wide and 5 feet bgs in depth (with an extension of 6 feet long by 8 feet wide and 5 feet bgs in depth); and the South excavation measured approximately 31 feet long by 12 feet wide by 10 to 12 feet bgs in depth (with an extension of approximately 15 feet wide by 4 feet long by 10 to 12 feet bgs in depth).

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty and clayey sands, with silt and clay lenses.

A total of approximately 374 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm near Hilltop, New Mexico for disposal/remediation. Additionally, a total of approximately 1,635 barrels (bbls) of water were removed from the four excavations during dewatering activities and transported to the Basin Disposal, Inc. facility in Bloomfield, New Mexico for disposal. The executed C-138 forms are provided in Appendix B. The remaining unaffected soil stockpiles were sampled to verify acceptable COC concentrations prior to use as backfill. Clean imported fill was then utilized to complete the backfilling activities, and the resulting areas were then contoured to surrounding grade.

Figures 3A through 3D are site maps indicating the approximate locations of the excavated areas 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 electron volt (eV) lamp to aid in determining the excavation limits.

Apex's soil sampling program included the collection of five (5) final confirmation samples (S-1 North through S-5 North) from the North Release excavation, five (5) final confirmation samples (S-1 Mid-North through S-5 Mid-North) from the Mid-North Release excavation, six (6) final confirmation samples (S-1 Mid-South through S-6 Mid-South) from the Mid-South Release excavation, and twelve (12) final confirmation samples (S-1 South through S-12 South) from the South Release excavation for laboratory analysis. Additionally, the sampling program included the collection of three (3) composite samples (SP-1 North through SP-3 North) from the remaining North Release stockpiled soils, two (2) composite samples (SP-1 Mid-North and SP-2 Mid-North) from the remaining Mid-North Release stockpiled soils, and two (2) composite samples (SP-1 Mid-South and SP-2 Mid-South) from the remaining Mid-South Release stockpiled soils to determine the potential to reuse these soils as backfill material. Figures 3A, 3B, 3C, and



3D show the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

The confirmation soil 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 EPA SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015. At the request of the OCD, soil samples S-5 North, and SP-1 North through SP-3 North were analyzed for chlorides utilizing EPA Method 300.0.

Laboratory results are summarized in Table 1, included in Appendix D. The executed chain-of-custody forms and laboratory data reports 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 *Remediation Plan.* 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 reporting limits associated with the final confirmation samples collected from the excavated areas to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of greater than 20.

#### North Release

- The laboratory analyses of confirmation samples collected from soils remaining in place at the North Release location do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the North Release location indicate total BTEX concentrations ranging from below the laboratory reporting limits to 0.18 milligrams per kilogram (mg/kg), which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the North Release location do not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RAL for a Site ranking of "30".
- The OCD requested that a sample from the excavation and all the stockpile samples at the North Release location be analyzed to determine the chloride concentration of the



release area soils. The laboratory analysis of sample S-5 North, collected from the base of the excavation, and stockpile samples SP-1 through SP-3, exhibited chloride concentrations ranging from 59 mg/kg to 180 mg/kg.

#### Mid-North Release

- The laboratory analyses of confirmation samples collected from soils remaining in place at the Mid-North Release location do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the Mid-North Release location do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the North Release location do not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RAL for a Site ranking of "30".

#### Mid-South Release

Soil sample S-1 Mid-South was removed by excavation and is not included in the following discussion. Subsequent to the extension of the excavation to the north, soil sample S-6 Mid-South was collected from the north wall to replace soil sample S-1 Mid-South.

- The laboratory analyses of confirmation samples collected from soils remaining in place at the Mid-North Release location do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the Mid-South Release location indicate total BTEX concentrations ranging from below the laboratory reporting limits to 3.7 mg/kg, which are below the OCD RAL.
- The laboratory analyses of the confirmation samples collected from soils remaining in place at the Mid-South Release location indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 52 mg/kg, which are below the OCD RAL for a Site ranking of "30".

#### South Release

Soil samples S-6 South and S-7 South were removed by excavation and are not included in the following discussion. Subsequent to the extension of the excavation to the northwest, soil sample S-10 South was collected to replace soil sample S-6 South. Additionally, following the excavation was extended from a depth of approximately 8 feet bgs to approximately 10 to 12 feet bgs, where soil samples S-8 South, S-9 South, S-11 South, and S-12 South were collected to replace soil sample S-7 South.

- The laboratory analysis of confirmation samples collected from soils remaining in place at the South excavation indicated benzene concentrations ranging from below the laboratory reporting limits to 0.32 mg/kg, which are below the OCD RAL.
- The laboratory analyses of confirmation samples collected from soils remaining in place at the South Release location indicate total BTEX concentrations ranging from below the laboratory reporting limits to 0.92 mg/kg, which are below the OCD RAL.



The laboratory analyses of the confirmation samples collected from soils remaining in
place at the South Release location indicate combined TPH GRO/DRO concentrations
ranging from below the laboratory reporting limits to 22 mg/kg, which are below the OCD
RAL for a Site ranking of "20".

Confirmation sample results are provided in Table 1 through Table 4 in Appendix D.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral K-31 September 2014 Pipeline Release Sites are located within the Enterprise pipeline ROW in the SW ½ of Section 9, and the NW ¼ and SW ½ of Section 16, in Township 25 North and Range 6 West in rural Rio Arriba County, New Mexico (North Release 36.40734N, 107.47930W; Mid-North Release 36.39985N, 107.47667W; Mid-South Release 36.39557N, 107.47572W; and South Release 36.39408N, 107.47519W). The North Release Site is located on public land managed by the BLM and the Mid-North, Mid-South, and South Releases are located on land owned by the State of New Mexico. The Sites are surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

Beginning on September 11, 2014, Enterprise initiated excavation activities at the Sites in an effort to locate and repair four subsurface leaks. The leaks were subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion at each release location. The leaks were initially identified by releases of natural gas and/or minor staining at the ground surface.

- 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 silty and clayey sands, with silt and clay lenses.
- The surface expression of the North excavation measured approximately 36 feet long by 8 feet wide and 4 feet bgs in depth; the Mid-North excavation measured approximately 24 feet long by 10.5 feet wide and 6 feet bgs in depth; the Mid-South excavation measured approximately 38 feet long by 8 feet wide and 5 feet bgs in depth (with an extension of 6 feet long by 8 feet wide and 5 feet bgs in depth); and the South excavation measured approximately 31 feet long by 12 feet wide by 10 to 12 feet bgs in depth) with an extension of approximately 15 feet wide by 4 feet long by 10 to 12 feet bgs in depth).
- Prior to backfilling, final confirmation samples were collected from the resulting excavations for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD RALs for Sites with rankings of "20" and "30".
- A total of approximately 374 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm near Hilltop, New Mexico for disposal/remediation. Additionally, a total of approximately 1,635 barrels (bbls) of water were removed from the four excavations during dewatering activities and transported to the Basin Disposal, Inc. facility in Bloomfield, New Mexico for disposal. The remaining unaffected soil stockpiles were sampled to verify acceptable COC concentrations prior to use as backfill. Clean



imported fill was then utilized to complete the backfilling activities, and the resulting areas were then contoured to surrounding grade.

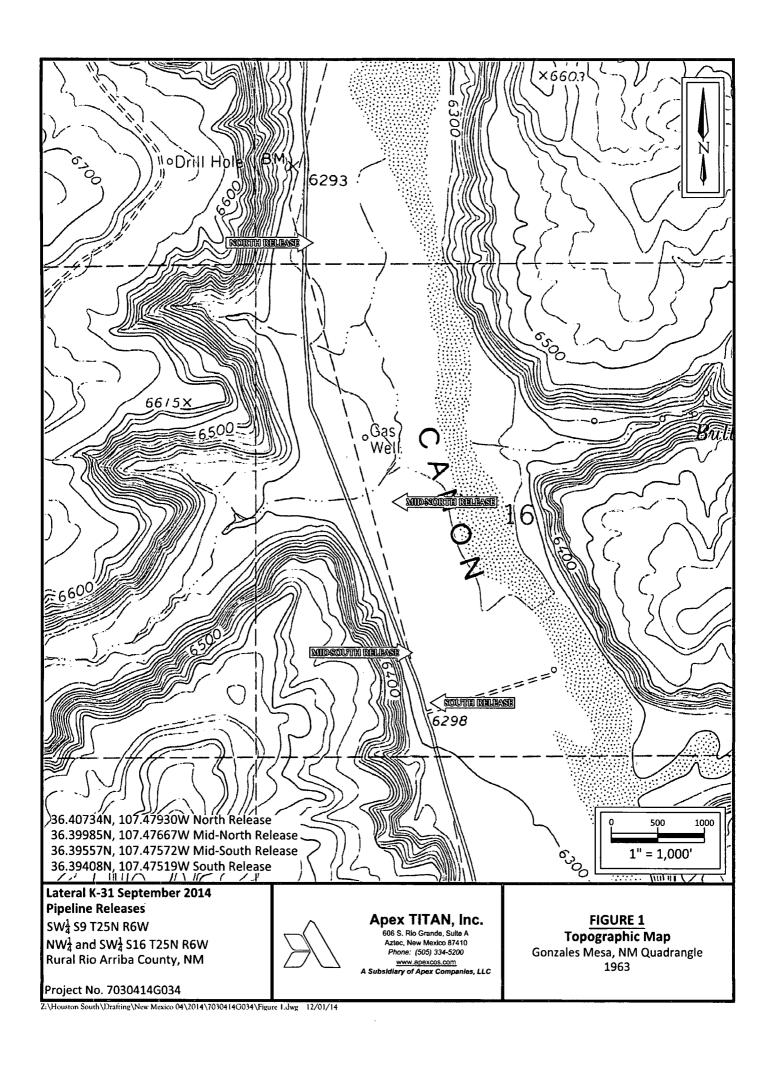
Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

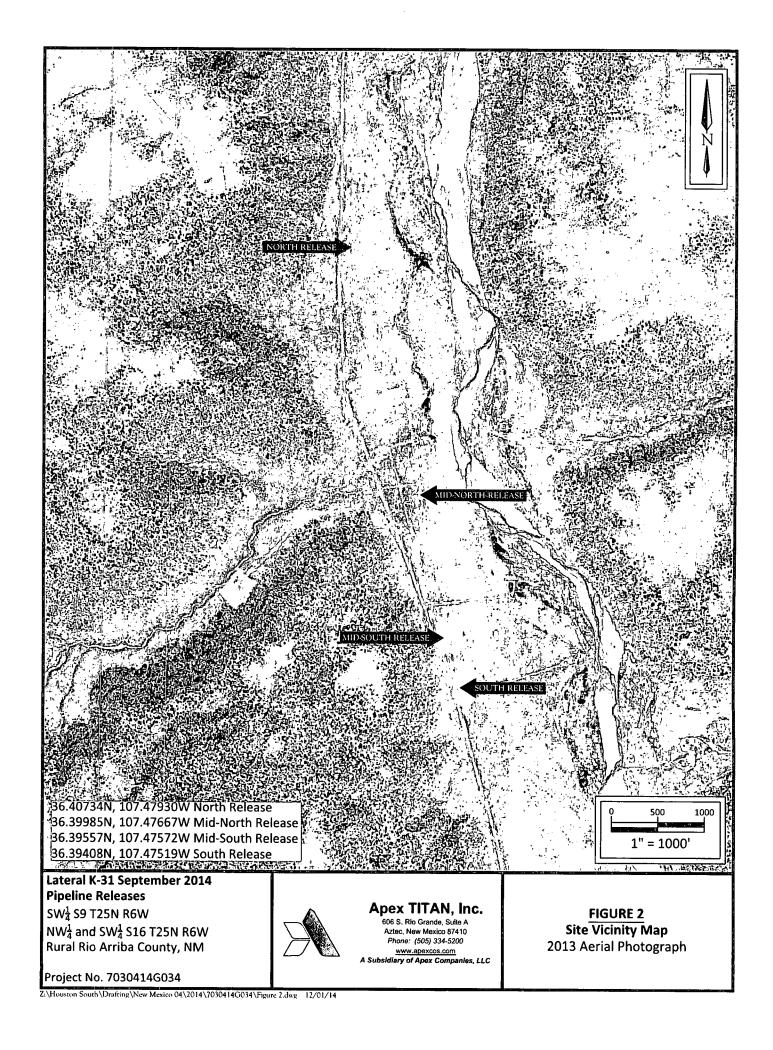
#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

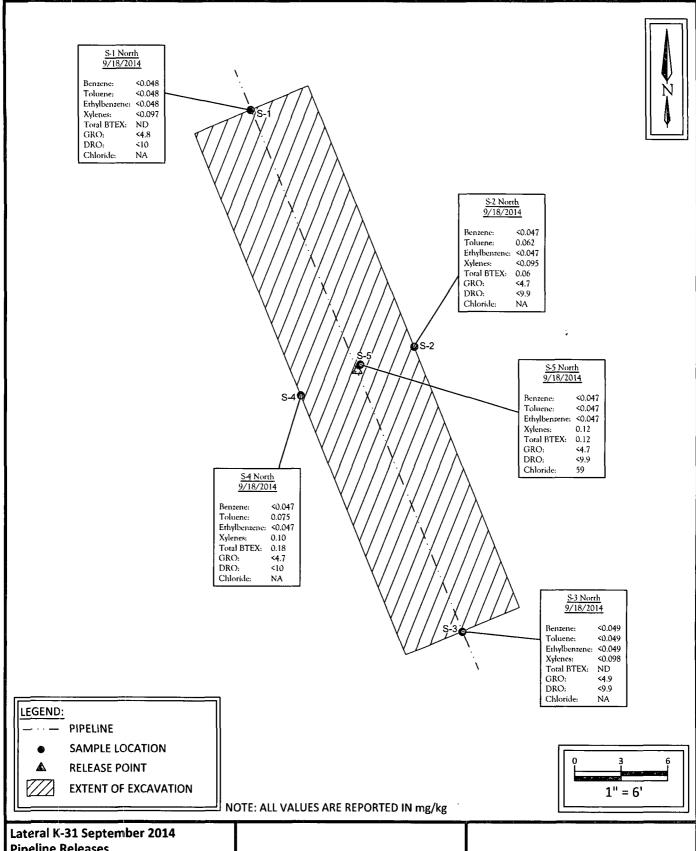
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work 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.







**Pipeline Releases** 

SW¹/₄ S9 T25N R6W Rural Rio Arriba County, NM 36.40734N, 107.47930W

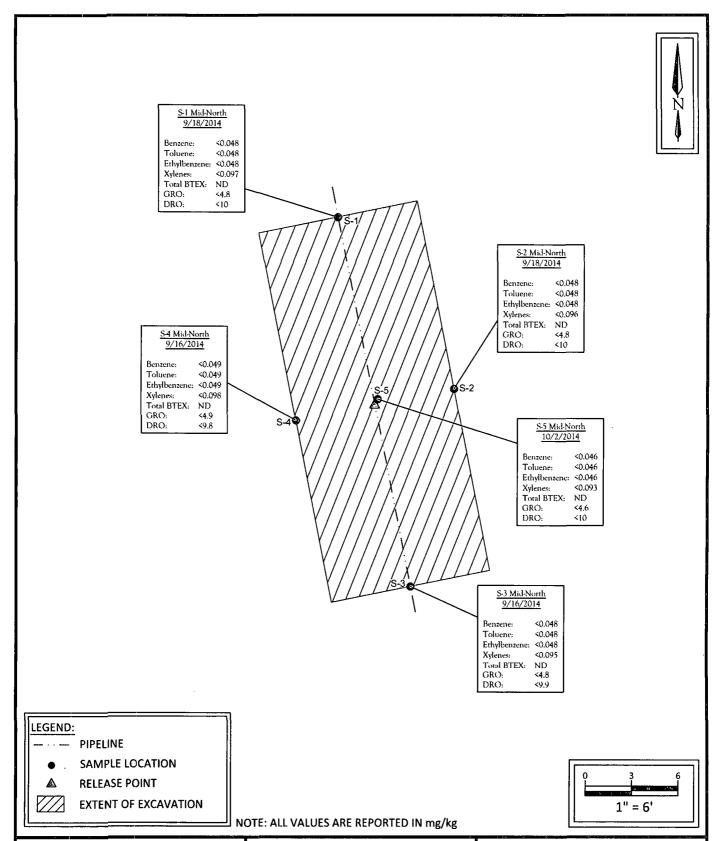
Project No. 7030414G034



#### Apex TITAN, Inc.

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

**FIGURE 3A** Site Map with **Soil Analytical Results North Release** 



#### Lateral K-31 September 2014 Pipeline Releases

NW¹/₄ and SW¹/₄ S16 T25N R6W Rural Rio Arriba County, NM 36.39985N, 107.47667W

Project No. 7030414G034

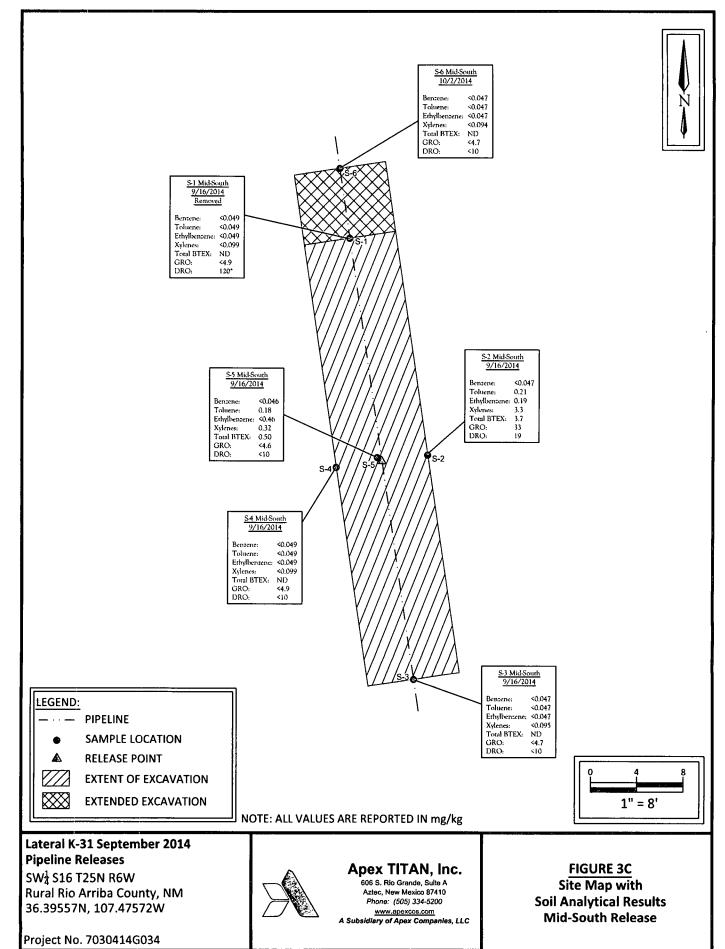


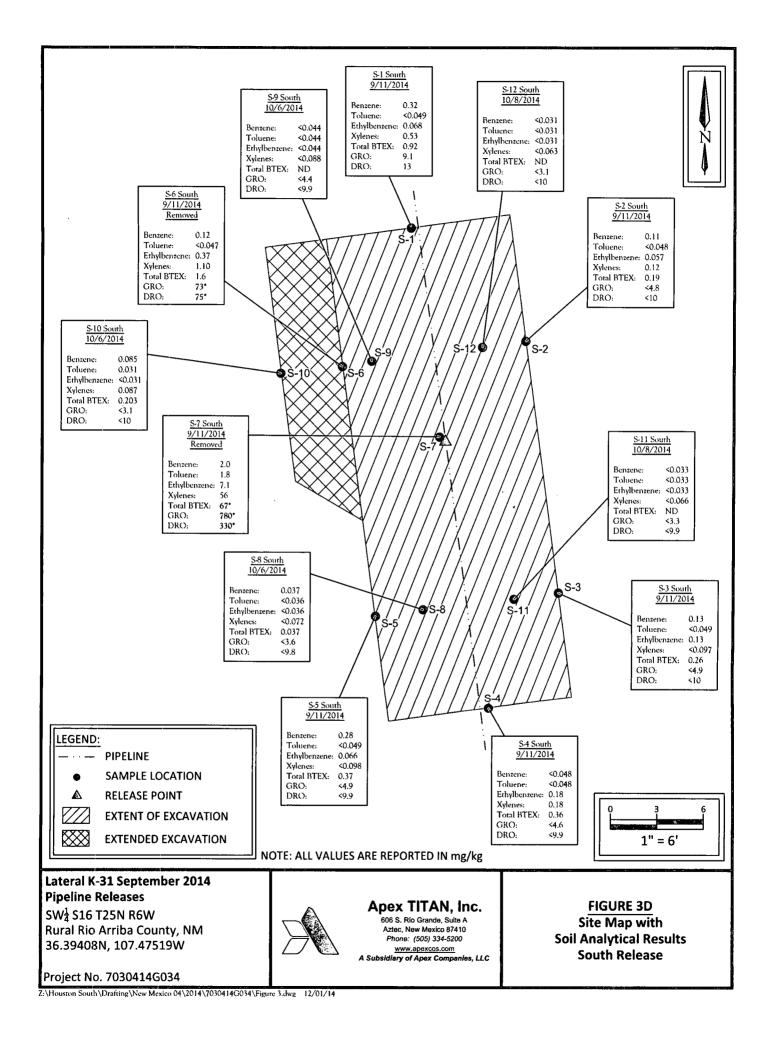
#### Apex TITAN, Inc.

606 S. Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com

www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 3B Site Map with Soil Analytical Results Mid-North Release





District 1
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 97057-0649 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.

## REOUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401  Oct. 2014
2. Originating Site: Lateral K-31 Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Sections 16 and 25 T 25N R 6W, GPS 36.39408, -107.47519, 36.39557, -107.47572, 36.39985, -107.47667, 36.40734, -107.47930 Rio Arriba County, NM
4. Source and Description of Waste:  Source: Natural Gas Pipeline Release  Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.  Estimated Volume200yd3 bbls Known Volume (to be entered by the operator at the end of the haul)3 74yd3 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
1, 9-16-14, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.  1, Roman representative for Environment of 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: West States Energy Contractors. Right, 30 Services, Del Prado, Ritchey,
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 Runuag TITLE: Waste Coordinator DATE:   DIO   14 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

Form C-138 Revised 08/01/11

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

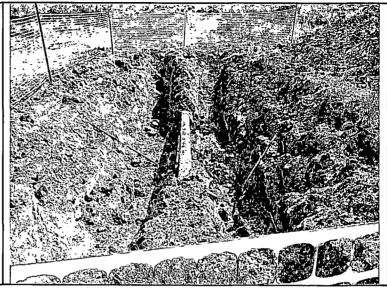
## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

REQUEST FOR MITROVAL TO ACCEL I SOULD WASTE
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Lateral K-31 Release Sites
3. Location of Material (Street Address, City, State or ULSTR): Sections 16 and 25 T 25N R 6W, Rio Arriba County, NM
4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Exempt petroleum affected soil from clean-up efforts at pipeline release. Estimated Volume 200 yd3 bbls Known Volume (to be entered by the operator at the end of the haul) 163 yd3 fbls
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, 9-30-14, representative for authorize Basin Disposal, Inc. to complete  Generator Signature the required testing/sign the Generator Waste Testing Certification.
I,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: Various transporters on the OCD approved haulers list.
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Basin Disposal, Inc. * Permit #: NM1-005 Address of Facility: 200 Montana Bloomfield, NM
Method of Treatment and/or Disposal:    Evaporation   Treating Plant   Landfarm   Landfill   Other
Waste Acceptance Status:  DENCED (Must Be Maintained As Permanent Record)
PRINT NAME: John Volkerd: TITLE: Con Mr / VP DATE: 11/25/14/ SIGNATURE: Surface Waste Management Facility Authorized Agent TELEPHONE NO.: 505-632-8936



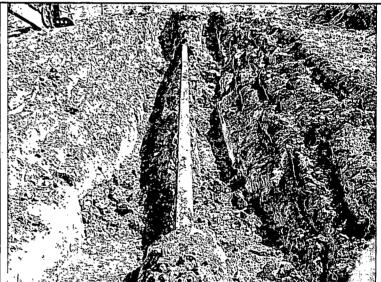
## Photograph 1

View of the final North Release excavation, facing northwest.



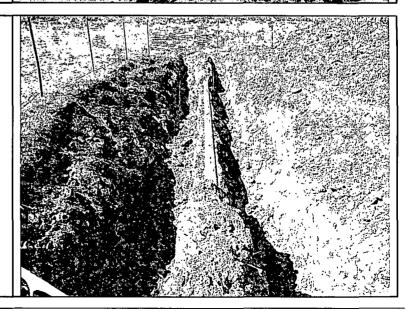
## Photograph 2

View of the final Mid-North Release excavation, facing northwest.



## Photograph 3

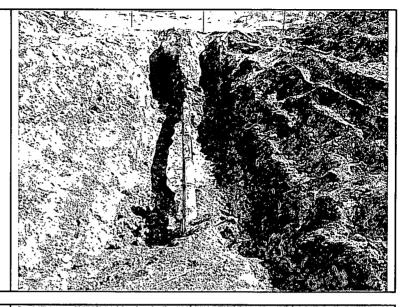
View of the final Mid-South Release excavation, facing northwest.





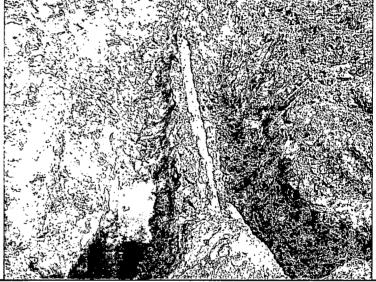
## Photograph 4

View of the partially completed South Release excavation following pipeline repair activities, facing northwest.



## Photograph 5

View of the final South Release excavation following corrective action activities, facing northwest.



## Photograph 6

View of the final South Release excavation following corrective action activities, facing southeast.





## TABLE 1

## Lateral K-34 "North" Pipaline Release Soil analytical Summary

Sample I.D.	Date	Sample Depth	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH	TPH	Chloride
		(feet)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	GRO	DRO	(mg/kg)
							<u> </u>	(mg/kg)	(mg/kg)	
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level		10	NE	NE	NE	50	100		NE	
				Excava	ation Confirmation S	Samples				
S-1	9/18/2014	2 to 4	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10	NA
S-2	9/18/2014	2 to 4	<0.047	0.062	<0.047	<0.095	0.06	<4.7	<9.9	NA
S-3	9/18/2014	2 to 4	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.9	NA
S-4	9/18/2014	2 to 4	<0.047	0.075	<0.047	0.10	0.18	<4.7	<10	NA
S-5	9/18/2014	4	<0.047	<0.047	<0.047	0.12	0.12	<4.7	<9.9	59
				Stock	pile Confirmation S	amples				
SP-1	9/24/2014	Stockpile	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<9.9	160
SP-2	9/24/2014	Stockpile	<0.056	<0.056	<0.056	<0.11	ND	<5.6	<9.9	110
SP-3	9/24/2014	Stockpile	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10	180

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits

NA = Not analyzed



## TABLE 2

## Lateral K-341 "Mid-North" Pipeline Release Soil analytical summary

Sample I.D.	Date	Sample Depth	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH	TPH		
	j	(feet)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	GRO	DRO		
								(mg/kg)	(mg/kg)		
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level				NE	E NE		100				
	Excavation Confirmation Samples										
S-1	9/18/2014	3 to 6	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10		
S-2	9/18/2014	3 to 6	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<10		
S-3	9/16/2014	3 to 6	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.9		
S-4	9/16/2014	3 to 6	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.8		
S-5	10/2/2014	6	<0.046	<0.046	<0.046	<0.093	ND	<4.6	<10		
	Stockpile Confirmation Samples										
SP-1	9/24/2014	Stockpile	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.9		
SP-2	9/24/2014	Stockpile	<0.054	<0.054	<0.054	<0.11	ND	<5.4	<10		

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits



## TABLE 3 Leignel K-81 "Mid-South" 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	TPH DRO		
		Natural Resources vision, Remediation	10	NE	NE	NË	50	(mg/kg) 10	(mg/kg) 00		
				Sample Remov	ed by Excavation						
S-1	9/16/2014	3 to 5	<0.049	<0.049	<0.049	<0.099	ND	<4.9	120		
				Confirmat	ion Samples						
S-2	9/16/2014	3 to 5	<0.047	0.21	0.19	3.3	3.7	33	19		
S-3	9/16/2014	3 to 5	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10		
S-4	9/16/2014	3 to 5	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<10		
S-5	9/16/2014	5	<0.046	0.18	<0.46	0.32	0.50	<4.6	<10		
S-6	10/2/2014	3 to 5	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<10		
	Stockpile Confirmation Samples										
SP-1	10/2/2014	Stockpile	<0.047	<0.047	<0.047	<0.094	ND	8.1	12		
SP-2	10/2/2014	Stockpile	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.9		

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits



## TABLE 4 Lateral K-81 "South" Pipeling 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)
	New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level		10	NE	NE	NE	50	100	
				Samples Remo	ved by Excavation				
S-6	9/11/2014	4 to 8	0.12	<0.047	0.37	1.10	1.6	73	75
S-7	9/11/2014	8	2.0	1.8	7.1	56	67	780	330
				Excavation Con	firmation Samples				
S-1	9/11/2014	4 to 8	0.32	<0.049	0.068	0.53	0.92	9.1	13
S-2	9/11/2014	4 to 8	0.11	<0.048	0.057	0.12	0.19	<4.8	<10
S-3	9/11/2014	4 to 8	0.13	<0.049	0.13	<0.097	0.26	<4.9	<10
S-4	9/11/2014	4 to 8	<0.048	<0.048	0.18	0.18	0.36	<4.6	<9.9
S-5	9/11/2014	4 to 8	0.28	<0.049	0.066	<0.098	0.37	<4.9	<9.9
S-8	10/6/2014	10 to 12	0.037	<0.036	<0.036	<0.072	0.037	<3.6	<9.8
S-9	10/6/2014	10 to 12	<0.044	<0.044	<0.044	<0.088	ND	<4.4	<9.9
S-10	10/6/2014	4 to 10	0.085	0.031	<0.031	0.087	0.203	<3.1	<10
S-11	10/8/2014	10 to 12	<0.033	<0.033	<0.033	<0.066	ND	<3.3	<9.9
S-12	10/8/2014	10 to 12	<0.031	<0.031	<0.031	<0.063	ND	<3.1	<10

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

NE = Not Established

ND = Not Detected above the Laboratory Reporting Limits



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

OrderNo.: 1409949

November 04, 2014

Heather Woods **Enterprise Field Services** 614 Reilly Ave. Farmington, NM 87401

TEL: (505) 599-2141

FAX

RE: Enterprise Lateral K-31 North

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/19/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 25, 2014.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## **Analytical Report**

#### Lab Order 1409949

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-1 North

Project: Enterprise Lateral K-31 North

**Collection Date:** 9/18/2014 1:19:00 PM

**Lab ID:** 1409949-001

Matrix: SOIL Received Date:

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch			
EPA METHOD 8015D: DIESEL RANGE ORGANICS Analyst: 1									
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2014 7:37:32 AM	15396			
Surr: DNOP	87.1	57.9-140	%REC	1	9/20/2014 7:37:32 AM	15396			
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/22/2014 2:15:08 PM	15403			
Surr: BFB	80.3	80-120	%REC	1	9/22/2014 2:15:08 PM	15403			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Benzene	ND	0.048	mg/Kg	1	9/22/2014 2:15:08 PM	15403			
Toluene	ND	0.048	mg/Kg	1	9/22/2014 2:15:08 PM	15403			
Ethylbenzene	ND	0.048	mg/Kg	1	9/22/2014 2:15:08 PM	15403			
Xylenes, Total	ND	0.097	mg/Kg	1	9/22/2014 2:15:08 PM	15403			
Surr: 4-Bromofluorobenzene	94.3	80-120	%REC	1	9/22/2014 2:15:08 PM	15403			

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409949

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-2 North

Project:

Enterprise Lateral K-31 North

Collection Date: 9/18/2014 1:24:00 PM

Lab ID:

1409949-002

Matrix: SOIL

Received Date: 9/19/2014 7:00:00 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	9.9	mg/Kg	1	9/20/2014 8:41:39 AM	15396
Surr: DNOP	89.3	57.9-140	%REC	1	9/20/2014 8:41:39 AM	15396
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/22/2014 10:17:24 PM	1 15403
Surr: BFB	83.5	80-120	%REC	1	9/22/2014 10:17:24 PM	1 15403
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	9/22/2014 10:17:24 PM	1 15403
Toluene	0.062	0.047	mg/Kg	1	9/22/2014 10:17:24 PM	15403
Ethylbenzene	ND	0.047	mg/Kg	1	9/22/2014 10:17:24 PM	1 15403
Xylenes, Total	ND	0.095	mg/Kg	1	9/22/2014 10:17:24 PM	1 15403
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	9/22/2014 10:17:24 PM	1 15403

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

### Lab Order 1409949

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-3 North

Project: Enterprise Lateral K-31 North

**Collection Date:** 9/18/2014 1:31:00 PM

**Lab ID:** 1409949-003

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANC	SE ORGANICS				Analys	BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/20/2014 9:02:57 AM	15396
Surr: DNOP	86.3	57.9-140	%REC	1	9/20/2014 9:02:57 AM	15396
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/22/2014 4:45:52 PM	15403
Surr: BFB	84.1	80-120	%REC	1	9/22/2014 4:45:52 PM	15403
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.049	mg/Kg	1	9/22/2014 4:45:52 PM	15403
Toluene	ND	0.049	mg/Kg	1	9/22/2014 4:45:52 PM	15403
Ethylbenzene	ND	0.049	mg/Kg	1	9/22/2014 4:45:52 PM	15403
Xylenes, Total	ND	0.098	mg/Kg	1	9/22/2014 4:45:52 PM	15403
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	9/22/2014 4:45:52 PM	15403

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

### Lab Order 1409949

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-4 North

Project:

Enterprise Lateral K-31 North

**Collection Date:** 9/18/2014 1:34:00 PM

Lab ID:

1409949-004

Matrix: SOIL

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analyst	: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2014 9:24:19 AM	15396
Surr: DNOP	88.4	57.9-140	%REC	1	9/20/2014 9:24:19 AM	15396
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/22/2014 5:16:10 PM	15403
Surr: BFB	90.1	80-120	%REC	1	9/22/2014 5:16:10 PM	15403
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	9/22/2014 5:16:10 PM	15403
Toluene	0.075	0.047	mg/Kg	1	9/22/2014 5:16:10 PM	15403
Ethylbenzene	ND	0.047	mg/Kg	1	9/22/2014 5:16:10 PM	15403
Xylenes, Total	0.10	0.095	mg/Kg	1	9/22/2014 5:16:10 PM	15403
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	9/22/2014 5:16:10 PM	15403

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409949

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-5 North

Project: Enterprise Lateral K-31 North

**Collection Date:** 9/18/2014 1:29:00 PM

**Lab ID:** 1409949-005

Matrix: SOIL Received Date:

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analy	st: BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/20/2014 9:45:41 AN	1 15396
Surr: DNOP	85.9	57.9-140	%REC	1	9/20/2014 9:45:41 AM	1 15396
EPA METHOD 8015D: GASOLINE RA	ANGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/22/2014 10:47:24 P	M 15403
Surr: BFB	92.6	80-120	%REC	1	9/22/2014 10:47:24 P	M 15403
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.047	mg/Kg	1	9/22/2014 10:47:24 P	M 15403
Toluene	ND	0.047	mg/Kg	1	9/22/2014 10:47:24 P	M 15403
Ethylbenzene	ND	0.047	mg/Kg	1	9/22/2014 10:47:24 P	M 15403
Xylenes, Total	0.12	0.094	mg/Kg	1	9/22/2014 10:47:24 P	M 15403
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	9/22/2014 10:47:24 P	M 15403
EPA METHOD 300.0: ANIONS					Analy	st: <b>JRR</b>
Chloride	59	30	mg/Kg	20	9/24/2014 5:06:26 PM	1 15468

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409949

04-Nov-14

Client:

**Enterprise Field Services** 

Project:

Enterprise Lateral K-31 North

Sample ID MB-15468

SampType: MBLK

TestCode: EPA Method 300.0: Anions

TestCode: EPA Method 300.0: Anions

Client ID: Prep Date:

PBS

Batch ID: 15468 Analysis Date: 9/23/2014

PQL

1.5

RunNo: 21418

SeqNo: 625609

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

ND

Result

Sample ID LCS-15468

9/23/2014

SampType: LCS

RunNo: 21418

Client ID: LCSS Batch ID: 15468

Units: mg/Kg

Prep Date: 9/23/2014

Analysis Date: 9/23/2014

SeqNo: 625610

Analyte

Result

SPK value SPK Ref Val %REC LowLimit

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** Qual

PQL

Chloride

110

14 1.5 15.00 0 91.4 90

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Sample pH greater than 2. Reporting Detection Limit

Page 6 of 9

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1409949

04-Nov-14

Client: Enterprise Field Services

Enterprise Lateral K-31 North Project: Sample ID MB-15396 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 15396 RunNo: 21269 Prep Date: 9/19/2014 Analysis Date: 9/19/2014 SeqNo: 621919 Units: mg/Kg SPK value SPK Ref Val %REC LowLimit Analyte Result **PQL** HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Surr: DNOP 9.4 10.00 94.4 57.9 140 Sample ID LCS-15396 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 15396 RunNo: 21269 Prep Date: 9/19/2014 Analysis Date: 9/19/2014 SeqNo: 621920 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Diesel Range Organics (DRO) 180 10 50.00 0 354 68.6 130 S Surr: DNOP 57.9 5.000 292 S 15 140 Sample ID LCS-15396 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 15396 RunNo: 21269 Prep Date: 9/19/2014 Analysis Date: 9/19/2014 SeqNo: 622111 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Qual Diesel Range Organics (DRO) 53 10 50.00 0 68.6 107 130 Surr: DNOP 5.1 5.000 103 57.9 140 Sample ID 1409949-001AMS SampType: MS TestCode: EPA Method 8015D: Diesel Range Organics S-1 North Batch ID: 15396 RunNo: 21309 Client ID: Prep Date: 9/19/2014 Analysis Date: 9/20/2014 SeqNo: 623192 Units: mg/Kg **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte LowLimit Qual Diesel Range Organics (DRO) 45 10 50.35 n 89.7 40.1 152 Surr: DNOP 4.4 5.035 86.7 57.9 140 Sample ID 1409949-001AMSD SampType: MSD TestCode: EPA Method 8015D: Diesel Range Organics Batch ID: 15396 RunNo: 21309 Client ID: S-1 North Prep Date: 9/19/2014 Analysis Date: 9/20/2014 SeqNo: 623193 Units: mg/Kg

#### Qualifiers:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

* Value exceeds Maximum Contaminant Level.

Result

48

4.6

**PQL** 

10

SPK value SPK Ref Val

49.90

4.990

- 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

40.1

57.9

HighLimit

152

140

%RPD

5.42

0

**RPDLimit** 

32.1

0

Qual

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

%REC

95.6

92.0

Page 7 of 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409949

04-Nov-14

Client:

**Enterprise Field Services** 

Project:

Enterprise Lateral K-31 North

Sample ID MB-15403	SampT	ype: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batcl	n ID: <b>15</b>	403	R	RunNo: 2	1348				
Prep Date: 9/19/2014	Analysis D	)ate: 9/	22/2014	S	SeqNo: 6	23436	Units: mg/F	(g		
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		88.9	80	120			

Sample ID LCS-15403	SampT	ype: <b>LC</b>	s	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch	ID: <b>15</b>	403	R	RunNo: 2	1348					
Prep Date: 9/19/2014	Analysis Date: 9/22/2014			SeqNo: <b>623441</b>			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.5	65.8	139				
Surr: BFB	910		1000		91.0	80	120				

Sample ID 1409949-001AMS	SampT	ype: MS	3	Tes	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: S-1 North	Batch	1D: <b>15</b>	403	F	RunNo: 2	1348						
Prep Date: 9/19/2014	Analysis D	ate: 9/	22/2014	S	SeqNo: 6	23508	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	25	4.8	24.20	0	105	71.8	132					
Surr: BFB	950		968.1		97.7	80	120					

Sample ID 1409949-001AMSD	) SampT	ype: MS	SD	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: S-1 North	Batch	ID: <b>15</b>	403	F	RunNo: 2	1348				
Prep Date: 9/19/2014	Analysis D	ate: 9/	22/2014	S	SeqNo: 6	23517	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.13	0	107	71.8	132	1.74	20	
Surr: BFB	940		965.3		97.8	80	120	0	0	

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- 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
- Not Detected at the Reporting Limit ND
- Sample pH greater than 2.

Page 8 of 9

- Reporting Detection Limit RL

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409949

04-Nov-14

Client: Enterprise Field Services
Project: Enterprise Lateral K-31 North

Sample ID MB-15403	SampT	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 15403			F	1348								
Prep Date: 9/19/2014	Analysis D	Analysis Date: 9/22/2014			SeqNo: <b>623564</b> Units:				: mg/Kg				
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		110	80	120						

Sample ID LCS-15403	SampT	ype: LC	s	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batcl	n ID: 154	103	F	RunNo: 2	1348					
Prep Date: 9/19/2014	Analysis D	)ate: 9/	22/2014	SeqNo: <b>623565</b>			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.92	0.050	1.000	0	91.7	80	120				
Toluene	0.92	0.050	1.000	0	91.6	80	120				
Ethylbenzene	0.93	0.050	1.000	0	92.7	80	120				
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120				
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120				

Sample ID 1409949-002AMS	SampT	ype: MS	5	Tes	8021B: Vola	tiles				
Client ID: S-2 North	Batcl	h ID: <b>15</b>	403	F	RunNo: 2	1348				
Prep Date: 9/19/2014	Analysis D	Date: 9/	22/2014	S	SeqNo: 6	23577	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.047	0.9434	0.03974	83.2	77.4	142			
Toluene	0.89	0.047	0.9434	0.06206	88.2	77	132			
Ethylbenzene	0.85	0.047	0.9434	0	90.5	77.6	134			
Xylenes, Total	2.7	0.094	2.830	0.1089	93.1	77.4	132			
Surr: 4-Bromofluorobenzene	1.1		0.9434		114	80	120			

Sample ID 1409949-002AM	SD Samp1	Гуре: М\$	SD	8021B: Vola	tiles					
Client ID: S-2 North	Batcl	h ID: <b>15</b> 4	403	F						
Prep Date: 9/19/2014	Analysis D	Date: 9/	22/2014	SeqNo: 623578 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.047	0.9416	0.03974	92.2	77.4	142	9.56	20	
Toluene	0.96	0.047	0.9416	0.06206	95.8	77	132	7.55	20	
Ethylbenzene	0.94	0.047	0.9416	0	100	77.6	134	9.99	20	
Xylenes, Total	3.0	0.094	2.825	0.1089	102	77.4	132	8.53	20	
Surr: 4-Bromofluorobenzene	0.83		0.9416		87.8	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

Sample pH greater than 2.

Page 9 of 9

RL Reporting Detection Limit



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: Enterprise Work Order Number: 1409949 RcptNo: 1 Received by/date: anne Sham 9/19/2014 7:00:00 AM Logged By: **Anne Thorne** anne Sham Completed By: Anne Thorne 9/19/2014 Reviewed By: Chain of Custody No 🗌 Yes Not Present 1. Custody seals intact on sample bottles? Not Present No 🗌 Yes 🗹 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA 🗌 Yes 🗹 No 🗌 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 Yes 🗸 No 🗌 6. Sample(s) in proper container(s)? Yes 🗸 No 🗌 Yes 🗸 No 🗌 7. Sufficient sample volume for indicated test(s)?  $\checkmark$ No 🗌 8. Are samples (except VOA and ONG) properly preserved? NA 🗆 No 🔽 9. Was preservative added to bottles? Yes No 🗌 No VOA Vials Yes 10. VOA vials have zero headspace? Yes No 🗹 11. Were any sample containers received broken? # of preserved bottles checked No 🗆 for pH: Yes 🔽 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes 🗹 No 🗆 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes 🗹 14. Is it clear what analyses were requested? Yes 🗸 No 🔲 Checked by: 15. Were all holding times able to be met? (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 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 1.9 Good Yes

C	hain-	of-Cu	stody Record	Turn-Around	Time:								<b></b>	TE		<b>3.1</b> B	MEN	at.	. 6	
Client:	Enter	prize F	Field Services	☐ Standard	Z <mark>(Rush</mark> e:	3-Day 9/23			# °	AP	IAL	YS	SIS	è L	AE	30	RA			
<u>tar</u>	ming	lon , N	City Ave	1 .		(-31 North	a a a	Те	. 505	wkins 5-345-	3975	Alb F	uque	erque 505-	e, NI 345-	м 87 410	7		· · · · · · · · · · · · · · · · · · ·	3
		716-	2787				4	_				1 1		Keq	uest			2×25		y k
email o				Project Mana	iger:		21)	<u>e</u>	<b>1</b>				SO4	S			ı .			
QA/QC I IXÍ Stan	Package: dard		☐ Level 4 (Full Validation)	Heather	lebods		(80)	Gas	0		SIMS)		PO ₄ ,	PCB'			,			
Accredi	tation	□ Othe		Sampler: 🔒	pathor We	ends Profit	(8021)	TPH (	O / DR	(1) E			3,NO ₂ ,	/ 8082		7				ίΣ
□ EDD	(Type)				perature	19	A	BE +	9	0 4 5	j	tals	2	ides	2	9				5
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 140949	BTEX + 🗱	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO /	TPH (Method 418.1) FDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (FCI)NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)				Dir Ruhhlas
9/18/14	1319	2011	S-1 North	1-402	,	-001	X		X											_
7/18/14	1324	Doil		1-402		TUZ	X		X											
9/18/14	1331	Soil	5-3 North Dr	Y-402		7003	X		٢											_
7/10/14			5-4 North	1-402		-04	X		X											_
d/10119			s-s North	1-402		745	メ	-	۶				~	_			$\blacksquare$	<b>—</b>		_
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Date: 9   9   4   Date: 9   9   4	Time:	Relinquish Head Relinquish	huy-woods	Received by:	Walter	Date Time 9/18/14 1840  Date Time 1/8/14 1840	Rem	narks	D Ad Lor	ivect thi	bill Tom	to Lo	En En	dera to	1	Non	from	13011	15 / S / S	ע היינות
118717	necessary.	samples subi	Mitted to Hall Environmental may be subc	1-1-	ccredited laboratorie	es. This serves as notice of this	possib	ility. A	ny sub	-contract	A V ed data	will be		notat	ted on	the an	SUY palytical r	eport.	<u></u>	-



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

OrderNo.: 1409C44

November 04, 2014

Heather Woods

APEX AZTEC

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787

FAX (505) 334-5204

RE: Lateral K-31 North

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/25/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 30, 2014.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1409C44

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX AZTEC

Client Sample ID: SP-1 North

Project: Lateral K-31 North

Collection Date: 9/24/2014 1:50:00 PM

**Lab ID:** 1409C44-001

Matrix: MEOH (SOIL) Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS			-	Analys	t: BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/26/2014 8:00:15 PM	15500
Surr: DNOP	104	57.9-140	%REC	1	9/26/2014 8:00:15 PM	15500
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/25/2014 11:07:53 PI	/ R21449
Surr: BFB	90.1	80-120	%REC	1	9/25/2014 11:07:53 Pt	A R21449
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	9/25/2014 11:07:53 PI	/ R21449
Toluene	ND	0.050	mg/Kg	1	9/25/2014 11:07:53 Pt	л R21449
Ethylbenzene	ND	0.050	mg/Kg	1	9/25/2014 11:07:53 Pt	л R21449
Xylenes, Total	ND	0.10	mg/Kg	1	9/25/2014 11:07:53 PM	/ R21449
Surr: 4-Bromofluorobenzene	93.3	80-120	`%REC	1	9/25/2014 11:07:53 Pt	л R21449
EPA METHOD 300.0: ANIONS					Analys	t: SRM
Chloride	160	, 30	mg/Kg	20	9/25/2014 4:24:48 PM	15510

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## Lab Order 1409C44

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: SP-2 North

Project: Lateral K-31 North

**Collection Date:** 9/24/2014 2:15:00 PM

**Lab ID:** 1409C44-002

Matrix: MEOH (SOIL) Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RAN	GE ORGANICS		·		Analys	t: BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/26/2014 8:30:36 PM	15500
Surr: DNOP	97.5	57.9-140	%REC	1	9/26/2014 8:30:36 PM	15500
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.6	mg/Kg	1	9/25/2014 11:36:24 PM	1 R21449
Surr: BFB	95.4	80-120	%REC	1	9/25/2014 11:36:24 PM	1 R21449
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.056	mg/Kg	1	9/25/2014 11:36:24 PM	R21449
Toluene	ND	0.056	mg/Kg	1	9/25/2014 11:36:24 PM	1 R21449
Ethylbenzene	ND	0.056	mg/Kg	1	9/25/2014 11:36:24 PM	1 R21449
Xylenes, Total	ND	0.11	mg/Kg	1	9/25/2014 11:36:24 PM	1 R21449
Surr: 4-Bromofluorobenzene	94.0	80-120	%REC	1	9/25/2014 11:36:24 PM	1 R21449
EPA METHOD 300.0: ANIONS					Analys	t: SRM
Chloride	110	30	mg/Kg	20	9/25/2014 4:49:37 PM	15510

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409C44

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: SP-3 North

Project: Lateral K-31 North

**Collection Date:** 9/24/2014 2:28:00 PM

**Lab ID:** 1409C44-003

Matrix: MEOH (SOIL) Received Date: 9/25/2014 7:00:00 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	10	mg/Kg	1	9/29/2014 11:29:05 AM	<i>l</i> 15500
Surr: DNOP	96.5	57.9-140	%REC	1	9/29/2014 11:29:05 AN	15500
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/26/2014 12:04:48 AM	/ R21449
Surr: BFB	88.1	80-120	%REC	1	9/26/2014 12:04:48 AM	R21449
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	9/26/2014 12:04:48 AM	/ R21449
Toluene	ND	0.050	mg/Kg	1	9/26/2014 12:04:48 AM	/ R21449
Ethylbenzene	ND	0.050	mg/Kg	1	9/26/2014 12:04:48 AM	/ R21449
Xylenes, Total	ND	0.10	mg/Kg	1	9/26/2014 12:04:48 AM	/ R21449
Surr: 4-Bromofluorobenzene	91.6	80-120	%REC	1	9/26/2014 12:04:48 AM	/ R21449
EPA METHOD 300.0: ANIONS					Analys	t: SRM
Chloride	180	30	mg/Kg	20	9/25/2014 5:14:26 PM	15510

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409C44

04-Nov-14

Client:

APEX AZTEC

Project:

Lateral K-31 North

Sample ID MB-15510

SampType: MBLK

TestCode: EPA Method 300.0: Anions

PBS Client ID:

Batch ID: 15510

RunNo: 21476

Prep Date: 9/25/2014

Result

Result

14

SeqNo: 627974

Units: mg/Kg

Analysis Date: 9/25/2014

PQL

%RPD

HighLimit

**RPDLimit** 

Qual

Analyte Chloride

ND 1.5

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 15510

RunNo: 21476

Prep Date: 9/25/2014

Sample ID LCS-15510

Analysis Date: 9/25/2014

SeqNo: 627975

%REC LowLimit

Units: mg/Kg

Analyte

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** Qual

Chloride

PQL SPK value SPK Ref Val 1.5 15.00

0 93.7 90

110

Qualifiers:

Value exceeds Maximum Contaminant Level.

E 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

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit Page 4 of 7

Sample pH greater than 2.

RLReporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

4.8

WO#:

1409C44 04-Nov-14

Client:

APEX AZTEC

**Project:** 

Surr: DNOP

Lateral K-31 North

Sample ID MB-15500	SampType: MBLK	TestCode: EPA Method	d 8015D: Diesel Range	Organics
Client ID: PBS	Batch ID: 15500	RunNo: 21436		
Prep Date: 9/25/2014	Analysis Date: 9/25/2014	SeqNo: <b>626728</b>	Units: mg/Kg	
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	ND 10			
Surr: DNOP	9.9 10	00 99.2 57.9	140	
Sample ID LCS-15500	SampType: LCS	TestCode: EPA Metho	d 8015D: Diesel Range	Organics
Client ID: LCSS	Batch ID: 15500	RunNo: 21436		
Prep Date: 9/25/2014	Analysis Date: 9/25/2014	SeqNo: <b>626795</b>	Units: mg/Kg	
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qua
Diesel Range Organics (DRO)	57 10 50	00 0 113 68.6	130	

96.5

57.9

140

5.000

#### 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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409C44

04-Nov-14

Client:

APEX AZTEC

Project:

Lateral K-31 North

Sample ID MB-15490 MK SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: R21449 RunNo: 21449

Prep Date: Analysis Date: 9/25/2014 SeqNo: 627596 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 880 1000 87.7 80 120

Sample ID LCS-15490 MK SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: **LCSS** Batch ID: R21449 RunNo: 21449 Prep Date: Analysis Date: 9/25/2014 SeqNo: 627597 Units: mg/Kg SPK value SPK Ref Val Analyte Result PQL %REC LowLimit HighLimit %RPD **RPDLimit** Qual

 Gasoline Range Organics (GRO)
 29
 5.0
 25.00
 0
 116
 65.8
 139

 Surr: BFB
 980
 1000
 98.0
 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 greater than 2.
- RL Reporting Detection Limit

Page 6 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409C44

04-Nov-14

Client:

APEX AZTEC

**Project:** 

Lateral K-31 North

ple ID MB-15490 MK	SampType: N	IBLK	Tes						
nt ID: PBS	Batch ID: R	21449	F	RunNo: 2	1449				
Date:	Analysis Date:	9/25/2014	S	SeqNo: 6	27632	Units: mg/H	(g		
yte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ne	ND 0.050	)							
ne	ND 0.050	)							
enzene	ND 0.050	)							
es, Total	ND 0.10	ס							
r: 4-Bromofluorobenzene	0.91	1.000		91.4	80	120			
·				91.4	80	120			

Sample ID LCS-15490 MK	Samp ⁻	Type: LC	s	Tes	tCode: E	tiles				
Client ID: LCSS	Batc	h ID: R2	1449	F	RunNo: 2	1449				
Prep Date:	Analysis [	Date: 9/	25/2014	S	SeqNo: 6	27633	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	102	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	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

Page 7 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

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

# Sample Log-In Check List

Client Name: APEX AZTEC Work Order Number:	1409C44	<u></u>	RcptNo:	1
Received by/date: 89 25 14				
Logged By: Lindsay Mangin 9/25/2014 7:00:00 AM		great Allego		
Completed By: Lindsay Mangin 9/25/2014 9:09:02 AM		A HILLED		
Reviewed By: CS 09/25/14		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 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	
40.0	v 🗔	No 🗆	bottles checked for pH:	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No □	·	r >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: Date:				7
By Whom: Via:	eMall	Phone  Fax	☐ In Person	
Regarding:		· · · · · · · · · · · · · · · · · · ·		
Client Instructions:		· · · · · · · · · · · · · · · · · · ·		
17. Additional remarks:			<u></u>	
18. Cooler Information  Cooler No Temp °C Condition Seal Intact Seal No 1 1.5 Good Yes	Seal Date	Signed By		

																					CHA	AIN O	F Cl	<u>JSTOD'</u>	Y HEC	<u>JOHD</u>
¥						Laboratory:	U _a 1	1 E	ALV =	-14 to:	امره	0 ما			ALYS QUES				//	$\int$	$\int$	//	71	Lab use or Due Date:	-	
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Proj. N			Proje	ct Na	ame				No/Ty	pe of C	Contair	ners			80/ F	\$) S	) ,	/ /		/	/ /	•				
<b>4030</b>	41460	34		ter	al K-31	North				4-	02			,	V 4		Y /			/ /	' /					į
Matrix	Date	Time	300	Gr	Identifying Ma	rks of Sample(s)	듊뮲	면	VOA	- AG	SE.	ess ar	Q	85	)	300			/ /	′ /						
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	7/24/14		X		SP-1	North	15%					1		1	*	X	<u>.  </u>			ļ		<u>140</u>	)9(	44.	<u>-000</u>	1
5 0	1/24/14	1415	λ		59-2	North						1		χ.	γ .	X									0	2
	1/24/14		λ		59-3	North,	(11)					1		×	<u>بر</u>	X								_	003	, =
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Reling	ished by (	Signature)			Date: 1	Time: Receiv	ed to y	(Signa	ture)			Date	5 1	Ti	me:	1		<b>6</b> 44	ท	[om	Lor	29		11.	11	haid
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Matrix Contain		v - wastewa A - 40 mi via			A/G - Amber / O			Liquid 250 ml -							ibe rother	SL -	siuage		U - UB							



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

November 04, 2014

Heather Woods **Enterprise Field Services** 614 Reilly Ave. Farmington, NM 87401

TEL: (505) 599-2141

**FAX** 

RE: Enterprise Lateral K-31 Mid-North

OrderNo.: 1409950

#### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/19/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 23, 2014.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1409950

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-1 Mid-North

Project: Enterprise Lateral K-31 Mid-North

Collection Date: 9/18/2014 2:02:00 PM

**Lab ID:** 1409950-001

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS		<u> </u>		Analyst	: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2014 10:07:06 AM	15396
Surr: DNOP	112	57.9-140	%REC	1	9/20/2014 10:07:06 AM	15396
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/22/2014 5:46:18 PM	15403
Surr: BFB	89.1	80-120	%REC	1	9/22/2014 5:46:18 PM	15403
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.048	mg/Kg	1	9/22/2014 5:46:18 PM	15403
Toluene	ND	0.048	mg/Kg	1	9/22/2014 5:46:18 PM	15403
Ethylbenzene	ND	0.048	mg/Kg	1	9/22/2014 5:46:18 PM	15403
Xylenes, Total	ND	0.097	mg/Kg	1	9/22/2014 5:46:18 PM	15403
Surr: 4-Bromofluorobenzene	111	80-120	%REC	1	9/22/2014 5:46:18 PM	15403

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 8

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409950

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-2 Mid-North

**Project:** Enterprise Lateral K-31 Mid-North

**Collection Date:** 9/18/2014 2:06:00 PM

**Lab ID:** 1409950-002

Matrix: SOIL

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	:: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2014 10:28:32 AM	1 15396
Surr: DNOP	107	57.9-140	%REC	1	9/20/2014 10:28:32 AM	1 15396
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/22/2014 6:16:28 PM	15403
Surr: BFB	86.6	80-120	%REC	1	9/22/2014 6:16:28 PM	15403
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.048	mg/Kg	1	9/22/2014 6:16:28 PM	15403
Toluene	ND	0.048	mg/Kg	1	9/22/2014 6:16:28 PM	15403
Ethylbenzene	ND	0.048	mg/Kg	1	9/22/2014 6:16:28 PM	15403
Xylenes, Total	ND	0.096	mg/Kg	1	9/22/2014 6:16:28 PM	15403
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	9/22/2014 6:16:28 PM	15403

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 8

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409950

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-3 Mid-North

Project: Enterprise Lateral K-31 Mid-North

**Collection Date:** 9/18/2014 2:10:00 PM

**Lab ID:** 1409950-003

Matrix: SOIL Received Da

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS					Analyst	BCN
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/20/2014 10:50:06 AM	15396
Surr: DNOP	108	57.9-140		%REC	1	9/20/2014 10:50:06 AM	15396
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/22/2014 6:46:34 PM	15403
Surr: BFB	79.0	80-120	s	%REC	1	9/22/2014 6:46:34 PM	15403
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.048		mg/Kg	1	9/22/2014 6:46:34 PM	15403
Toluene	ND	0.048		mg/Kg	1	9/22/2014 6:46:34 PM	15403
Ethylbenzene	ND	0.048		mg/Kg	1	9/22/2014 6:46:34 PM	15403
Xylenes, Total	ND	0.095		mg/Kg	1	9/22/2014 6:46:34 PM	15403
Surr: 4-Bromofluorobenzene	94.0	80-120		%REC	1	9/22/2014 6:46:34 PM	15403

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409950

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-4 Mid-North

Project:

Enterprise Lateral K-31 Mid-North

Collection Date: 9/18/2014 2:14:00 PM

Lab ID:

1409950-004

Matrix: SOIL

Received Date: 9/19/2014 7:00:00 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	9/20/2014 11:11:29 AN	1 15396
Surr: DNOP	108	57.9-140	%REC	1	9/20/2014 11:11:29 AN	1 15396
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/22/2014 11:17:32 PM	1 15403
Surr: BFB	84.7	80-120	%REC	1	9/22/2014 11:17:32 PM	15403
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	9/22/2014 11:17:32 PM	15403
Toluene	ND	0.049	mg/Kg	1	9/22/2014 11:17:32 PM	1 15403
Ethylbenzene	ND	0.049	mg/Kg	1	9/22/2014 11:17:32 PN	15403
Xylenes, Total	ND	0.098	mg/Kg	1	9/22/2014 11:17:32 PN	15403
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	9/22/2014 11:17:32 PM	1 15403

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409950

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Enterprise Field Services

Client Sample ID: S-5 Mid-North

Project: Enterprise Lateral K-31 Mid-North

**Collection Date:** 9/18/2014 2:19:00 PM

**Lab ID:** 1409950-005

Matrix: SOIL Received I

Received Date: 9/19/2014 7:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analys	: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/20/2014 11:32:56 AM	1 15396
Surr: DNOP	113	57.9-140		%REC	1	9/20/2014 11:32:56 AM	1 15396
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/22/2014 11:47:40 PM	1 15403
Surr: BFB	75.3	80-120	S	%REC	1	9/22/2014 11:47:40 PM	1 15403
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.046		mg/Kg	1	9/22/2014 11:47:40 PM	1 15403
Toluene	ND	0.046		mg/Kg	1	9/22/2014 11:47:40 PM	1 15403
Ethylbenzene	ND	0.046		mg/Kg	1	9/22/2014 11:47:40 PM	1 15403
Xylenes, Total	ND	0.093		mg/Kg	1	9/22/2014 11:47:40 PM	1 15403
Surr: 4-Bromofluorobenzene	86.4	80-120		%REC	1	9/22/2014 11:47:40 PM	1 15403

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409950

04-Nov-14

Client:

**Enterprise Field Services** 

Project: Enterpr	rise Lateral K-31 Mid-North		
Sample ID MB-15396	SampType: MBLK	TestCode: EPA Method	8015D: Diesel Range Organics
Client ID: PB\$	Batch ID: 15396	RunNo: 21269	
Prep Date: 9/19/2014	Analysis Date: 9/19/2014	SeqNo: <b>621919</b>	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 9.4 10.00	94.4 57.9	140
Sample ID LCS-15396	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 15396	RunNo: 21269	
Prep Date: 9/19/2014	Analysis Date: 9/19/2014	SeqNo: <b>621920</b>	Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	180 10 50.00	0 354 68.6	130 S
Surr: DNOP	15 5.000	292 57.9	140 S
Sample ID LCS-15396	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range Organics
Client ID: LCSS	Batch ID: 15396	RunNo: 21269	
Prep Date: 9/19/2014	Analysis Date: 9/19/2014	SeqNo: <b>622111</b>	Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	53 10 50.00	0 107 68.6	130
Surr: DNOP	5.1 5.000	103 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 greater than 2.
- RL Reporting Detection Limit

Page 6 of 8

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1409950

04-Nov-14

Client:

**Enterprise Field Services** 

Project:

Enterprise Lateral K-31 Mid-North

Sample ID MB-15403	Sampl	ype: ME	BLK	Test	tCode: <b>EF</b>	A Method	8015D: Gaso	line Rang	е	
Client ID: PB\$	Batcl	1D: <b>15</b>	403	R	lunNo: 2	1348				
Prep Date: 9/19/2014	Analysis E	)ate: <b>9/</b>	22/2014	S	SeqNo: 6	23436	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								
Surr: BFB	890		1000		88.9	80	120			
0 1 10 100 15100		ype: LC	<u> </u>	Tes	Code: El	2A Mothod	901ED: Coo	iina Dana		
Sample ID LCS-15403	Samp	ype. LC	3	100		A Method	8015D: Gaso	nine Kang	е	
Client ID: LCS-15403	•	ype. LC h ID: 15			RunNo: <b>2</b>		ou ion. Gasc	oline Kang	е	
,	•	h ID: 15	403	F		1348	Units: mg/k	·	e	
Client ID: LCSS	Batc	h ID: 15	403 22/2014	F	RunNo: 2	1348		·	<b>e</b> RPDLimit	Quat
Client ID: LCSS Prep Date: 9/19/2014	Batc Analysis [	n ID: 15 Date: 9/	403 22/2014	F	RunNo: 2º SeqNo: 6	1348 23441	Units: mg/k	(g		Qual

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

Sample pH greater than 2. RLReporting Detection Limit Page 7 of 8

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1409950

04-Nov-14

Client:

**Enterprise Field Services** 

Project:

Enterprise Lateral K-31 Mid-North

Sample ID MB-15403	SampT	SampType: MBLK TestCod			tCode: El	e: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	1D: <b>15</b>	403	RunNo: 21348								
Prep Date: 9/19/2014	Analysis D	ate: 9/	22/2014	SeqNo: 623564			Units: mg/Kg					
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		110	80	120					

Sample ID LCS-15403	Comp	Funo: 1 C		Т	•Cada: E	DA Madia al	8021B: Vola	4.11	-	
Sample ID LC3-15403	Samp	Type: LC	.5	res	(Code: E					
Client ID: LCSS	Batc	h ID: <b>15</b>	403	RunNo: 21348						
Prep Date: 9/19/2014	Analysis [	Date: 9/	22/2014	\$	SeqNo: 623565 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.050	1.000	0	91.7	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.93	0.050	1.000	0	92.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

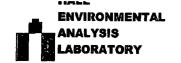
#### Qualifiers:

- * 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 greater than 2.

d greater than 2.

RL Reporting Detection Limit

Page 8 of 8



#### 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: Enterprise	Work Order Number:	1409950		RcptNo:	1 ·
Received by/dete: ### 09/19	1/14				
Logged By: Anne Thorne 9/	19/2014 7:00:00 AM		Am Ham Am Ham	_	
Completed By: Anne Thorne 9/	19/2014		anne Am	_	
Reviewed By: (	2/19/14				
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?		<u>Courier</u>			
<u>Log In</u>					
4. Was an attempt made to cool the samples?		Yes 🗹	No 🗌	NA $\square$	
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 p	reserved?	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	
12. Does paperwork match bottle labels?		Yes 🗹	No 🗀	bottles checked for pH:	
(Note discrepancies on chain of custody)	ntody?	Yes 🗹	No 🗆	Adjusted?	>12 unless noted)
<ul><li>13. Are matrices correctly identified on Chain of Cu</li><li>14. Is it clear what analyses were requested?</li></ul>		Yes 🗹	No 🗆	<u> </u>	
15. Were all holding times able to be met?		Yes 🗹	No 🗌	Checked by:	<del></del>
(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:	Via:	eMail 🔲	Phone  Fax	☐ In Person	
Regarding:	and the second s	ak aranga kidiki da ara	and a second second second second second second	Sound have continued and additional Sound to the Sound	
Client Instructions:	no a la companya di sua disensa di suomi anche di bibbili di suomi anche di bibbili di suomi anche di bibbili	er erste bereite denter seden fer	and the first of the state of t	of the Kart presentational filling	
17. Additional remarks:					
18. <u>Cooler Information</u>		_			
	Intact   Seal No   Se	al Date	Signed By		
1   1.9   Good   Yes					

			istody Record	Turn-Around	ıme:									NE 3.4	TE	2	RI R	451	MTA	L
Client:	Enterp	rise Fie	10 Services	□ Standard	⊠ Rush	3-Day 9/23													ATN 10T	
				Project Name	<b>)</b> :	-	•			,	www	/.hall	lenv	ironr	nent	al.cc	m			
Mailing	Address	614	leiny Ave	Enterprise	Lateral K	-31 mid-North		490	)1 H								м 87 [.]	109		
			JM 87401	Project #:						5-34							4107			
Phone	#: <b>(</b> \$6	5)711	D-S483				~ : 43					A	naly	/sis	Req	uest			a re-	
email o				Project Mana	ger:		_	جَ	A					(\$						
QA/QC	Package:						(8021)	0 0				6		4,S(	PCB's				1	
<b>⊠</b> Stan	dard		☐ Level 4 (Full Validation)	Heash	r Wood	<u>r</u>	ARA ARA	(၁)	2			SIMS)		[전						
Accredi		□ Othe	er	Sampler: H	X Yes The			TPH (Gas only)	id/c	3.1)	4.1)	8270		Š.	8082					=
□ EDD						19	4 \$	<del> </del>	S. S.	4	52	ö	읊	2	es		ै	İ		
Date	Time	Matrix	Sample Request ID	-	Preservative Type		BTEX +	BTEX + MTBE +	TPH 8015B (GRO / DRO /	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)			A:- Dtcl /
9/18/14	1402	Soil	S-1 Mid-North	1-402	-	-01	X		χ						•					
	1406		5-2 Mid-North	1		-702	X		X									1		
	1410		5-3 Mid-North		~	CIB	X		X		1							$\top$	1	
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	necessary	samples sub	mitted to Hall Environmental may be subco	ontracted to other ac	credited laboratorie	s. This serves as notice of this	s possi												War	51
																			ι	1/3/



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

OrderNo.: 1409C43

November 04, 2014

Heather Woods

APEX AZTEC

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787

FAX (505) 334-5204

RE: Lateral K-31 Mid-North

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/25/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 29, 2014.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1409C43

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX AZTEC** 

Client Sample ID: SP-1 Mid-North

**Project:** Lateral K-31 Mid-North

**Collection Date:** 9/24/2014 1:11:00 PM

Lab ID: 1409C43-001

Matrix: MEOH (SOIL) Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/26/2014 6:59:15 PM	15500
Surr: DNOP	82.5	57.9-140	%REC	1	9/26/2014 6:59:15 PM	15500
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/25/2014 10:10:49 PM	R21449
Surr: BFB	88.4	80-120	%REC	1	9/25/2014 10:10:49 PM	R21449
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	9/25/2014 10:10:49 PM	R21449
Toluene	ND	0.047	mg/Kg	1	9/25/2014 10:10:49 PM	R21449
Ethylbenzene	ND	0.047	mg/Kg	1	9/25/2014 10:10:49 PM	R21449
Xylenes, Total	ND	0.094	mg/Kg	1	9/25/2014 10:10:49 PM	R21449
Surr: 4-Bromofluorobenzene	91.4	80-120	%REC	1	9/25/2014 10:10:49 PM	R21449

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 5

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409C43

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC Client Sample ID: SP-2 Mid-North

Project: Lateral K-31 Mid-North Collection Date: 9/24/2014 1:33:00 PM

Lab ID: 1409C43-002 Matrix: MEOH (SOIL) Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS		<u></u>	·	Analyst	: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/26/2014 7:29:45 PM	15500
Surr: DNOP	92.2	57.9-140	%REC	1	9/26/2014 7:29:45 PM	15500
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	5.4	mg/Kg	1	9/25/2014 10:39:19 PM	R21449
Surr: BFB	88.5	80-120	%REC	1	9/25/2014 10:39:19 PM	R21449
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.054	mg/Kg	1	9/25/2014 10:39:19 PM	1 R21449
Toluene	ND	0.054	mg/Kg	1	9/25/2014 10:39:19 PM	1 R21449
Ethylbenzene	ND	0.054	mg/Kg	1	9/25/2014 10:39:19 PM	1 R21449
Xylenes, Total	ND	0.11	mg/Kg	1	9/25/2014 10:39:19 PM	R21449
Surr: 4-Bromofluorobenzene	92.5	80-120	%REC	1	9/25/2014 10:39:19 PM	R21449

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

4.8

WO#: 1409C43

04-Nov-14

Client:

APEX AZTEC

Project:

Surr: DNOP

Lateral K-31 Mid-North

rioject. Lateral	K-31 WIIG-NOIT					•	
Sample ID MB-15500	SampType	: MBLK	TestC	ode: EPA Method	8015D: Diesel Ran	ge Organics	<del></del>
Client ID: PBS	Batch ID:	: 15500	Rur	nNo: <b>21436</b>			
Prep Date: 9/25/2014	Analysis Date:	9/25/2014	Sec	qNo: <b>626728</b>	Units: mg/Kg		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC LowLimit	HighLimit %RI	PD RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10					
Surr: DNOP	9.9	10.00		99.2 57.9	140		
Sample ID LCS-15500	SampType	: LCS	TestC	ode: EPA Method	8015D: Diesel Ran	ge Organics	
Client ID: LCSS	Batch ID:	: 15500	Rui	nNo: <b>21436</b>			
Prep Date: 9/25/2014	Analysis Date:	9/25/2014	Sec	qNo: <b>626795</b>	Units: mg/Kg		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC LowLimit	HighLimit %RI	PD RPDLimit	Qual
Diesel Range Organics (DRO)	57	10 50.00	0	113 68.6	130		

96.5

57.9

140

5.000

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range Ε
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- Sample pH greater than 2.

Page 3 of 5

- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409C43

04-Nov-14

Qual

Client:

APEX AZTEC

Project:

Lateral K-31 Mid-North

Sample ID MB-15490 MK Client ID: PBS

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Batch ID: R21449

880

RunNo: 21449

Prep Date:

Analysis Date: 9/25/2014

SeqNo: 627596

Units: mg/Kg

Analyte

Surr: BFB

Client ID:

87.7

Result **PQL**  SPK value SPK Ref Val %REC LowLimit

HighLimit

120

Gasoline Range Organics (GRO) ND 5.0

Sample ID LCS-15490 MK

LCSS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

80

Batch ID: R21449

RunNo: 21449

Prep Date: Analysis Date: 9/25/2014 SeqNo: 627597

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Result PQL

SPK value SPK Ref Val %REC 0

LowLimit 65.8

HighLimit

**RPDLimit** Qual

**RPDLimit** 

Surr: BFB

29 5.0 25.00 1000

116 98.0

139 120

%RPD

%RPD

980

1000

80

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Sample pH greater than 2.
- Reporting Detection Limit RL

Page 4 of 5

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409C43 04-Nov-14

Client:

APEX AZTEC

Project:

Lateral K-31 Mid-North

Sample ID MB-15490 MK	SampT	SampType: MBLK TestCode: EPA Method			8021B: Volat	tiles				
Client ID: PB\$	Batcl	Batch ID: <b>R21449</b> RunNo: <b>21449</b>								
Prep Date:	Analysis [	Date: 9/	25/2014	S	eqNo: 6	27632	Units: mg/K	ζg		
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	0.91		1.000		91.4	80	120			

Sample ID LCS-15490 MK	Samp	SampType: LCS			TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batc	Batch ID: <b>R21449</b> RunNo: <b>21449</b>								
Prep Date:	Analysis [	Date: 9/	25/2014	S	SeqNo: 6	27633	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	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

Page 5 of 5

- P Sample pH greater than 2.
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

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

# Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Number:	1409C43		RcptNo:	1
Received by/date	e:	09/25/4				
Logged By:	Lindsay Mangin	9/25/2014 7:00:00 AM		July Hlyso		
Completed By:	Lindsay Mangin	9/25/2014 9:04:03 AM		Andy Allego		
Reviewed By:	CS	09/25/14		0 • 0		
Chain of Cus	tody					
1. Custody sea	als intact on sample bottles	?	Yes 🗌	No 🗌	Not Present <b>⊻</b>	
2. Is Chain of C	Custody complete?		Yes 🗹	No 🗆	Not Present	
3. How was the	e sample delivered?		Courier			
<u>Log In</u>						
4. Was an atte	empt made to cool the sam	ples?	Yes 🗹	No 🗆	na 🗆	
5. Were all san	mples received at a temper	rature of >0° C to 6.0°C	Yes 🗹	No □	NA 🗆	
6. Sample(s) in	n proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sa	ample volume for indicated	test(s)?	Yes 🗹	No 🗆		
8. Are samples	s (except VOA and ONG) p	roperly preserved?	Yes 🗹	No 🗌		
9. Was presen	vative added to bottles?	·	Yes 🗌	No 🗹	na 🗆	
10.VOA vialis ha	ave zero headspace?		Yes 🗌	No 🗆	No VOA Vials 🗹	
11. Were any sa	ample containers received	broken?	Yes 🗌	No 🗹	# of preserved bottles checked	
	work match bottle labels? pancies on chain of custoo	iy)	Yes 🗹	No 🗆	for pH:	or >12 unless noted)
13. Are matrices	s correctly identified on Cha	ain of Custody?	Yes 🗹	No 🗆	Adjusted?	
	nat analyses were requeste		Yes 🗹	No 📙	Oh a also al huu	
	ding times able to be met? customer for authorization		Yes 🗹	No 🗌 🏻	Checked by:	
Spe <u>cial Hand</u>	lling (if applicable)					
16. Was client n	notified of all discrepancies	with this order?	Yes 🗌	No 🗆	NA 🗹	
Person	n Notified:	Date:				
By Wh	nom:	Via: [	eMail	Phone Fax	in Person	
Regan	ding:					
	Instructions:	· · · · · · · · · · · · · · · · · · ·				
17. Additional re	remarks:					
18. <u>Cooler Info</u>	lo Temp C Condition		Seal Date	Signed By		
Ū	1.5 Good	Yes		i		

	CHAIN OF CUSTODY RECORD
	ANALYSIS / / / / Lab use only
Laboratory: Hall Environmental	REQUESTED / / / / / / Due Date:
APEX Address: Albuquerque, NM	Temp. of coolers when received (C°):  5
Office Location Aztec, NM	1 2 3 4 5
Contact: Andy Freeman	
Phone:	
Project Manager Heather Woods PO/SO#: Direct Bill to Enterpri	<u>ise</u> / <u>S</u> / / / / / /
Sampler's Name Sampler's Signature	1/9///////////////////////////////////
Heather Woods Heather M. Woods Project Name No/Type of Conta	
Proj. No. Project Name No/Type of Conta	ainers Q/ K/ / / /
0304146034 Lateral K-31 Mid-North 402	
	when received (C°):  5  1 2 3 4 5  Page1 of
5 9/24/14 1311 x SP-1 Mid-North 5 9/24/14 1333 x SP-2 Mid-North 1333	1 × × 1409C43-001
5 9/24/14 1333 x SP-2 Mid-North V 13	1 x x -002
	<del>                                      </del>
- HANES	
NESHW	<del></del>
Turn around time   Normal \$25% Rush   50% Rush   100% Rush Results en	d of day 9/29/14
Relinquished by (Signature)  Date: Time: Received by: (Signature)  ALATAL M. Worom 91414 1647 Mother bolter	Date: Direct Bill to Enterprise Field Services
Relinguished by (Signature) Date:   Time:   Received by (Signature)	Date: Time: Addn: Torn Long
Chartee Martin 191511	09/25/121 0900 x Per email from Heather Will
Relinquished by (Signature) Date: Time: Received by: (Signature)	Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Time: Date: Date: Time: Date: Time: Date: Time: Date: Date: Date: Date: Date: Time: Date:
Relinquished by (Signature)  Date:   Time:   Received by: (Signature)	Date: Time: 100 011 School Tipe ically 12/1
	1 LOWN SMANDE TAS. AND (1/2)
Matrix WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag Container VOA - 40 ml yial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth	C - Charcoal tube SL - Slooge O - Oti

Container



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

November 04, 2014

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

TEL: (505) 716-2787

FAX

RE: Lateral K-31 Mid-South

OrderNo.: 1409878

#### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/18/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 25, 2014.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1409878

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 9/16/2014 3:45:00 PM

Lab ID: 1409878-001

Received Date: 9/18/2014 7:30:00 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)	120	9.8	mg/Kg	1	9/23/2014 1:49:28 PM	15363
Surr: DNOP	122	57.9-140	%REC	1	9/23/2014 1:49:28 PM	15363
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/22/2014 10:52:21 PM	A 15378
Surr: BFB	95.2	80-120	%REC	1	9/22/2014 10:52:21 PM	A 15378
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	9/22/2014 10:52:21 PN	15378
Toluene	ND	0.049	mg/Kg	1	9/22/2014 10:52:21 PM	A 15378
Ethylbenzene	ND	0.049	mg/Kg	1	9/22/2014 10:52:21 PM	15378
Xylenes, Total	ND	0.099	mg/Kg	1	9/22/2014 10:52:21 PM	15378
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	9/22/2014 10:52:21 PM	/ 15378

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409878

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-2 Mid-South

Project: Lateral K-31 Mid-South

Collection Date: 9/16/2014 3:50:00 PM

**Lab ID:** 1409878-002

Matrix: SOIL

Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS					Analys	t: BCN
Diesel Range Organics (DRO)	19	10		mg/Kg	1	9/19/2014 7:51:09 PM	15369
Surr: DNOP	90.8	57.9-140		%REC	1	9/19/2014 7:51:09 PM	15369
EPA METHOD 8015D: GASOLINE RA	ANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	33	4.7		mg/Kg	1	9/22/2014 11:20:57 PM	A 15378
Surr: BFB	195	80-120	S	%REC	1	9/22/2014 11:20:57 PM	<i>I</i> 15378
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.047		mg/Kg	1	9/22/2014 11:20:57 PM	A 15378
Toluene	0.21	0.047		mg/Kg	1	9/22/2014 11:20:57 PM	<i>I</i> 15378
Ethylbenzene	0.19	0.047		mg/Kg	1	9/22/2014 11:20:57 PM	<i>l</i> 15378
Xylenes, Total	3.3	0.094		mg/Kg	1	9/22/2014 11:20:57 PM	15378
Surr: 4-Bromofluorobenzene	116	80-120		%REC	1	9/22/2014 11:20:57 PM	<i>l</i> 15378

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409878

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 9/16/2014 3:55:00 PM

**Lab ID:** 1409878-003

Received Date: 9/18/2014 7:30:00 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	10	mg/Kg	1	9/19/2014 8:55:21 PM	15369
Surr: DNOP	110	57.9-140	%REC	1	9/19/2014 8:55:21 PM	15369
EPA METHOD 8015D: GASOLINE RA		Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/22/2014 11:49:32 PN	15378
Surr: BFB	97.9	80-120	%REC	1	9/22/2014 11:49:32 PM	1 15378
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	9/22/2014 11:49:32 PM	1 15378
Toluene	ND	0.047	mg/Kg	1	9/22/2014 11:49:32 PM	1 15378
Ethylbenzene	ND	0.047	mg/Kg	1	9/22/2014 11:49:32 PM	1 15378
Xylenes, Total	ND	0.095	mg/Kg	1	9/22/2014 11:49:32 PM	1 15378
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	9/22/2014 11:49:32 PM	1 15378

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409878

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-4 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 9/16/2014 4:00:00 PM

**Lab ID:** 1409878-004

Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/19/2014 9:16:52 PM	15369
Surr: DNOP	107	57.9-140	%REC	1	9/19/2014 9:16:52 PM	15369
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/23/2014 12:18:04 AM	<i>I</i> 15378
Surr: BFB	96.4	80-120	%REC	1	9/23/2014 12:18:04 AM	<i>I</i> 15378
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	9/23/2014 12:18:04 AM	<i>l</i> 15378
Toluene	ND	0.049	mg/Kg	1	9/23/2014 12:18:04 AM	A 15378
Ethylbenzene	ND	0.049	mg/Kg	1	9/23/2014 12:18:04 Aft	A 15378
Xylenes, Total	ND	0.099	mg/Kg	1	9/23/2014 12:18:04 AM	A 15378
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	9/23/2014 12:18:04 AM	<i>I</i> 15378

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409878

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 9/16/2014 4:05:00 PM

Lab ID: 1409878-005

Received Date: 9/18/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/19/2014 9:38:11 PM	15369
Surr: DNOP	98.6	57.9-140	%REC	1	9/19/2014 9:38:11 PM	15369
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	9/23/2014 12:46:43 AM	15378
Surr: BFB	102	80-120	%REC	1	9/23/2014 12:46:43 AM	15378
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.046	mg/Kg	1	9/23/2014 12:46:43 AM	15378
Toluene	0.18	0.046	mg/Kg	1	9/23/2014 12:46:43 AM	15378
Ethylbenzene	ND	0.046	mg/Kg	1	9/23/2014 12:46:43 AM	15378
Xylenes, Total	0.32	0.092	mg/Kg	1	9/23/2014 12:46:43 AM	15378
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	9/23/2014 12:46:43 AM	15378

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 9

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409878

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Mid-South

Project: Lateral K	L-31 Mid-South		<u> </u>		
Sample ID MB-15363	SampType: MBLK	TestCode: EPA Method	8015D: Diesel Range C	rganics	
Client ID: PBS	Batch ID: 15363	RunNo: 21269			
Prep Date: 9/18/2014	Analysis Date: 9/18/2014	SeqNo: <b>620601</b>	Units: mg/Kg		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual	
iesel Range Organics (DRO) Surr: DNOP	ND 10 10 10.00	100 57.9	140		
Sample ID LCS-15363	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range C	)rganics	
Client ID: LCSS	Batch ID: 15363	RunNo: 21269			
Prep Date: 9/18/2014	Analysis Date: 9/18/2014	SeqNo: <b>620602</b>	Units: mg/Kg		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual	
iesel Range Organics (DRO)	62 10 50.00	0 125 68.6	130		
Surr: DNOP	5.2 5.000	104 57.9	140		
Sample ID LCS-15369	SampType: LCS	TestCode: EPA Method	8015D: Diesel Range C	Organics	
Client ID: LCSS	Batch ID: 15369	RunNo: 21309			
Prep Date: 9/18/2014	Analysis Date: 9/19/2014	SeqNo: <b>622110</b>	Units: mg/Kg		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual	
iesel Range Organics (DRO)	52 10 50.00	0 105 68.6	130		
Surr: DNOP	5.0 5.000	100 57.9	140		
Sample ID MB-15369	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range Organics			
Client ID: PBS	Batch ID: 15369	RunNo: 21309			
Prep Date: 9/18/2014	Analysis Date: 9/19/2014	SeqNo: 622115	Units: mg/Kg		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual	
iesel Range Organics (DRO)	ND 10				
Surr: DNOP	8.9 10.00	89.3 57.9	140		
Sample ID 1409878-002AMS	SampType: MS	TestCode: EPA Method	8015D: Diesel Range O	rganics	
Client ID: S-2 Mid-South	Batch ID: 15369	RunNo: 21309			
Prep Date: 9/18/2014	Analysis Date: 9/19/2014	SeqNo: 623164	Units: mg/Kg		
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual	
iesel Range Organics (DRO)	93 10 49.75	19.20 149 40.1			
Surr: DNOP	5.1 4.975	103 57.9	140		
Sample ID 1409878-002AMSI	D SampType: MSD	TestCode: EPA Method	8015D: Diesel Range C	rganics	
Client ID: S-2 Mid-South	Batch ID: 15369	RunNo: 21309			
Prep Date: 9/18/2014	Analysis Date: 9/19/2014	SeqNo: <b>623165</b>	Units: mg/Kg		

#### **Qualifiers:**

Analyte

Value exceeds Maximum Contaminant Level.

Result

PQL

Е Value above quantitation range

Analyte detected below quantitation limits

RSD is greater than RSDlimit O

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В

HighLimit

%RPD

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit

Sample pH greater than 2. Reporting Detection Limit

SPK value SPK Ref Val %REC LowLimit

Page 6 of 9

Qual

**RPDLimit** 

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409878

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Mid-South

Sample ID 1409878-002AMSD

SampType: MSD

TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: S-2 Mid-South

Batch ID: 15369

RunNo: 21309

Prep Date: 9/18/2014

Analysis Date: 9/19/2014

SeqNo: 623165

Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	100	9.9	49.55	19.20	162	40.1	152	6.79	32.1	S
Surr: DNOP	7.1		4.955		143	57.9	140	0	0	S

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Sample pH greater than 2.

Page 7 of 9

RLReporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1409878

04-Nov-14

Client:

APEX TITAN

Surr: BFB

ol V 21 Mid S

1000

Project: Lateral	K-31 Mid-South						
Sample ID MB-15378	SampType: MBLK	TestCode: EPA Method	TestCode: EPA Method 8015D: Gasoline Range				
Client ID: PBS	Batch ID: 15378	RunNo: 21342					
Prep Date: 9/18/2014	Analysis Date: 9/22/2014	SeqNo: <b>623292</b>	Units: mg/Kg				
Analyte	Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual			
Gasoline Range Organics (GRO)	ND 5.0						
Surr: BFB	940 1000	94.2 80	120				
Sample ID LCS-15378	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range				
Client ID: LCSS	Batch ID: 15378	RunNo: 21342					
Prep Date: 9/18/2014	Analysis Date: 9/22/2014	SeqNo: <b>623293</b>	Units: mg/Kg				
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual			
Gasoline Range Organics (GRO)	26 5.0 25.00	0 103 65.8	139				

101

80

120

1000

#### 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 S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit

Page 8 of 9

- Sample pH greater than 2.
- Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1409878

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Mid-South

Sample ID MB-15378	Samp1	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batcl	n ID: 15	378	F	RunNo: 2	1342				
Prep Date: 9/18/2014	Analysis [	)ate: 9/	22/2014	S	SeqNo: 6	23326	Units: mg/k	ζg		
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	1.0		1.000		104	80	120			
Sample ID LCS-15378	Samp	ype: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	n ID: 15	378	F	RunNo: 2	1342				
Prep Date: 9/18/2014	Analysis [	Date: 9/	22/2014	\$	SeqNo: 6	23327	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.050	1.000	0	90.6	80	120			
Toluene	0.91	0.050	1.000	0	91.1	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			
Sample ID 1409878-001AMS	Samp	ype: MS	3	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: S-1 Mid-South	D-4-	h ID: 15	070	_	RunNo: 2	4040				

Sample ID 1409878-001AM	<b>S</b> SampT	ype: MS	<b>S</b>	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: S-1 Mid-South	Batch	1D: <b>15</b>	378	F	RunNo: 2	1342				
Prep Date: 9/18/2014	Analysis D	oate: 9/	22/2014	5	SeqNo: 6	23339	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.76	0.049	0.9843	0	77.0	77.4	142			S
Toluene	0.83	0.049	0.9843	0	84.8	77	132			
Ethylbenzene	0.88	0.049	0.9843	0	89.5	77.6	134			
Xylenes, Total	2.7	0.098	2.953	0	89.9	77.4	132			
Surr: 4-Bromofluorobenzene	1.1		0.9843		108	80	120			

Sample ID 1409878-001AM	SD SampT	ype: MS	SD .	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: S-1 Mid-South	Batch	1D: <b>15</b> :	378	F	RunNo: 2	1342				
Prep Date: 9/18/2014	Analysis D	ate: 9/	22/2014	5	SeqNo: 6	23340	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.049	0.9881	0	89.5	77.4	142	15.3	20	
Toluene	0.90	0.049	0.9881	0	91.2	77	132	7.62	20	
Ethylbenzene	0.91	0.049	0.9881	0	92.1	77.6	134	3.28	20	
Xylenes, Total	2.7	0.099	2.964	0	91.7	77.4	132	2.39	20	
Surr: 4-Bromofluorobenzene	1.1		0.9881		109	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 greater than 2.
- RL Reporting Detection Limit

Page 9 of 9



Hall Environmental Analysis Laborator, 4901 Hawkins NE Albuquerque, NM 87105

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

## Sample Log-In Check List

Client Name: **APEX AZTEC** Work Order Number: 1409878 RcptNo: 1 Received by/date: Logged By: . Lindsay Mangin 9/18/2014 7:30:00 AM Lindsay Mangin Completed By: 9/18/2014 9:10:19 AM Reviewed By: Chain of Custody No 🗌 Yes 🗌 Not Present 1. Custody seals intact on sample bottles? No 🔲 Yes 🗹 Not Present 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In Yes 🗹 No 🗆 NA 🗌 4. Was an attempt made to cool the samples? No 🗌 NA 🗍 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🔽 Yes 🗹 No 🗆 6. Sample(s) in proper container(s)? Yes 🗸 No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗆 Yes 🔽 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No 🗹 9. Was preservative added to bottles? Yes 🗌 No VOA Viais 🗹 Yes No 🗌 10. VOA vials have zero headspace? Yes No 🗹 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 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? Yes 🗸 No 🗌 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes 🗹 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: Phone | Fax Vla: eMail In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Condition | Seal Intact | Seal No | Seal Date Cooler No Temp ℃ Signed By

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Proje Samp	PEX e Location ect Manager's Name	ger <b>Hea</b>	ther s	<u> \u</u>	book S	Add Con Pho Sample	tact: 1 SO #: 1	Twee ature	werg!	An to	NM dy 1 Ent	ree	mar		RE		STEC	/ /			<del>                                     </del>				Due Due Due Due Due Due Due Due Due Due	of coolers eceived (C	°): 4   5	
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Matrix	Date	Тіте	CoEp	G rab		g Marks of S			Depth d	VOA	AVG 1 Li.	220 m	Glass	9. 0	Ø.	ROLL BTEX						/_/	/ •	Lab Sa	ample ID	(Lab Use	Only)	
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S	9/14/4	1550			5-2	Mid	<u>- S</u> മ	ıШ	2	2			1		X	X										007	2	
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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

November 04, 2014

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

TEL: (505) 716-2787

**FAX** 

RE: Lateral K-31 Mid-South

OrderNo.: 1410144

#### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/3/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 08, 2014.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1410144

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-6 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 10/2/2014 11:25:00 AM

Lab ID: 1410144-001

Matrix: SOIL

**Received Date:** 10/3/2014 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/6/2014 3:55:41 PM	15711
Surr: DNOP	92.4	57.9-140	%REC	1	10/6/2014 3:55:41 PM	15711
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/6/2014 3:57:31 PM	15706
Surr: BFB	92.6	80-120	%REC	1	10/6/2014 3:57:31 PM	15706
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	10/6/2014 3:57:31 PM	15706
Toluene	ND	0.047	mg/Kg	1	10/6/2014 3:57:31 PM	15706
Ethylbenzene	ND	0.047	mg/Kg	1	10/6/2014 3:57:31 PM	15706
Xylenes, Total	ND	0.094	mg/Kg	1	10/6/2014 3:57:31 PM	15706
Surr: 4-Bromofluorobenzene	97.7	80-120	%REC	1	10/6/2014 3:57:31 PM	15706

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1410144

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-1 Mid-South

Project: Lateral K-31 Mid-South

Collection Date: 10/2/2014 11:40:00 AM

Lab ID: 1410144-002

**Matrix:** SOIL **Received Date:** 10/3/2014 7:40:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS					Analyst	: JME
Diesel Range Organics (DRO)	12	10		mg/Kg	1	10/6/2014 4:16:58 PM	15711
Surr: DNOP	105	57.9-140		%REC	1	10/6/2014 4:16:58 PM	15711
EPA METHOD 8015D: GASOLINE RAN	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	8.1	4.7		mg/Kg	1	10/6/2014 8:43:25 PM	15706
Surr: BFB	129	80-120	S	%REC	1	10/6/2014 8:43:25 PM	15706
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.047		mg/Kg	1	10/6/2014 8:43:25 PM	15706
Toluene	ND	0.047		mg/Kg	1	10/6/2014 8:43:25 PM	15706
Ethylbenzene	ND	0.047		mg/Kg	1	10/6/2014 8:43:25 PM	15706
Xylenes, Total	ND	0.094		mg/Kg	1	10/6/2014 8:43:25 PM	15706
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	10/6/2014 8:43:25 PM	15706

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1410144

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-2 Mid-South

Project: Lateral K-31 Mid-South

**Collection Date:** 10/2/2014 11:52:00 AM

**Lab ID:** 1410144-003

Matrix: SOIL

Received Date: 10/3/2014 7:40:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analysi	: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/6/2014 4:38:28 PM	15711
Surr: DNOP	121	57.9-140	%REC	1	10/6/2014 4:38:28 PM	15711
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/6/2014 9:12:04 PM	15706
Surr: BFB	97.9	80-120	%REC	1	10/6/2014 9:12:04 PM	15706
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.047	mg/Kg	1	10/6/2014 9:12:04 PM	15706
Toluene	ND	0.047	mg/Kg	1	10/6/2014 9:12:04 PM	15706
Ethylbenzene	ND	0.047	mg/Kg	1	10/6/2014 9:12:04 PM	15706
Xylenes, Total	ND	0.094	mg/Kg	1	10/6/2014 9:12:04 PM	15706
Surr: 4-Bromofluorobenzene	98.0	80-120	%REC	1	10/6/2014 9:12:04 PM	15706

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 6

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410144

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Mid-South

Sample ID MB-15711	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: PB\$	Batch	n ID: 15	711	F	RunNo: 2	1668				
Prep Date: 10/4/2014	Analysis D	)ate: 10	)/6/2014	5	SeqNo: 6	36214	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10					<del>.</del>			
Surr: DNOP	7.9		10.00		79.2	57.9	140			
Sample ID LCS-15711	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: LCSS	Batcl	h ID: <b>15</b>	711	F	RunNo: 2	1668				
Prep Date: 10/4/2014	Analysis D	Date: 10	0/6/2014	5	SeqNo: 6	36215	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
D: 10 0 : (DDO)	62	10	50.00	0	124	68.6	130			
Diesel Range Organics (DRO)	02	10	30.00	U	124	00.0	100			

#### 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 greater than 2.
- RL Reporting Detection Limit

Page 4 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410144

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Mid-South

Project: Lateral	K-31 Mid-South						<u></u>		
Sample ID MB-15706	SampType: <b>M</b>	BLK	Test	Code: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch ID: 1	5706	R	tunNo: 2	1690				
Prep Date: 10/3/2014	Analysis Date: 1	0/6/2014	S	eqNo: 6	36820	Units: mg/F	(g		
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		89.1	80	120			
Sample ID LCS-15706	SampType: L	cs	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch ID: 1:	5706	R	lunNo: 2	1690				
Prep Date: 10/3/2014	Analysis Date: 1	0/6/2014	S	eqNo: 6	36821	Units: mg/h	(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	109	65.8	139			
Surr: BFB	1000	1000		101	80	120			
Sample ID 1410144-001AM	S SampType: M	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: S-6 Mid-South	Batch ID: 1	5706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis Date: 1	0/6/2014	S	SeqNo: 6	36823	Units: mg/k	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25 4.7	23.56	0	107	71.8	132			_
Surr: BFB	950	942.5		101	80	120			
Sample ID 1410144-001AM	SD SampType: M	SD	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	е	<del></del>
Client ID: S-6 Mid-South	Batch ID: 1	5706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis Date: 1	0/6/2014	S	SeqNo: 6	36824	Units: mg/l	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25 4.7		0	104	71.8	132	2.54	20	
Surr: BFB	950	944.3		101	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 greater than 2.
- RL Reporting Detection Limit

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## Hall Environmental Analysis Laboratory, Inc.

0.99

1.0

3.1

1.0

0.050

0.050

0.10

1.000

1.000

3.000

1.000

WO#: 1410144

04-Nov-14

Client:

APEX TITAN

Project:

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Lateral K-31 Mid-South

Sample ID MB-15706	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batch	h ID: 15	706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis D	Date: 10	0/6/2014	\$	SeqNo: 6	36858	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								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	80	120			
Sample ID LCS-15706	SampT	ype: LC	:s	Tes	tCode: El	PA Method	8021B: Vola	tiles	<u>-</u>	
Client ID: LCSS	Batcl	h ID: 15	706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis [	Date: 10	0/6/2014	9	SeqNo: 6	36859	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	80	120			

Sample ID 1410144-002AM	S Samp	Type: MS	3	Tes						
Client ID: SP-1 Mid-South	Bato	th ID: 15	706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis l	Analysis Date: 10/6/2014			SeqNo: 6	36862	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.047	0.9390	0	94.9	77.4	142			
Toluene	0.90	0.047	0.9390	0.009615	94.7	77	132			
Ethylbenzene	0.93	0.047	0.9390	0.01758	97.7	77.6	134			
Xylenes, Total	2.8	0.094	2.817	0.04160	97.9	77.4	132			
Surr: 4-Bromofluorobenzene	1.0		0.9390		106	80	120			

0

0

0

99.3

102

102

103

80

80

80

80

120

120

120

120

Sample ID 1410144-002AMSI	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: SP-1 Mid-South	Batch	1D: 15	706	F	RunNo: 2	1690				
Prep Date: 10/3/2014	Analysis C	)ate: 10	)/6/2014	8	SeqNo: 6	36863	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.047	0.9398	0	99.0	77.4	142	4.33	20	
Toluene	0.93	0.047	0.9398	0.009615	97.8	77	132	3.25	20	
Ethylbenzene	0.97	0.047	0.9398	0.01758	101	77.6	134	3.80	20	
Kylenes, Total	2.9	0.094	2.820	0.04160	100	77.4	132	2.65	20	
Surr: 4-Bromofluorobenzene	1.0		0.9398		106	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 greater than 2.

RL Reporting Detection Limit

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riuu Environmeniui Anaiysis Luboruior) 4901 Hawkins NE Albuquergue, NM 87105

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

## Sample Log-In Check List

RcptNo: 1 Client Name: **APEX AZTEC** Work Order Number: 1410144 Received by/date: Michell Corner 10/3/2014 7:40:00 AM Logged By: Michelle Garcia 10/3/2014 9:22:50 AM Completed By: Michelle Garcia 10/3/14 Reviewed By: **Chain of Custody** No 🗆 Not Present Yes  $\square$ 1 Custody seals intact on sample bottles? No 🗆 Yes 🗸 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In Yes 🔽 NA 🗌 No 🗆 4. Was an attempt made to cool the samples? No 🗍 NA 🗆 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗌 Yes 🗸 6. Sample(s) in proper container(s)? Yes 🗸 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? Yes NA 🗆 No 🗹 Yes 🗌 9. Was preservative added to bottles? No VOA Vials No 🗆 10.VOA vials have zero headspace? Yes No 🗹 Yes 11. Were any sample containers received broken? # of preserved bottles checked No 🗆 for pH: Yes 🗹 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No 🗆 Yes V No 🔲 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes 🗸 15. Were all holding times able to be met? (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 Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date 1.6 Good Yes

		CHAIN OF CUSTODY RECORD
**	Laboratory: Hall Environmental	ANALYSIS REQUESTED Lab use only Due Date:
IAPEX	Address: Albuquerque, NM	Temp, of cookers
Office Location Azlec, NM		when received (C°): 126
	Contact: Andy Freeman	1 2 3 4 5
	Phone: 505-345-3975	/ g/ / / / / Pageof
Project Manager Heather Woods	PO/SO#: Direct Bill to Enterprise	/ <b>3</b> / / / / / /
	Sampler's Signature	
Heather Woods	Heath M. Woon	
Proj. No. Project Name	No/Type of Containers	
7030414G034,001 Lateral K-31 M		2/10///////////////////////////////////
Matrix Date Time C G r Identifying Mar	Start Obepth Depth Obepth Pageof  Pageof  Lab Sample ID (Lab Use Only)	
S 10/2/14 1125 / 5-6 A	Mid-South S.S. 11	x x   1410144 001
5 10/2/14 1140 - SP-1 A	nid South with	× × 1410144 -002
5 10/2/14 1152 V SP-2 1	vid South	x x 1410144 -003
	VII.6 30 31 31 31 31 31 31 31 31 31 31 31 31 31	
THES THE		
		Time: NOTES: Direct Bill to Enterorize Field Services
Relinquished by (Signature) Date: 1 Heath M. Woods 1021+ 1:	Time: Received by: (Signature)  539  Thustry out  Time: Received by: (Signature)  Date:	1539 Atta Tom I man a services
Relinquished by (Signature) Date: 1	Received by: (Signature) Date:	Time:
17-05-05-05-05-05-05-05-05-05-05-05-05-05-	Time: Received by: (Signature) Date:	070 Wo: 879213 Woods on 10/31/14 A
		rugery 6611580"Mid-Surph 40 00 11
Relinquished by (Signature) Date: 7	Time: Received by: (Signature) Date:	Time: Sample IDS.
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or	S - Soil SD - Solid L - Liquid A - Air Bag C - Charc r Glass 1 Liter 250 ml - Glass wide mouth P/O - Pla	



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

OrderNo.: 1409639

November 04, 2014

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A

Aztec, NM 87410 TEL: (505) 716-2787

 $\mathsf{FAX}$ 

RE: Lateral K-31 Sept 2014 (Release A)

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/13/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 24, 2014.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1 South

Project: Lateral K-31 Sept 2014 (Release A)

Lab ID:

1409639-001

Collection Date: 9/11/2014 4:30:00 PM Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS			·	Analy	st: BCN
Diesel Range Organics (DRO)	13	9.8	mg/Kg	1	9/17/2014 12:22:23 P	M 15281
Surr: DNOP	95.3	57.9-140	%REC	1	9/17/2014 12:22:23 P	M 15281
EPA METHOD 8015D: GASOLINE R.	ANGE				Analy	st: <b>DJF</b>
Gasoline Range Organics (GRO)	9.1	4.9	mg/Kg	1	9/17/2014 3:35:54 PM	I 15287
Surr: BFB	108	80-120	%REC	1	9/17/2014 3:35:54 PM	15287
EPA METHOD 8021B: VOLATILES					Analy	st: <b>DJF</b>
Benzene	0.32	0.049	mg/Kg	1	9/17/2014 3:35:54 PM	15287
Toluene	ND	0.049	mg/Kg	1	9/17/2014 3:35:54 PM	15287
Ethylbenzene	0.068	0.049	mg/Kg	1	9/17/2014 3:35:54 PM	15287
Xylenes, Total	0.53	0.099	mg/Kg	1	9/17/2014 3:35:54 PM	15287
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	9/17/2014 3:35:54 PM	15287

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
- O 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

Page 1 of 10

- Sample pH greater than 2. P
- Reporting Detection Limit

#### Lab Order 1409639

Date Reported: 11/4/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-2 South

Project:

Lateral K-31 Sept 2014 (Release A)

**Collection Date:** 9/11/2014 4:35:00 PM

Lab ID:

1409639-002

Matrix: SOIL

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS	1.			Analyst	BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/17/2014 1:27:22 PM	15281
Surr: DNOP	90.5	57.9-140	%REC	1	9/17/2014 1:27:22 PM	15281
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: DJF
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2014 5:01:57 PM	15287
Surr: BFB	101	80-120	%REC	1	9/17/2014 5:01:57 PM	15287
EPA METHOD 8021B: VOLATILES					Analyst	: DJF
Benzene	0.11	0.048	mg/Kg	1	9/17/2014 5:01:57 PM	15287
Toluene	ND	0.048	mg/Kg	1	9/17/2014 5:01:57 PM	15287
Ethylbenzene	0.057	0.048	mg/Kg	1	9/17/2014 5:01:57 PM	15287
Xylenes, Total	0.12	0.095	mg/Kg	1	9/17/2014 5:01:57 PM	15287
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	9/17/2014 5:01:57 PM	15287

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 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3 South

Project:

Lateral K-31 Sept 2014 (Release A)

Collection Date: 9/11/2014 4:40:00 PM

**Lab ID:** 1409639-003

Matrix: SOIL

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS	<del></del>			Analys	t: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/17/2014 1:52:05 PM	15281
Surr: DNOP	91.1	57.9-140	%REC	1	9/17/2014 1:52:05 PM	15281
EPA METHOD 8015D: GASOLINE R.	ANGE				Analys	t: DJF
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2014 8:22:16 PM	15287
Surr: BFB	92.0	80-120	%REC	1	9/17/2014 8:22:16 PM	15287
EPA METHOD 8021B: VOLATILES					Analys	t: DJF
Benzene	0.13	0.049	mg/Kg	1	9/17/2014 8:22:16 PM	15287
Toluene	ND	0.049	mg/Kg	1	9/17/2014 8:22:16 PM	15287
Ethylbenzene	0.13	0.049	mg/Kg	1	9/17/2014 8:22:16 PM	15287
Xylenes, Total	ND	0.097	mg/Kg	1	9/17/2014 8:22:16 PM	15287
Surr: 4-Bromofluorobenzene	95.7	80-120	%REC	1	9/17/2014 8:22:16 PM	15287

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 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-4 South

**Project:** Lateral K-31 Sept 2014 (Release A)

Collection Date: 9/11/2014 4:45:00 PM

Lab ID: 1409639-004

Matrix: SOIL Receive

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS	•		·	Analyst	BCN
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/17/2014 2:13:48 PM	15281
Surr: DNOP	97.1	57.9-140	%REC	1	9/17/2014 2:13:48 PM	15281
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: DJF
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2014 2:10:03 PM	15287
Surr: BFB	96.5	80-120	%REC	1	9/17/2014 2:10:03 PM	15287
EPA METHOD 8021B: VOLATILES					Analyst	: DJF
Benzene	ND	0.048	mg/Kg	1	9/17/2014 2:10:03 PM	15287
Toluene	ND	0.048	mg/Kg	1	9/17/2014 2:10:03 PM	15287
Ethylbenzene	0.18	0.048	mg/Kg	1	9/17/2014 2:10:03 PM	15287
Xylenes, Total	0.18	0.096	mg/Kg	1	9/17/2014 2:10:03 PM	15287
Surr: 4-Bromofluorobenzene	98.5	80-120	%REC	1	9/17/2014 2:10:03 PM	15287

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 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5 South

Project:

Lateral K-31 Sept 2014 (Release A)

Collection Date: 9/11/2014 4:50:00 PM

Lab ID:

1409639-005

Matrix: SOIL

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	t: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/17/2014 2:35:27 PM	15281
Surr: DNOP	92.1	57.9-140	%REC	1	9/17/2014 2:35:27 PM	15281
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2014 2:38:42 PM	15287
Surr: BFB	93.8	80-120	%REC	1	9/17/2014 2:38:42 PM	15287
EPA METHOD 8021B: VOLATILES					Analys	t: <b>DJF</b>
Benzene	0.28	0.049	mg/Kg	1	9/17/2014 2:38:42 PM	15287
Toluene	ND	0.049	mg/Kg	1	9/17/2014 2:38:42 PM	15287
Ethylbenzene	0.066	0.049	mg/Kg	1	9/17/2014 2:38:42 PM	15287
Xylenes, Total	ND	0.098	mg/Kg	1	9/17/2014 2:38:42 PM	15287
Surr: 4-Bromofluorobenzene	98.2	80-120	%REC	1	9/17/2014 2:38:42 PM	15287

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 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-6 South

Project: Lateral K-31 Sept 2014 (Release A)

**Collection Date:** 9/11/2014 4:55:00 PM

Lab ID: 1409639-006

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL (	Qual U	U <b>nits</b>	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS					Analyst	BCN
Diesel Range Organics (DRO)	75	9.8		mg/Kg	1	9/17/2014 2:57:13 PM	15281
Surr: DNOP	100	57.9-140		%REC	1	9/17/2014 2:57:13 PM	15281
EPA METHOD 8015D: GASOLINE R	ANGE					Analyst	: DJF
Gasoline Range Organics (GRO)	73	4.7		mg/Kg	1	9/17/2014 3:07:19 PM	15287
Surr: BFB	350	80-120	S	%REC	1	9/17/2014 3:07:19 PM	15287
EPA METHOD 8021B: VOLATILES						Analyst	: DJF
Benzene	0.12	0.047		mg/Kg	1	9/17/2014 3:07:19 PM	15287
Toluene	ND	0.047		mg/Kg	1	9/17/2014 3:07:19 PM	15287
Ethylbenzene	0.37	0.047		mg/Kg	1	9/17/2014 3:07:19 PM	15287
Xylenes, Total	1.1	0.095		mg/Kg	1	9/17/2014 3:07:19 PM	15287
Surr: 4-Bromofluorobenzene	118	80-120		%REC	1	9/17/2014 3:07:19 PM	15287

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 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1409639

Date Reported: 11/4/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-7 South

Project: Lateral K-31 Sept 2014 (Release A)

Collection Date: 9/11/2014 5:00:00 PM

Lab ID:

1409639-007

Matrix: SOIL

Received Date: 9/13/2014 8:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS					Analyst	: BCN
Diesel Range Organics (DRO)	330	9.9		mg/Kg	1	9/17/2014 3:18:50 PM	15281
Surr: DNOP	102	57.9-140		%REC	1	9/17/2014 3:18:50 PM	15281
EPA METHOD 8015D: GASOLINE RA	ANGE					Analyst	: DJF
Gasoline Range Organics (GRO)	780	47		mg/Kg	10	9/18/2014 1:16:28 PM	15287
Surr: BFB	353	80-120	S	%REC	10	9/18/2014 1:16:28 PM	15287
EPA METHOD 8021B: VOLATILES						Analyst	: DJF
Benzene	2.0	0.047		mg/Kg	1	9/17/2014 8:50:59 PM	15287
Toluene	1.8	0.047		mg/Kg	1	9/17/2014 8:50:59 PM	15287
Ethylbenzene	7.1	0.47		mg/Kg	10	9/18/2014 1:16:28 PM	15287
Xylenes, Total	56	0.94		mg/Kg	10	9/18/2014 1:16:28 PM	15287
Surr: 4-Bromofluorobenzene	386	80-120	S	%REC	1	9/17/2014 8:50:59 PM	15287

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

Page 7 of 10

- Sample pH greater than 2.
- Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1409639

04-Nov-14

Client:

**APEX TITAN** 

Project:	Lateral K	-31 Sept 201	4 (R	elease A)							
Sample ID	MB-15281	SampTyp	e: ME	BLK	Test	Code: EF	PA Method	8015D: Dies	el Range C	Organics	
Client ID:	PBS	Batch II	D: <b>15</b>	281	R	tunNo: 2	1197				
Prep Date:	9/15/2014	Analysis Date	e: <b>9</b> /	15/2014	S	eqNo: 6	17317	Units: mg/k	(g		
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-15281	SampTyp	e: LC	s	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	LCSS	Batch II	D: <b>15</b>	281	R	tunNo: 2	1197				
Prep Date:	9/15/2014	Analysis Dat	e: 9/	/15/2014	S	SeqNo: 6	17442	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	55	10	50.00	0	110	68.6	130			
Surr: DNOP		5.3		5.000		107	57.9	140			
Sample ID	1409639-001AMS	SampTyp	e: MS	S	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	S-1 South	Batch II	D: <b>15</b>	281	F	RunNo: 2	1309				
Prep Date:	9/15/2014	Analysis Dat	e: <b>9</b> /	/19/2014	S	SeqNo: 6	21820	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	77	10	50.15	13.39	126	40.1	152			
Surr: DNOP		4.2		5.015		84.7	57.9	140			
Sample ID	1409639-001AMSE	) SampTyp	e: MS	SD	Tes	tCode: Ei	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	S-1 South	Batch II	D: <b>15</b>	281	F	RunNo: 2	1309				
Prep Date:	9/15/2014	Analysis Dat	s Date: 9/19/2014 SeqNo: 622101 Units: mg/Kg								
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	Organics (DRO)	52	10		13.39	76.2	40.1	152	39.5	32.1	R
Surr: DNOP		4.0		5.000		79.7	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 greater than 2.
- RL Reporting Detection Limit

Page 8 of 10

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1409639 *04-Nov-14* 

Client:

APEX TITAN

Project:

Lateral K-31 Sept 2014 (Release A)

Sample ID MB-15287 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 15287 RunNo: 21265

Prep Date: 9/15/2014 Analysis Date: 9/17/2014 SeqNo: 620315 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 910 1000 91.4 80 120

SampType: LCS Sample ID LCS-15287 TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 15287 RunNo: 21265 Prep Date: 9/15/2014 Analysis Date: 9/17/2014 SeqNo: 620316 Units: mg/Kg SPK value SPK Ref Val **RPDLimit PQL** %REC %RPD Analyte Result LowLimit HighLimit Qual

 Gasoline Range Organics (GRO)
 30
 5.0
 25.00
 0
 119
 65.8
 139

 Surr: BFB
 990
 1000
 99.1
 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 greater than 2.
- RL Reporting Detection Limit

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409639

04-Nov-14

Client:

APEX TITAN

Project:

Lateral K-31 Sept 2014 (Release A)

Sample ID MB-15287	Samp1	SampType: MBLK			tCode: El	PA Method	8021B: Vola	tiles				
Client ID: PB\$	Batc	Batch ID: 15287			RunNo: 2	1265						
Prep Date: 9/15/2014	Analysis [	Date: <b>9/</b>	17/2014	<b>014</b> Seq <b>N</b> o: <b>620342</b> U				Units: mg/Kg				
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	0.98		1.000		97.6	80	120					
Sample ID I CS 15287	Samn	Type: LC	S TestCode: EBA Mothod 8021B: Volatiles									

Sample ID LCS-15287	Sampl	ype: LC	S	Tes	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	F											
Prep Date: 9/15/2014	Analysis [	Date: 9/	17/2014	SeqNo: <b>620343</b>			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	102	80	120					
Toluene	1.0	0.050	1.000	0	102	80	120					
Ethylbenzene	1.0	0.050	1.000	0	103	80	120					
Xylenes, Total	3.1	0.10	3.000	0	103	80	120					
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120					

Sample ID 1409639-002AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID: S-2 South	Batch	n ID: <b>15</b> 2	287	F	RunNo: 2	1265					
Prep Date: 9/15/2014	Analysis D	)ate: 9/	17/2014	9	SeqNo: 6	20348	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.048	0.9524	0.1056	99.3	77.4	142				
Toluene	0.95	0.048	0.9524	0.01092	99.0	77	132				
Ethylbenzene	1.0	0.048	0.9524	0.05727	102	77.6	134				
Xylenes, Total	3.0	0.095	2.857	0.1233	101	77.4	132				
Surr: 4-Bromofluorobenzene	0.99		0.9524		104	80	120				

Sample ID 1409639-002AM	<b>SD</b> SampT	D SampType: MSD			TestCode: EPA Method 8021B: Volatiles						
Client ID: S-2 South	Batch ID: <b>15287</b> Analysis Date: <b>9/17/2014</b>			RunNo: 21265							
Prep Date: 9/15/2014				SeqNo: 620349			Units: mg/K	ζg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.97	0.048	0.9524	0.1056	91.1	77.4	142	7.74	20		
Toluene	0.87	0.048	0.9524	0.01092	89.9	77	132	9.45	20		
Ethylbenzene	0.91	0.048	0.9524	0.05727	90.0	77.6	134	11.5	20		
Xylenes, Total	2.7	0.095	2.857	0.1233	91.1	77.4	132	10.1	20		
Surr: 4-Bromofluorobenzene	0.99		0.9524		104	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

Page 10 of 10

- P Sample pH greater than 2.
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

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

## Sample Log-In Check List

RcptNo: 1 Client Name: APEX AZTEC Work Order Number: 1409639 Received by/date: Logged By: Lindsay Mangin 9/13/2014 8:00:00 AM Completed By: Lindsay Mangin 9/13/2014 8:55:58 AM Reviewed By: TO Chain of Custody No 🗆 Not Present Yes 🗌 1 Custody seals intact on sample bottles? No 🗌 Not Present Yes 🗹 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗆 NA 🗌 4. Was an attempt made to cool the samples? Yes 🗸 NA 🗌 No  $\square$ 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No  $\square$ Yes 🔽 6. Sample(s) in proper container(s)? No 🗀 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 8. Are samples (except VOA and ONG) properly preserved? No 🗹 NA 🗆 Yes 9. Was preservative added to bottles? No VOA Vials Yes No 🗌 10.VOA vials have zero headspace? Yes  $\square$ No 🗹 11. Were any sample containers received broken? # of preserved bottles checked for pH: Yes 🗹 No 🗌 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes 🗹 No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗆 Yes 🔽 14 is it clear what analyses were requested? Yes 🗹 No 🔲 Checked by: 15. Were all holding times able to be met? (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 Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp C Condition Seal Intact Seal No Seal Date Signed By 1.8

																				CHAIN OF	CUSTODY RECORD
Offic Proje Samp	e Location ect Manager's Name	ger Head	Hher	r W		Laboratory: Address: A Contact: A Phone: (5 PO/SO #: D Sampler's Signa	ndy 85 vect	9:11	eem 5- Ente	an 397	75			R		STED (00)		/			Lab use only Due Date:  Temp. of coolers when received (C°): 1.58  1 2 3 4 5  Page of
Proj. N	No.		Proje							pe of C		ers			8	<b>2</b> /	/ /			/ /	
HO3	Date	34 Time	La	Grab		rks of Sample(s)			VOA	<b>4 62</b> 왕크		Glass	P/0	4	302/ BZEX			/	/ ,	Lab	Sample ID (Lab Use Only)
5	9/11/14	1430			5-1	South	•					1		X	χ					14096	39 -001
	9/11/14					South		,				1		X	X						-002
	9/11/14					South	2	X,				1		X	Y						-003
	9/11/14					South	375	1				1		X	Х						-004
	9/11/14				-	South:	199					1		X	X						-005
	9/11/14				_	South	7					ı		X	X						- OO(a
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Matrix Contai		/ - Wastewat A - 40 ml via			W - Water S A/G - Amber / O	S - Soil SD - Sol r Glass 1 Liter	id L	- Liquid 50 ml -	A Glass w	- Air Ba	g uth		- Chare		tube or other	O= 0,00g	,	0-0			<u> </u>



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

Website: www.hallenvironmental.com

November 04, 2014

Heather Woods

APEX AZTEC

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787

FAX (505) 334-5204

RE: Enterprise Lateral K-31 South

OrderNo.: 1410259

## Dear Heather Woods:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/7/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 08, 2014.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1410259

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX AZTEC** 

Client Sample ID: S-8 South

Project: Enterprise Lateral K-31 South

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410259-001

Matrix: SOIL

Received Date: 10/7/2014 6:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analy	st: BCN
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	10/7/2014 10:21:50 A	M 15755
Surr: DNOP	86.3	57.9-140	%REC	1	10/7/2014 10:21:50 A	M 15755
EPA METHOD 8015D: GASOLINE R	ANGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	10/7/2014 10:23:50 A	M R21722
Surr: BFB	91.8	80-120	%REC	1	10/7/2014 10:23:50 A	M R21722
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	0.037	0.036	mg/Kg	1	10/7/2014 10:23:50 A	M R21722
Toluene	ND	0.036	mg/Kg	1	10/7/2014 10:23:50 A	M R21722
Ethylbenzene	ND	0.036	mg/Kg	1	10/7/2014 10:23:50 A	M R21722
Xylenes, Total	ND	0.072	mg/Kg	1	10/7/2014 10:23:50 A	M R21722
Surr: 4-Bromofluorobenzene	97.3	80-120	%REC	1	10/7/2014 10:23:50 A	M R21722

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 greater than 2.
- RL Reporting Detection Limit

### Lab Order 1410259

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX AZTEC** 

Client Sample ID: S-9 South

Project: Enterprise Lateral K-31 South

**Collection Date:** 10/6/2014 4:40:00 PM

Lab ID: 1410259-002

Matrix: SOIL Received Date:

Received Date: 10/7/2014 6:55:00 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	10/7/2014 10:43:09 AM	1 15755
Surr: DNOP	90.4	57.9-140	%REC	1	10/7/2014 10:43:09 AM	1 15755
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	10/7/2014 10:52:22 AM	R21722
Surr: BFB	94.6	80-120	%REC	1	10/7/2014 10:52:22 AM	R21722
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.044	mg/Kg	1	10/7/2014 10:52:22 AM	1 R21722
Toluene	ND	0.044	mg/Kg	1	10/7/2014 10:52:22 AM	1 R21722
Ethylbenzene	ND	0.044	mg/Kg	1	10/7/2014 10:52:22 AM	1 R21722
Xylenes, Total	ND	0.088	mg/Kg	1	10/7/2014 10:52:22 AM	R21722
Surr: 4-Bromofluorobenzene	99.7	80-120	%REC	1	10/7/2014 10:52:22 AM	R21722

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 greater than 2.
- RL Reporting Detection Limit

## Lab Order 1410259

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX AZTEC

Client Sample ID: S-10 South

Project: Enterprise Lateral K-31 South

**Collection Date:** 10/6/2014 4:48:00 PM

Lab ID: 1410259-003

Matrix: SOIL

Received Date: 10/7/2014 6:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analys	st: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/7/2014 11:04:25 Al	M 15755
Surr: DNOP	92.3	57.9-140	%REC	1	10/7/2014 11:04:25 Al	M 15755
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	10/7/2014 11:20:53 Al	M R21722
Surr: BFB	96.2	80-120	%REC	1	10/7/2014 11:20:53 Al	M R21722
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	0.085	0.031	mg/Kg	1	10/7/2014 11:20:53 Al	M R21722
Toluene	0.031	0.031	mg/Kg	1	10/7/2014 11:20:53 Al	M R21722
Ethylbenzene	ND	0.031	mg/Kg	1	10/7/2014 11:20:53 Al	M R21722
Xylenes, Total	0.087	0.062	mg/Kg	1	10/7/2014 11:20:53 Al	M R21722
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	10/7/2014 11:20:53 A	M R21722

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 6

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1410259

04-Nov-14

Client:

APEX AZTEC

Project:

Enterprise Lateral K-31 South

Sample ID MB-15755 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 15755 RunNo: 21712 Analysis Date: 10/7/2014 Prep Date: 10/7/2014 SeqNo: 637426 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 7.5 10.00 75.4 57.9 140 Sample ID LCS-15755 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Batch ID: 15755 Client ID: LCSS RunNo: 21712 Prep Date: 10/7/2014 Analysis Date: 10/7/2014 SeqNo: 637427 Units: mg/Kg **RPDLimit** Analyte Result PQL SPK value SPK Ref Val %REC %RPD LowLimit HighLimit Qual Diesel Range Organics (DRO) 58 10 50.00 0 115 68.6 130 Surr: DNOP 4.2 5.000 84.2 57.9 140

#### Qualifiers:

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

Page 4 of 6

- P Sample pH greater than 2.
- Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1410259

04-Nov-14

Client:

APEX AZTEC

Project:

Enterprise Lateral K-31 South

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

80

Client ID: PBS

Batch ID: R21722

RunNo: 21722

Analysis Date: 10/7/2014

SeqNo: 637912

Units: mg/Kg

Analyte Result

**PQL** 5.0

HighLimit

%RPD **RPDLimit** Qual

Gasoline Range Organics (GRO)

ND 920

1000

92.3

120

Surr: BFB

Prep Date:

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

LCSS

Batch ID: R21722

RunNo: 21722

Prep Date:

Gasoline Range Organics (GRO)

SeqNo: 637913

Units: mg/Kg

139

120

Analyte

Analysis Date: 10/7/2014 **PQL** 

5.0

SPK value SPK Ref Val 25.00

SPK value SPK Ref Val %REC

%REC 78.8

0

LowLimit 65.8 80

HighLimit %RPD **RPDLimit** 

Qual

Surr: BFB

990

1000

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

S-8 South

Sample ID 1410259-001AMS

Sample ID 1410259-001AMSD

S-8 South

SampType: MS

Batch ID: R21722

RunNo: 21722

99.0

Prep Date:

Analysis Date: 10/7/2014

Result

20

SeqNo: 637914

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Result 17

Result

21

580

SPK value SPK Ref Val

%REC LowLimit

83.8

HighLimit

120

**RPDLimit** Qual

3.6 17.97 600 718.9 92.2

132

%RPD

Surr: BFB

SampType: MSD

**PQL** 

TestCode: EPA Method 8015D: Gasoline Range

71.8

80

71.8

80

Client ID: Prep Date:

Batch ID: R21722 Analysis Date: 10/7/2014 RunNo: 21722

116

80.8

Units: mg/Kg

132

120

0

Qual

R

Analyte Gasoline Range Organics (GRO) Surr: BFB

**PQL** 3.6

17.97

718.9

SeqNo: 637915 SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD

22.8

**RPDLimit** 

20 0

Qualifiers: Value exceeds Maximum Contaminant Level.

Spike Recovery outside accepted recovery limits

Ε Value above quantitation range

Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

Sample pH greater than 2.

RLReporting Detection Limit Page 5 of 6

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1410259 04-Nov-14

Client:

APEX AZTEC

**Project:** 

Enterprise Lateral K-31 South

Sample ID 5ML RB	Sample iD 5ML RB SampType: MBLK						TestCode: EPA Method 8021B: Volatiles										
Client ID: PBS	Batcl	n ID: R2	1722	F	RunNo: 2	1722											
Prep Date:	Analysis Date: 10/7/2014				SeqNo: 6	37934	Units: mg/K										
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	0.98		1.000		97.8	80	120										

Sample ID 100NG BTEX LC	Samp	Type: LC	s	Tes	8021B: Vola	tiles				
Client ID: LCSS	Bato	h ID: R2	1722	F	RunNo: 2	1722				
Prep Date:	Analysis l	Date: 10	0/7/2014	S	SeqNo: 6	37935	Units: mg/F	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	107	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID 1410259-002AMS	<b>1410259-002AMS</b> SampType: <b>MS</b>					TestCode: EPA Method 8021B: Volatiles								
Client ID: S-9 South	Batch	1D: <b>R2</b>	1722	F	RunNo: 2	1722								
Prep Date:	Analysis D	ate: 10	)/7/2014	S	SeqNo: 6	37936	Units: mg/K	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	0.95	0.044	0.8787	0.01798	106	77.4	142							
Toluene	0.95	0.044	0.8787	0.007434	107	77	132							
Ethylbenzene	0.97	0.044	0.8787	0.02104	108	77.6	134							
Xylenes, Total	2.9	0.088	2.636	0.04567	107	77.4	132							
Surr: 4-Bromofluorobenzene	0.31		0.8787		35.2	80	120			S				

Sample ID 1410259-002AMS	SD SampT	ype: MS	SD	TestCode: EPA Method 8021B: Volatiles									
Client ID: S-9 South	Client ID: S-9 South Batch ID: R					1722							
Prep Date:	9	SeqNo: 6	37937	Units: mg/h	(g								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	1.1	0.050	1.000	0.01798	104	77.4	142	1.75	20				
Toluene	1.1	0.050	1.000	0.007434	106	77	132	0.797	20				
Ethylbenzene	1.1	0.050	1.000	0.02104	106	77.6	134	2.14	20				
Xylenes, Total	3.2	0.10	3.000	0.04567	106	77.4	132	1.23	20				
Surr: 4-Bromofluorobenzene	0.29		1.000		28.6	80	120	0	0	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

Page 6 of 6

- P Sample pH greater than 2.
- RL Reporting Detection Limit



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

RcotNo: 1 **APEX AZTEC** Work Order Number: 1410259 Client Name: Received by/date: an Ilm Logged By: 10/7/2014 6:55:00 AM Anne Thome Om Home Completed By: **Anne Thorne** 10/7/2014 10/07/1 Reviewed By: Chain of Custody No 🗆 Yes 🗌 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 <u>Log In</u> NA 🗆 Yes 🗹 No 🗌 4. Was an attempt made to cool the samples? No 🗀 NA  $\square$ 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V Yes 🗹 No 🗌 6. Sample(s) in proper container(s)? No 🗌 Yes 🗹 7. Sufficient sample volume for indicated test(s)? Yes 🗸 No 🗌 8. Are samples (except VOA and ONG) properly preserved? No 🗹 NA 🔲 Yes 🗌 9. Was preservative added to bottles? No 🗆 No VOA Vials Yes 10. VOA vials have zero headspace? Yes  $\square$ No 🗹 11. Were any sample containers received broken? # of preserved bottles checked Yes 🔽 No  $\square$ for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) No 🗆 Adjusted? Yes 🗸 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes 🔽 14. Is it clear what analyses were requested? Yes 🔽 No 🗌 Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA 🗹 No 🗌 16. Was client notified of all discrepancies with this order? 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

			CHAIN OF CUSTODY RECOR
			ANALYSIS / / / Lab use only
	Laboratory: Hall Environm	mental	REQUESTED / / / / / Due Date:
APEX	Address:	(Inc. V. D.)	
Office Location Aztec, NM	Modroos.		Temp. of coolers when received (C°):
Office Location About 1, 1997	Contact: Andy Freeman		1 2 3 4 5
	Phone:		/ / / / / Pageof
Project Manager Heather Woods	PO/SO #: Dwey Bill Enterp	2007 0	-
Sampler's Name	Sampler's Signature	71105	
Proj. No. Project Name	. No/Type	of Containers	Lab Sample ID (Lab Use Only)
Enterprise Lat	eral K-31 South 1-1	402	
Matrix Date Time C G I Identifying Ma	ks of Sample(s) Start Depth AG VOA	Tt. 250 ml Glass	
Mainx Date line m a identifying Ma	12 Q m Q >	<del></del>	
5 10/6/14 1540 5-8		X	XX 14/0259-001 XX -602 XX -003
S 10/6/14 16040 5-9		X	XXCO2
S 10/6/14 1648 S-10		X	× 1 - CC3
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Turn around time  Normal 25% Rush	50% Rush \$100% Rush Results	s End of Da	ay 10/7/14
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Relinquished by (Signature) Date:	ime:// Repeived by: (Signature)	Date:	Time: ATTA Tom Long
1 VIII 10/16/14 19	25 Change	100114	OLSS
Relinquished by (Signature) Date	ime: Received by: (Signature)	Date:	Time:
Relinquished by (Signature) Date:	ime: Received by: (Signature)	Date:	Time:
Matrix WW - Wastewater W - Water	S-Soil SD-Solid L-Liquid A-Ai	ir Bag C - Chan	arcoal tube SL - sludge O - Oil
Container VOA - 40 ml vlai A/G - Amber / O	Glass 1 Liter 250 ml - Glass wide	e mouth P/O - Pla	Plastic or other



## 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: 1410259 RcptNo: 1 10/07/14 Received by/date: an Ilm 10/7/2014 6:55:00 AM Logged By: Anne Thome Completed By: Anne Thorne 10/7/2014 10/07 Reviewed By: Chain of Custody Not Present 1 Custody seals intact on sample bottles? Yes 🗍 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 Yes 🗸 No  $\square$ Yes 🔽 No 🗌 6. Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No 🗹 9. Was preservative added to bottles? Yes 🗌 No 🗆 No VOA Vials 10. VOA vials have zero headspace? No 🔽 Yes 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 🗌 V 14. Is it clear what analyses were requested? Yes Checked by: 15. Were all holding times able to be met? Yes 🗹 No 🗌 (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 NA 🗹 16. Was client notified of all discrepancies with this order? No 🗀 Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Temp °C | Condition | Seal Intact | Seal No Cooler No Seal Date Signed By Yes

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Proj.	No.		Proje	ect Na lesp	ame rise Lat	-eral K-31	50	wth	1	ype of C		ners		8021 BT	Bols I'et	7 /			/ /	$^{\prime}$ $^{\prime}$			4./		
Matrix	Date	Time	CoEp	G r a b	Identifying Ma	arks of Sample(s)	Start Depth	End		A/G 1 Lt.		Glass	P/0	802	8000		/ /	/ /				Lab S	ample ID (Lat	Use Only)	
5	10/6/14	1540			5-8 8	South ,	\					x		X X							14	10	259.	-001	
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Matrix Conta		V - Wastewa A - 40 ml via				S - Soil SD - Sol Or Glass 1 Liter	id I	Liquio 250 ml -	i A Glass v	- Air Ba wide mo	g outh			coal tube astic or oth	<u> </u>	iL - slu		0 -							



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

November 04, 2014

Heather Woods
APEX AZTEC
606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787 FAX (505) 334-5204

RE: Lateral K-31 South OrderNo.: 1410435

## Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/9/2014 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 10, 2014.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

# Lab Order 1410435

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX AZTEC

Client Sample ID: S-11 South

Project: Lateral K-31 South

**Collection Date:** 10/8/2014 10:15:00 AM

**Lab ID:** 1410435-001

Matrix: MEOH (SOIL) Received Date: 10/9/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	t: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/9/2014 11:49:32 AN	<i>l</i> 15814
Surr: DNOP	79.8	57.9-140	%REC	1	10/9/2014 11:49:32 AN	/ 15814
EPA METHOD 8015D: GASOLINE R.	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	10/9/2014 10:24:08 AN	/ R21782
Surr: BFB	90.1	80-120	%REC	1	10/9/2014 10:24:08 AN	/ R21782
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.033	mg/Kg	1	10/9/2014 10:24:08 AN	/ R21782
Toluene	ND	0.033	mg/Kg	1	10/9/2014 10:24:08 AN	/ R21782
Ethylbenzene	ND	0.033	mg/Kg	1	10/9/2014 10:24:08 AN	/ R21782
Xylenes, Total	ND	0.066	mg/Kg	1	10/9/2014 10:24:08 AN	/ R21782
Surr: 4-Bromofluorobenzene	93.6	80-120	%REC	1	10/9/2014 10:24:08 AM	/ R21782

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 5

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Lab Order 1410435

Date Reported: 11/4/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX AZTEC

Client Sample ID: S-12 South

Project: Lateral K-31 South

Collection Date: 10/8/2014 11:20:00 AM

**Lab ID:** 1410435-002

Matrix: MEOH (SOIL) Received Date: 10/9/2014 7:00:00 AM

Analyses	Result	RL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	st: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/9/2014 12:32:52 P	M 15814
Surr: DNOP	80.7	57.9-140	%REC	1	10/9/2014 12:32:52 P	M 15814
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	10/9/2014 10:52:46 A	M R21782
Surr: BFB	89.8	80-120	%REC	1	10/9/2014 10:52:46 A	M R21782
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.031	mg/Kg	1	10/9/2014 10:52:46 A	M R21782
Toluene	ND	0.031	mg/Kg	1	10/9/2014 10:52:46 A	M R21782
Ethylbenzene	ND	0.031	mg/Kg	1	10/9/2014 10:52:46 A	M R21782
Xylenes, Total	ND	0.063	mg/Kg	1	10/9/2014 10:52:46 A	M R21782
Surr: 4-Bromofluorobenzene	92.1	80-120	%REC	1	10/9/2014 10:52:46 A	M R21782

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1410435

04-Nov-14

**Client:** 

APEX AZTEC

Project:	Lateral K-	-31 South									
Sample ID M	B-15814	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: PI	BS	Batch	ID: <b>15</b>	814	F	RunNo: 2	1764				
Prep Date: 1	10/9/2014	Analysis D	ate: 10	)/9/2014	\$	SeqNo: 6	39341	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	anics (DRO)	ND	10								
Surr: DNOP	· · · · · · · · · · · · · · · · · · ·	9.5		10.00		95.5	57.9	140		·	
Sample ID LO	CS-15814	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: LC	css	Batch	1D: <b>15</b>	814	F	RunNo: 2	1764				
Prep Date: 1	10/9/2014	Analysis D	ate: 10	0/9/2014	8	SeqNo: 6	39456	Units: mg/	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	anics (DRO)	63	10	50.00	0	126	68.6	130			
Surr: DNOP		3.9		5.000		77.1	57.9	140			
Sample ID 14	410435-001AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: S-	-11 South	Batch	ID: <b>15</b>	814	F	RunNo: 2	1764				
Prep Date:	10/9/2014	Analysis D	ate: 10	)/9/2014	5	SeqNo: 6	39668	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	anics (DRO)	63	9.9	49.26	0	129	40.1	152			
Surr: DNOP		4.0		4.926		80.6	57.9	140			
Sample ID 14	410435-001AMSD	SampT	уре: М\$	SD	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Client ID: S-	-11 South	Batch	ID: <b>15</b>	814	F	RunNo: 2	1764				
Prep Date: 1	10/9/2014	Analysis D	ate: 10	)/9/2014	5	SeqNo: 6	39696	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	anics (DRO)	65	9.9	49.46	0	132	40.1	152	3.27	32.1	
Surr: DNOP		4.1		4.946		82.3	57.9	140	0	0	

#### Qualifiers:

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

Page 3 of 5

- Sample pH greater than 2.
- RLReporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1410435

04-Nov-14

Client:

APEX AZTEC

Project:

Lateral K-31 South

Sample ID MB-15760 MK	Samp	Гуре: <b>МЕ</b>	BLK	Tes	Code: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batc	h ID: <b>R2</b>	1782	F	tunNo: 2	1782				
Prep Date:	Analysis [	Date: 10	0/9/2014	S	eqNo: 6	40373	Units: mg/F	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	80	120			
Sample ID LCS-15760 MK	Sampl	vpe: LC	9	Tos	Code: FI	PA Method	8015D: Gaso	oline Pana		

	•	,,	_						•	
Client ID: LCSS	Batcl	h ID: <b>R2</b>	1782	F	RunNo: 2	1782				
Prep Date:	Analysis [	Date: 10	0/9/2014	S	SeqNo: 6	40374	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	970		1000		96.9	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 greater than 2.
- RL Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

WO#:

1410435

04-Nov-14

Client:

APEX AZTEC

**Project:** 

Lateral K-31 South

Sample ID MB-15760 MK Client ID: PBS	•	Гуре: МЕ h ID: R2			TestCode: EPA Method 8021B: Volatiles RunNo: 21782					
Prep Date:	Analysis [		0/9/2014		SeqNo: 6		Units: mg/k	ζg		
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	0.91		1.000		90.7	80	120			
Sample ID LCS-15760 MK	Samp	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
	<b>-</b> .	<b>.</b>		_						

Sample ID LCS-15760 MK	Samp	Type: LC	S	Tes						
Client ID: LCSS	Batc	h ID: <b>R2</b>	1782	F	RunNo: 2	1782				
Prep Date:	Analysis [	Date: 10	0/9/2014	S	SeqNo: 6	40423	Units: mg/k	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	97.0	80	120			
Toluene	0.96	0.050	1.000	0	96.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.6	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.5	80	120			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range Ε
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Sample pH greater than 2.

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Reporting Detection Limit



riau Environmeniai 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:	1410435		RcptNo: 1	
Received by/date: 1000114			****	
Logged By: Lindsay Mangin 10/9/2014 7:00:00 AM		July Hogo		
Completed By: Lindsay Mangin 10/9/2014 7:40:36 AM		And the for		
Reviewed By: 10/08/14		000		
Chain of Custody		4.0		
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	
			# 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	No 🗆	NA 🗹	
Person Notified: Date:				
By Whom: Via: [	eMail	Phone  Fax	☐ In Person	
Regarding:				
Client Instructions:	**************************************			
17. Additional remarks:				
18. Gooler Information  Gooler No Temp C Gondition Seal Intact Seal No 1 3.1 Good Yes	Seal Date	Signed By		

		Ch	AAIN OF CUSTODY RECORD
APEX	Laboratory: Hall Environmental	ANALYSIS REQUESTED	Lab use only Due Date:
	Address: Albuquerque, NM	<u> </u>	Temp. of coolers
Office Location Aztec, NM		_  / <i>첫</i> / / / /	when received (C°):3,1
	Contact: Andy Freeman		1 2 3 4 5
	Phone:	_  /3/ / / / /	/ Page of
Project Manager Heather Woods	PO/SO#: Direct Bin to Enterpris	/ / / / // الأو / الم	/ /
Sampler's Name	Sampler's Signature		
Heather Woods	Heath M. Wasses		/
Heather Woods Proj. No.   Project Name	No/Type of Containers		/
70304146034 Lateral K-3	31 South 4-02		/
Matrix Date Time C G I dentifying M	Start Clause of Sample(s) Start Depth A/G HLL COA VOA VOA Glass	802, BTEX 8015, Tett (SRO, DRO)	Lab Sample ID (Lab Use Only)
5 10/8/14 1015 S-11 9	South its 1	XX	410435 -001
5 10/8/14 1020 5-12	South is 1	××	-002
NES			
	Haz I		
	☐ 50% Rush 2100% Rush Same Day Time: Received by: (Sighature) Date	Time: NOTES: 7	
Relinquished by (Signature)  Date: 10 8 N	Time: Received by: (Signature) Date 122 Math 10/8	14 1727 NOTES. Direct Bill to	Enterprise Field Services
Relinquished by (Signature)   Date:	Time: Received by: (Signature) Date	Time: Attn. Tom	Long peremail flu
Motulicate 108/14  Relinquished by (Signature)  Date:	Time: Received by (Signature) Date	114 070)	Wather woods
		Wo# 8792	-13 10/31/14, Chan
Relinquished by (Signature) Date:	Time: Received by: (Signature) Date	Time: Payley GG1	Long per email five Heather Woods 13 10/31/14, Change 1580 Sample IDS To the change is the change is the change is the change is the change is the change is the change is the change is the change is the change is the change is the change is the change in the change is the change is the change in the change is the change in the change is the change in the change is the change in the change in the change is the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in the change in
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber / 6		Charcoal tube SL - sludge O - Oil O - Plastic or other	3000
			Kms 11/3/1
4 77411 4 444 4 7			•

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/ RECEIVED Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

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

FEB 17 Subtriit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

MIRADOD

87505							V trainer	الأفيية أوريا					
				Release Not		on and Corre	ective Action		nitial Ŕepo	rt ⊠ Final Repor			
Name of Co	mpany Ente	rprise Field	Services, I	LLC		Contact Thomas Long							
Address 614						Telephone No. (505) 599-2286							
Facility Nam						Facility Type Natural Gas Gathering line							
Surface Owi	ner Jicarilla	Tribal		Mineral O	wner <b>J</b>	icarilla Trib	al		API No.				
			,		CATIO	N OF RELE	ASE						
Unit Letter K	Section 26	Township 23N	Range 3W	Feet from the	North/ Line	/South	Feet from the	East/ Line	West	County Rio Arriba			
			La	titude <u>36.197</u>	<u> 473</u>	Longitu	ıde <u>-107.133945</u>	<u> </u>					
_				N.A	TURE	OF RELEA	SE						
Type of Rele	ease Natura	l Gas Conde	nsate and	Water		Volume of at 3-5 bbls	Release Estima of Fluids	ated	Volume F	Recovered None			
Source of Re	elease: Pipel	line freeze a	nd rupture				Hour of Occurre	nce	Date and	Hour of Discovery			
	•				Unknow				3 @ 13:02 hours				
Was Immed	iate Notice G	Siven?				If YES, To	Whom?						
			Yes [	□ No □ N	ot		mmond and Ho	bson :	Sandoval				
Required										ı			
By Whom?	Aaron Daile	у				Date and Hour 1/11/2013 @ 08:00 hours							
Was a Wate	rcourse Rea	_	<b>7</b>	<b>-</b>		If YES, Volume Impacting the Watercourse.							
		2	Yes [	_l No									
If a Waterco	urse was Im	pacted, Desc	cribe Fully.	* The release	entere	ed a small e	ohemeral wash.						
Describe Ca	use of Proble	om and Rom	adial Actio	n Taken *									
					pipelir	ne leak on th	e Enterprise Ch	acon J	licarilla Apa	ache D #102 natural gas			
gathering pir	oeline. Enter	rprise superv	isor dispa	tched two tec	hniciar	ns to investig	ate and verify th	ne leak	. These te	chnicians verified, isolated,			
depressurize	ed and applie	ed LOTO to t	he pipeline	e A contra	ctor wa	s dispatche	d to clean up the	e impa	cted ice, sn	ow and soil and haul it to an			
										nditions permitted. On In			
										oil vapor extraction (SVE)  O no work was performed at			
the site due					intoring	. In Decem	dei 2013, at tile	reques	SI OI JAEF	o no work was performed at			
					ember	2014, after	approval from J	AEPO.	Enterprise	initiated excavation			
activities to	remove the	remaining si	ubsurface	contaminants	s. Final	l excavation	dimension meas	sured a	approximat	ely fifty (50) feet long			
										hydrocarbon impacted			
				roved NMOC	D land	tarm tacility.	A third party er	nvironn	nental cont	ractor corrective action			
		nis "Final" C-		is true and c	omplet	e to the hes	t of my knowledg	ne and	understan	d that pursuant to NMOCD			
										ective actions for releases			
which may e	ndanger pub	lic health or	the enviro	nment. The	accepta	ance of a C-	141 report by the	e NMO	CD marke	d as "Final Report" does not			
										nination 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.								ort does not relieve the					
operator or re	esponsibility	or compilar	12 a	ly other leder	ai, stat	e, or local la			VATION D	WISION A			
Signature:	Jan.	Kul	lb_				<u>012 001</u>	IVOLIV	$\overline{}$	me/ L			
Printed Nam	e: Jon E. Fi	elds				Approved by	: Environmenta	l Spec					
Title: Directo	or, Environm	ental		·		Approval Da	te: 4/13/12	<u> </u>	Expiration I	Date			
.,				· · · · · · · · · · · · · · · · · · ·					1	-			
E-mail Addre						Conditions o	r Approvai:			Attached			
Date:	2-9- H	<i>9/3</i> Pho	one: (713)	381-6684									

* Attach Additional Sheets If Necessary

#NOS 1510349816



# Enterprise Products Chacon Jicarilla Apache D #102 Latitude North 36.197476°, Longitude West -107.133945° Unit K (NE ¼, SW ¼) Section 26 T23N R3W Sandoval County, New Mexico January 8, 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



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	Site Ranking and Land Jurisdiction	
	Summary of Field Activities	
	Vapor Monitoring and Soil Sampling	
	Conclusions and Recommendations	
	Closure and Limitations	

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Figure 1: Vicinity Map

Figure 2: SVE Layout and Construction Diagram

Figure 3: Site and Soil Contaminant Concentration Map

## Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

Table 4: Summary of Initial Field Screening Results

Table 5: Summary of Field Screening Results

# Appendices:

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

## 1.0 Executive Summary

In January and March of 2014, Souder, Miller & Associates (SMA) responded to excavate the hydrocarbon release associated with the Chacon Jicarilla Apache D #102 well tie. The release was initially reported on January 10, 2013 and was a result of a steel pipeline freeze due to exposure to ambient temperatures. SMA returned to the site in October and December of 2014 to monitor, further delineate and oversee the excavation of contaminated soil.

	TABLE 1: RELEASE INFORMATION									
Name	Cha	con Jicarilla Apach	e D #102	Pipeline F	Release					
	Latitude	/Longitude	Sec	ction, Tow	nship, Range					
Location	36.197476°	6.197476° -107.133945° Unit K Section T 23N, R 3W								
Date Reported	January 10, 20	13								
Reported to	Tom Long			·						
Land Owner	Jicarilla Apach	e Nation								
Reported To		IM Oil Conservation Division (NMOCD) Jicarilla Apache Environmental Protection Office								
Diameter of Pipeline	4 inches									
Source of Release	Freezing			•						
Release Contents	Natural Gas Lie	quids/Condensate								
Release Volume	Unknown									
Nearest Waterway	Unnamed tribu	tary of Valles Arroy	o Wash							
Depth to Groundwater	Estimated to be	e less than 50 feet								
Nearest Domestic Water Source	Greater than 1	,000 feet								
NMOCD Ranking	40									
SMA Response Dates										
Subcontractors	Industrial Mech	nanical Inc. (IMI)								
Disposal Facility	Envirotech									
Yd ³ Contaminated Soil Excavated and Disposed	42.5 (Reported	d on Completed C-	138)							

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of the hydrocarbon release associated with the Chacon Jicarilla Apache D #102 pipeline. The release is located in Unit K (NE ¼, SW ½) Section 26 Township 23 North, Range 3 West, 36.197476° N, -107.133945° W, Sandoval County, New Mexico. Figure 1, Vicinity Map, illustrates the location of the release.

## 3.0 Site Ranking and Land Jurisdiction

The release site is located in a tributary of Arroyo Valles wash on land owned by the Jicarilla Apache Nation and governed by the Jicarilla Apache Environmental Protection Office (JAEPO). The site is at an elevation of approximately 7,350 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).

SMA searched the New Mexico Office of the State Engineer online water well data base for water wells in the vicinity of the release. No wells were located in Sections 10, 32 and 34. The physical location of this release is within the jurisdiction of JAEPO. In the absence of JAEPO regulations related to oil and gas releases, this release defaults to the most stringent New Mexico Oil Conservation Division's (OCD) soil remediation standard. This release location has been assigned an OCD ranking of 40, which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm total 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 January 11, 2013, SMA responded to a release at the Chacon Jicarilla Apache D #102 well tie. The release was from a frozen pipeline spanning an arroyo that ruptured. SMA was contracted to excavate the impacted snow and ice with hand tools. The surface area stain measured approximately 12 feet in diameter. Surface stained snow and ice was excavated to depths between 4" and 6". During excavation activities, a calibrated photo ionization detector (PID) detected volatile organics up to 450 parts per million in the breathing zone of the excavation area. A personal four gas meter detected reduced oxygen levels and elevated hydrogen sulfide levels. SMA personnel terminated excavation activities and left the area for health and safety reasons. One thirty-gallon drum of impacted snow and ice was transported to Carson Compressor station and placed in the petroleum contaminated soil container for temporary containment.

On January 14, 2013, SMA returned to the site to continue removal of the impacted snow and ice. Breathing zone air was screened and volatile organic levels were at acceptable levels within the release area. Four additional 30-gallon containers of impacted snow and ice were removed from the excavation area and brought to the Carson Compressor station for temporary containment. One composite soil sample was collected from below the point of release. The soil was submitted to Hall Environmental Analytical Laboratory for analysis per EPA Methods 8021 BTEX and 8015B Diesel Range Organics (DRO)/Gasoline Range Organics (GRO). Laboratory analysis results are summarized in Table 3 and a copy of the Laboratory Report is included in Appendix A.

SMA returned to the site on January 18, 2013 to assess the lateral and horizontal extent of the release. Seven soil borings were installed with a hand auger and soil samples were collected at one foot intervals and field screened with a PID.

Laboratory soil samples were collected from the bottom of each soil boring. A total of seven soil samples were collected and submitted to Hall Environmental Analytical Laboratory for analysis per EPA Methods 8021 BTEX and 8015B DRO/GRO. Laboratory analysis results for this sampling event are also summarized in Table 3 and copies of the Laboratory Reports are included in Appendix A.

Due to the inclement weather conditions and snow, SMA was instructed to wait to complete

remedial activities. On March 15, 2013, SMA installed four soil vapor extraction (SVE) wells near the point of release to remove subsurface hydrocarbon vapors. Each SVE well was installed to a total depth of seven feet below ground surface (bgs). Each well was constructed with two-inch inside diameter 0.010 inch slotted PVC well screen from total depth to two feet bgs and two feet of two-inch inside diameter solid PVC well casing from two feet bgs to ground surface. The annulus was backfilled with 10/20 silica sand to one foot bgs. Then 3/8" bentonite chips were placed from one foot bgs to ground surface and hydrated to seal the annulus.

SVE wells SVE-1 and SVE-2 were plumbed together and a single modified roof vent was installed above SVE-1. SVE wells SVE-3 and SVE-4 were plumbed together and a modified roof vent was installed directly above SVE-4. Photographs of the remediation system are included in Appendix C. Figure 2 illustrates the layout of the SVE remediation system and construction details of each SVE well. Initial hydrocarbon vapor concentrations from each SVE vent were measured at approximately 60 ppm with a calibrated PID.

Mr. Hobson Sandoval with JAEPO was on site to observe the installation of the remediation system. While onsite, Mr. Hobson instructed Enterprise to remove additional contaminated soil from the wash because he was concerned that the surface contaminants would wash down stream. Subsequently, Enterprise representatives reported to SMA that IMI excavated the hydrocarbon impacted soil from the wash with hand tools from March 20, 2013 to March 27, 2013. Approximately 12 cubic yards of hydrocarbon contaminated soil was removed and transported to Envirotech Land Farm for proper disposal. The excavation was backfilled with clean imported material from the Jicarilla Apache Reservation. No samples were collected for laboratory analysis during the excavation because of the SVE system implementation and future scheduled soil sampling.

# 4.1.1 Vapor Monitoring and Soil Sampling

The first vapor monitoring event was conducted on June 18, 2013. During this event three soil borings were hand augured to a total depth of four feet bgs each. Samples were collected at one foot intervals and field screened with a calibrated PID. The PID readings ranged from 55 – 4,884 ppm. The hydrocarbon vapor effluent from SVE wells was screened with a PID over a five minute period with results recorded every minute. The readings from both SVE wells ranged from 54 – 66 ppm. Results of the initial and quarterly field screenings are included in Tables 4 and 5, respectively. At the direction of Enterprise representatives, no laboratory samples were collected due to the elevated PID field screening results.

The second monitoring event was conducted on September 20, 2013. During this event, three soil borings were hand augured to a total depth of six feet bgs. Samples were collected at one foot intervals and field screened with a calibrated PID. The PID results ranged from 0 ppm to 4,963 ppm. Each SVE fan was screened for two minutes with no detection of hydrocarbon vapors. At the direction of Enterprise representatives, no laboratory samples were collected due to the elevated soil screening results.

On October 17, 2014 SMA conducted a monitoring event with oversight from Jonathan Kelly from the OCD-Aztec, NM field office and Hobson Sandoval. During this sampling event eight soil borings were advanced to a total depth of five feet and one boring to a total depth of ten feet. Samples were collected at one foot intervals and field screened with a calibrated PID. The

PID results ranged from 0.3-1707 ppm. One SVE ventilation fan had been broken off. The other SVE ventilation fan was screened for approximately one minute with no detection of hydrocarbon vapors. One soil sample was collected from each of the eight borings from the interval with the highest PID reading and from the bottom of SB-5, with a total depth of 10 feet. The soil samples were submitted to Hall Environmental Analytical Laboratory for analysis per EPA Methods 8021 BTEX and 8015 Diesel Range Organics (DRO)/Gasoline Range Organics (GRO). Laboratory analysis results are summarized in Table 3 and a copy of the Laboratory Report is included in Appendix A.

Laboratory results from the October 17, 2014 monitoring event indicated remaining contamination approximately 1 to 2 feet bgs in soil borings SB-3, SB-4, and SB-5, which were located approximately 28 to 90 feet down wash from the release point. Concentrations of DRO and GRO ranged from 56 mg/kg to 2700 mg/kg and 160 mg/kg to 750 mg/kg, respectively. Due to the shallow extent of contamination, SMA was again contracted to excavate the existing contamination with hand tools.

On December 2, 3, and 8, 2014, SMA and Industrial Mechanical Inc. (IMI) excavated an area of 40 feet in length by 5 feet wide with depths ranging from 2.0 to 4.0 feet using hand tools. During excavation activities, soil samples were collected and field screened using a properly calibrated PID and a Petroflag soil testing kit for total petroleum hydrocarbons. PID results ranged from 248.8 to 2932 ppm with the highest reading located at the south center base section of the excavation. Field screening result summaries can be found in Table 5. Petroflag total petroleum hydrocarbon results ranged from 15.0 to 1865 mg/kg with the highest reading located at the south base portion of the excavation. Three laboratory soil samples were collected from the north base, north center base and south center base. Analysis confirmed the north sections were below NMOCD soil remediation standards and south sections were still above NMOCD soil remediation standards.

SMA and IMI returned to the site on December 12, 2014. Approximately 18 cubic yards of clean backfill material was placed into the north section of the excavation. IMI continued excavating the south portion of the excavation using a mini-excavator and a skid-steer, and SMA oversaw excavation activities. During excavation activities, soil samples were collected and field screened using a properly calibrated PID and a Petroflag soil testing kit for total petroleum hydrocarbons. PID results ranged from 6.2 to 514 ppm with the highest reading located at the south central base section of the excavation. Field screening results summaries can be found in Table 5. Petroflag total petroleum hydrocarbon results ranged from 15.0 to 79 mg/kg with the highest reading located at the south center base portion of the excavation. Laboratory soil samples were collected from the north base, north center base and south center base. Analysis confirmed the south section was still above NMOCD soil remediation standards.

SMA and IMI returned to the site on December 23, IMI continued excavating the south portion of the excavation using a mini-excavator and a skid-steer, and SMA oversaw excavation activities. During excavation, soil samples were collected and field screened using a properly calibrated PID and a Petroflag soil testing kit for total petroleum hydrocarbons. PID results ranged from 631 to 873 ppm with the highest reading located on the south wall of the excavation. Field screening results summaries can be found in Table 5. Petroflag total petroleum hydrocarbon results ranged from 112 to 670 mg/kg with the highest reading located on south wall of the excavation. Laboratory soil samples were not collected due to the unexpected spike in

contamination. SMA and IMI made plans to return with rubber tire backhoes to remove all remaining contamination.

SMA and IMI returned to the site on December 31, 2014. IMI continued excavating the south portion of the excavation using two rubber tire back hoes, and SMA oversaw excavation activities. During excavation activities, soil samples were collected and field screened using a properly calibrated PID and a Petroflag soil testing kit for total petroleum hydrocarbons. PID results ranged from 1.2 to 6.6 ppm with the highest reading located in the base section of the excavation. Field screening results summaries can be found in Table 5. Petroflag total petroleum hydrocarbon result for the south wall was 30 mg/kg, no other samples were tested with the Petroflag as PID readings were low. Laboratory soil samples were collected from the base, west wall, east wall and south wall. Analysis confirmed the excavation extents are below NMOCD soil remediation standards.

The final excavation measured approximately 50 feet long, by 5 to 8 feet wide with depths ranging from 2.0 to 6.5 feet bgs, covering an area of approximately 291 square feet. The several stages of excavation resulted in the southern portion having the largest and deepest dimensions, finally measuring 8 feet wide, 14.5 feet long and 6.5 feet deep. Approximately 42.5 cubic yards of contaminated soil was removed and disposed of at Envirotech, a permitted landfarm facility, located near Crouch Mesa, NM. Disposal documentation can be found in Appendix D.

## 5.0 Conclusions and Recommendations

As noted in Section 3.0 of this report, the absence of JAEPO regulations related to oil and gas releases, this release defaults to the most stringent NMOCD soil remediation standard. This release location has been assigned a NMOCD ranking of 40.

Laboratory analytical results for all final extent samples collected were at/or below NMOCD remediation soil standards of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons, based on the site ranking. 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 Chacon Jicarilla Apache D #102 pipeline release location.

## 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment and stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, monitoring and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

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

SOUDER, MILLER & ASSOCIATES

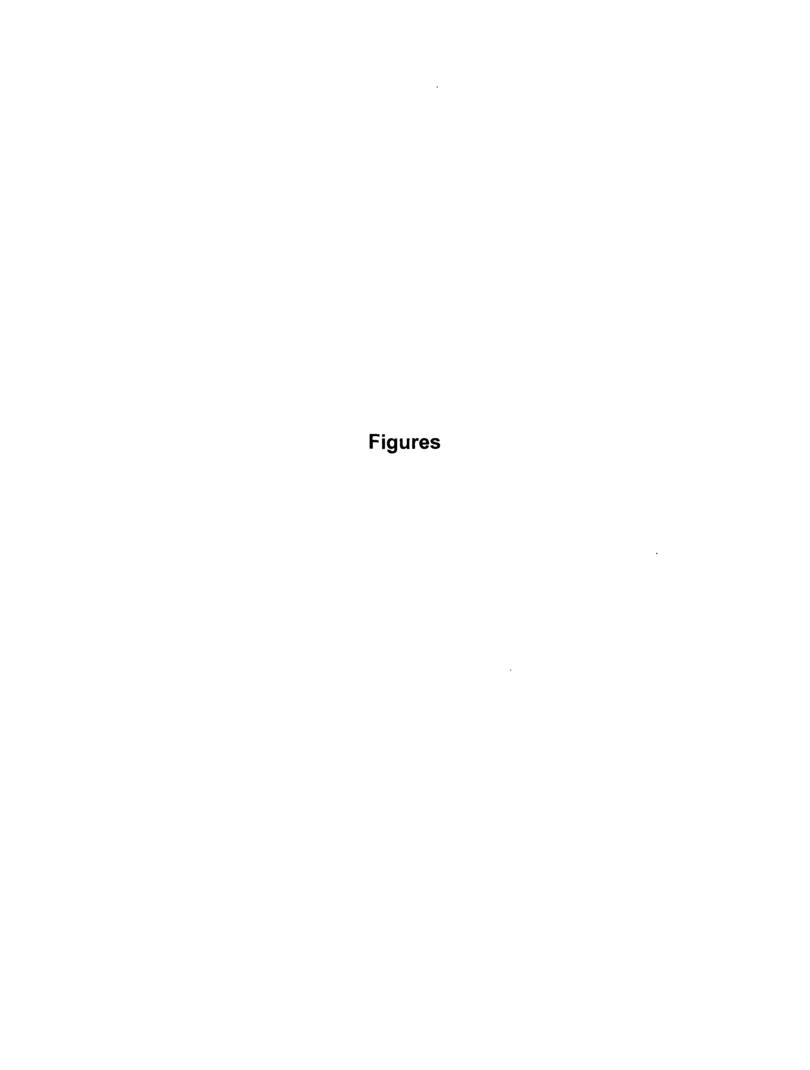
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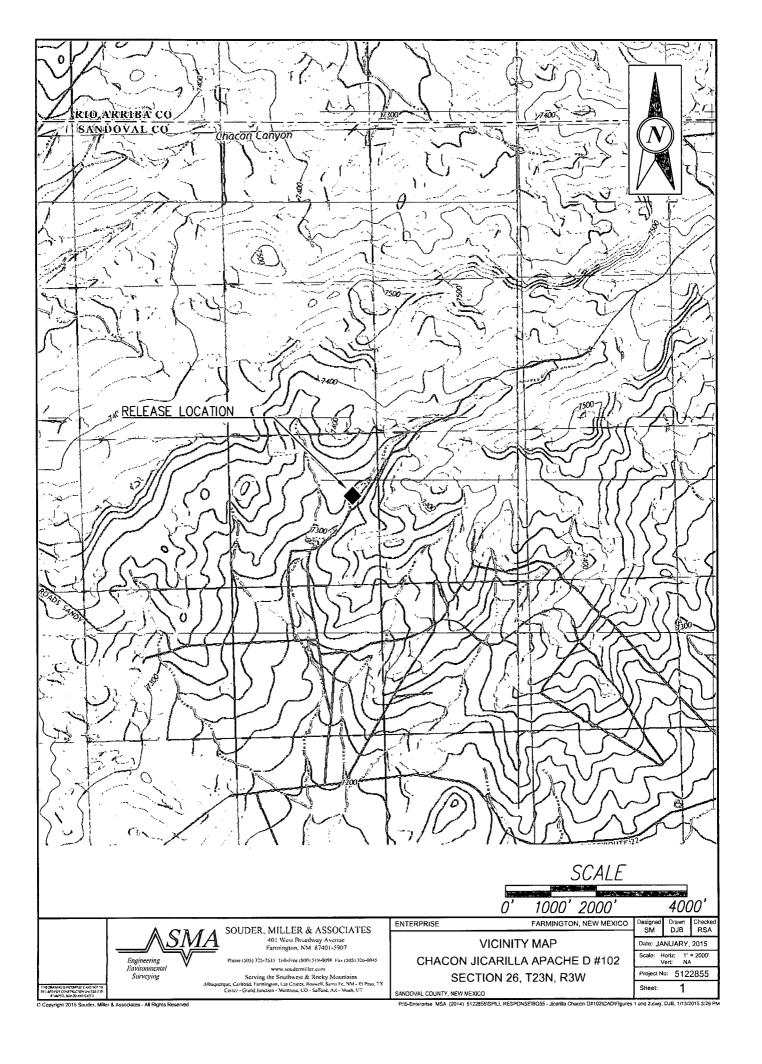
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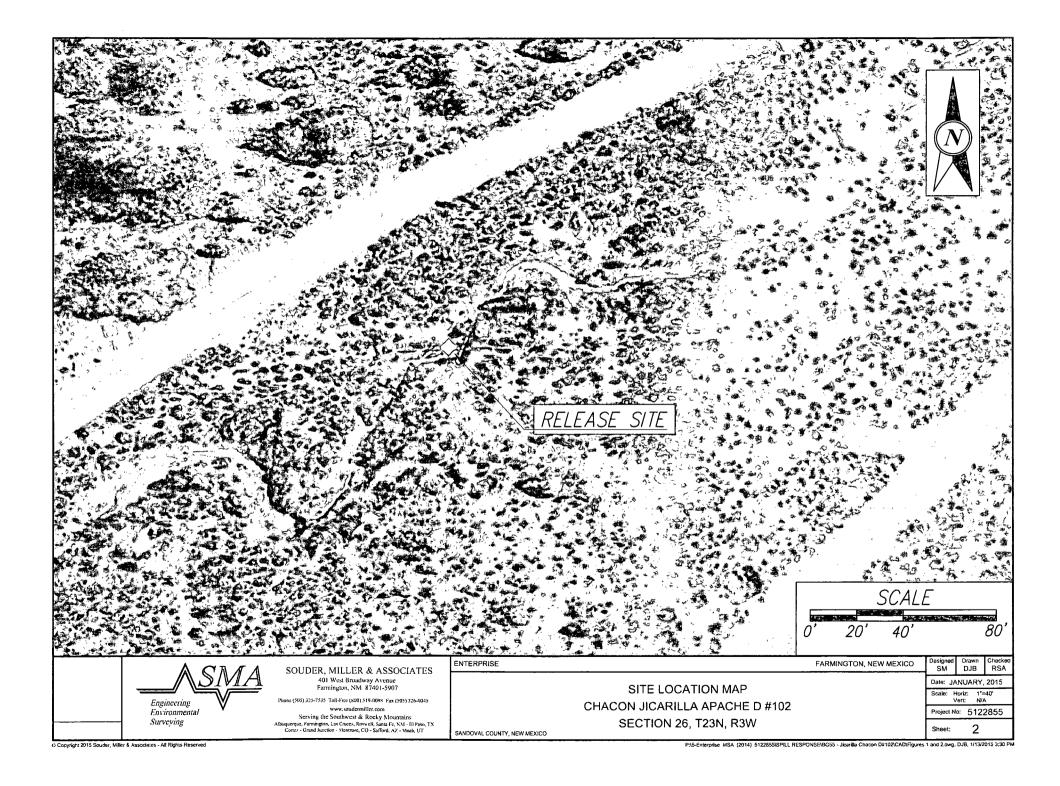
Jesse Sprague Staff Scientist

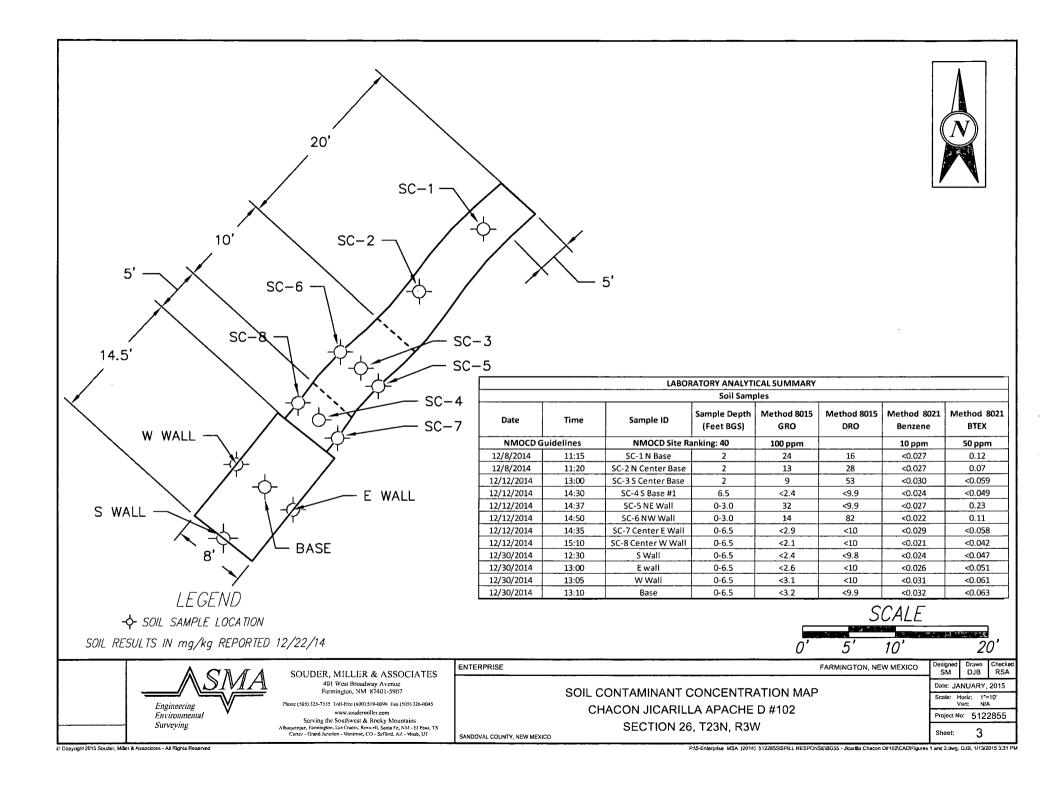
Jan C Sprague

Reid S. Allan, PG Principal Scientist











			1/8/2013		
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes		
< 50 BGS = 20	20		Groundwater estimated		
50' to 99' = 10		Topographic Maps and Field Verification	to be <50 feet at the Chacon Jicarilla D#102		
>100' = 0			site.		
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		Topographic Maps and Field Verification	Release is located in an unnamed tributary of		
>1000'			Valles Arroyo Wash		
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	ance to a NMOCD Numeric Rank for Source for Rank		Notes		
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0		NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet or 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		
	<u> </u>				



Р	PETROFLAG FIELD SCREENING RESULTS SUMMARY										
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	TPH (Mg/Kg)	Lab Sample Collected Y/N						
12/3/2014	11:15	SC-1 S End Base	1.5	1865.0	Υ						
12/8/2014	11:15	SC-1 N Base	2.0	121.0	Υ						
12/8/2014	11:20	SC-2 N Center Base	2.0	248.8	Υ						
12/8/2014	11:25	SC-3 S Center Base	2.0	339.0	Υ						
12/8/2014	11:35	SC-4 S Base	4.0	1118.0	N						
12/12/2014	13:00	SC-3 S Center Base	2.0	79.0	N						
12/12/2014	14:30	SC-4 S Base	6.5	15.0	N						
12/23/2014	12:00	E Wall	0-6.5	112.0	N						
12/23/2014	13:15	W Wall	0-6.5	728.0	N						
12/23/2014	13:30	S Wall	0-6.5	873.0	N						
12/30/2014	12:30	S Wall	0-6.5	30.0	Υ						

# Enterprise Products Table 3: Laboratory Results Summary (mg/kg)

		LABORATORY	ANALYTIC	AL SUM	MARY	<del> </del>	
			Soil Sample	s			
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD G	NMOCD Guidelines NMOCD Site Ranking: 40		inking: 40	100	ppm	10 ppm	50 ppm
1/14/2012	15:20	SC-1	0.33	7300	4000	9.6	1022.6
1/18/2013	12:39	SB-1	6	7.2	47	<0.047	<0.095
1/18/2013	12:45	SB-2	6	<4.9	23	<0.049	<0.099
1/18/2013	12:35	SB-3	6	<4.9	26	<0.049	<0.098
1/18/2013	12:28	SB-4	4	<4.7	21	<0.047	<0.095
1/18/2013	12:58	SB-5	4	<4.8	16	<0.048	<0.096
1/18/2013	13:07	SB-6	5	<4.7	15	<0.047	<0.093
1/18/2013	13:16	SB-7	5	<4.7	<10	<0.047	<0.095
10/17/2014	10:59	SB-1 @ 5'	5'	<4.8	<10	<0.047	<0.095
<b>}</b>		<del></del>	2'				<del> </del>
10/17/2014	11:09	SB-3 @ 2'		56	160	<0.048	<0.27
10/17/2014	11:13	SB-2 @ 5'	5'	<5.0	<10	<0.050	<0.1
10/17/2014	11:17	SB-4 @ 1'	1'	370	570	<0.050	2.2
10/17/2014	11:27	SB-5 @ 1'	1'	2700	750	<0.25	92
10/17/2014	11:45	SB-6 @ 5'	5'	<4.9	<10	<0.049	<0.097
10/17/2014	11:50	SB-7 @ 5'	5'	<4.8	<10	<0.048	<0.096
10/17/2014	12:02	SB-8 @ 2'	2'	<4.9	<10	<0.049	<0.097
10/17/2014	12:40	SB-5 @ 10'	10'	<4.8	<10	<0.048	<0.096
12/3/2014	11:15	SC-1 South Base	1.5	2700	760	<0.96	132.1
12/8/2014	11:15	SC-1 N Base	2	24	16	<0.027	0.12
12/8/2014	11:20	SC-2 N C. Base	2	13	28	<0.027	0.07
12/8/2014	11:25	SC-3 S C. Base	2	520	140	<0.13	7.7
12/12/2014	13:00	SC-3 S C. Base	2	9	53	<0.030	<0.059
12/12/2014	14:30	SC-4 S Base #1	6.5	<2.4	<9.9	<0.024	<0.049
12/12/2014	14:37	SC-5 NE Wall	0-3.0	32	<9.9	<0.027	0.23
12/12/2014	14:50	SC-6 NW Wall	0-3.0	14	82	<0.022	0.11
12/12/2014	14:35	SC-7 C. E Wall	0-6.5	<2.9	<10	<0.029	<0.058
12/12/2014	15:10	SC-8 C. W Wall	0-6.5	<2.1	<10	<0.021	<0.042
12/12/2014	14:43	SC-9 SE Wall	0-6.5	740	88	0.23	11
12/12/2014	14:46	SC-10 SW Wall	0-6.5	110	34	<0.031	0.99
12/12/2014	16:48	SC-11 S Base #2	0-6.5	3.36	<10	<0.028	0.096
12/12/2014	14:50	SC-12 S Wall	0-6.5	150	130	0.035	0.92
12/30/2014	12:30	S Wall	0-6.5	<2.4	<9.8	<0.024	<0.047
12/30/2014	13:00	E wall	0-6.5	<2.6	<10	<0.026	<0.051
12/30/2014	13:05	W Wall	0-6.5	<3.1	<10	<0.031	<0.061
12/30/2014	13:10	Base	0-6.5	<3.2	<9.9	<0.032	<0.063



## Enterprise Productions Table 4: Summary of Initial Field Screening Results

-		FIELD SCREENING R	ESULTS SU	JMMARY	7	
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading (ppm)	Petroflag Reading (mg/kg)	Lab Sample Collected Y/N
1/18/2013	11:24	SB-1 @1'	1.0	1475.0		
1/18/2013	11:28	SB-1 @2'	2.0	1606.0		
1/18/2013	11:32	SB-1 @3'	3.0	1623.0		
1/18/2013	11:34	SB-1 @4'	4.0	1328.0		
1/18/2013	11:35	SB-2 @1'	1.0	846.0		
1/18/2013	11:37	SB-2 @2'	2.0	1391.0		
1/18/2013	11:39	SB-2 @3'	3.0	1812.0		
1/18/2013	11:41	SB-2 @ 4'	4.0	1312.0		
1/18/2013	11:43	SB-3 @1'	1.0	1152.0		
1/18/2013	11:45	SB-3 @2'	2.0	1349.0		
1/18/2013	11:48	SB-3 @3'	3.0	542.0		
1/18/2013	11:50	SB-3 @4'	4.0	556.0		
1/18/2013	11:52	SB-4 @1'	1.0	538.0		
1/18/2013	12:37	SB-1 @5'	5.0	867.0		
1/18/2013	12:39	SB-1 @6'	6.0	625.0		Y
1/18/2013	12:42	SB-2 @5'	5.0	340.0		
1/18/2013	12:45	SB-2 @6'	6.0	610.0		Y
1/18/2013	12:33	SB-3 @5'	5.0	305.0		
1/18/2013	12:35	SB-3 @6'	6.0	245.0		Y
1/18/2013	12:18	SB-4 @2'	2.0	94.0		
1/18/2013	12:23	SB-4 @3'	3.0	243.0		
1/18/2013	12:28	SB-4 @ 4'	4.0	247.0		Y
1/18/2013	12:50	SB-5 @1'	1.0	148.0		
1/18/2013	12:52	SB-5 @2'	1.0	158.0		
1/18/2013	12:55	SB-5 @3'	3.0	72.0		
1/18/2013	12:58	SB-5 @4'	2.0	224.0		Y
1/18/2013	13:00	SB-6 @1'	1.0	1388.0		
1/18/2013	13:02	SB-6 @2'	2.0	733.0		
1/18/2013	13:04	SB-6 @3'	3.0	617.0		
1/18/2013	13:05	SB-6 @4'	4.0	300.0		
1/18/2013	13:07	SB-6 @5'	5.0	617.0		Y
1/18/2013	13:08	SB-7 @1'	1.0	45.0		
1/18/2013	13:10	SB-7 @2'	2.0	30.0		
1/18/2013	13:12	SB-7 @3'	3.0	31.0		
1/18/2013	13:14	SB-7 @4'	4.0	65.0		
1/18/2013	13:16	SB-7 @5'	5.0	30.0		Y



# Enterprise Productions Table 5: Summary of Field Screening Results

		FIELD SCREENING R	ESULTS SU	JMMARY	,	
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading (ppm)	Petroflag Reading (mg/kg)	Lab Sample Collected Y/N
		Soil Bo	rings			
6/18/2013	11:10	SB-1	1.0	3039.0	NA	N
6/18/2013	11:12	SB-1	2.0	4058.0	NA	N
6/18/2013	11:14	SB-1	3.0	1630.0	NA	N
6/18/2013	11:15	SB-1	4.0	1591.0	NA	N
6/18/2013	11:16	SB-2	1.0	55.0	NA	N
6/18/2013	11:18	SB-2	2.0	4580.0	NA	N
6/18/2013	11:20	SB-2	3.0	4884.0	NA	N
6/18/2013	11:57	SB-2	4.0	3743.0	NA	N
6/18/2013	11:25	SB-3	1.0	785.0	NA	N
6/18/2013	11:27	SB-3	2.0	267.0	NA	N
6/18/2013	11:29	SB-3	3.0	113.0	NA	N
6/18/2013	11:59	SB-3	4.0	69.0	NA	N
		SVE Hydrocarbor	Vapor Remo	oval		
6/18/2013	11:44	SVE-1	Vent Fan	64.0	NA	NA
6/18/2013	11:45	SVE-1	Vent Fan	66.0	NA	NA
6/18/2013	11:46	SVE-1	Vent Fan	63.0	NA	NA
6/18/2013	11:47	SVE-1	Vent Fan	61.0	NA	NA
6/18/2013	11:48	SVE-1	Vent Fan	59.0	NA	NA
6/18/2013	11:49	SVE-2	Vent Fan	54.0	NA	NA
6/18/2013	11:50	SVE-2	Vent Fan	57.0	NA	NA
6/18/2013	11:51	SVE-2	Vent Fan	51.0	NA	NA
6/18/2013	11:52	SVE-2	Vent Fan	61.0	NA	NA
6/18/2013	11:53	SVE-2	Vent Fan	58.0	NA	NA
		Soil Bo	orings			
9/20/2013	11:04	SB-1	1.0	11.0	NA	N
9/20/2013	11:05	SB-1	2.0	72.0	NA	N
9/20/2013	11:06	SB-1	3.0	18.0	NA	N
9/20/2013	11:07	SB-1	4.0	82.0	NA	N
9/20/2013	11:08	SB-1	5.0	31.0	NA -	N
9/20/2013	11:09	SB-1	6.0	22.0	NA	N
9/20/2013	11:14	SB-2	1.0	311.0	NA	N
9/20/2013	11:15	SB-2	2.0	440.0	NA	N
9/20/2013	11:16	SB-2	3.0	158.0	NA	N
9/20/2013	11:17	SB-2	4.0	156.0	NA	N
9/20/2013	11:18	SB-2	5.0	31.0	NA	N
9/20/2013	11:19	SB-2	6.0	22.0	NA	N
9/20/2013	11:27	SB-3	1.0	0.0	NA NA	N



# Enterprise Productions Table 5: Summary of Field Screening Results

		FIELD SCREENING R	ESULTS SU	JMMARY	7	
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading (ppm)	Petroflag Reading (mg/kg)	Lab Sample Collected Y/N
9/20/2013	11:28	SB-3	2.0	34.0	NA	N
9/20/2013	11:29	SB-3	3.0	31.0	NA	N
9/20/2013	11:30	SB-3	4.0	27.0	NA	N
9/20/2013	11:31	SB-3	5.0	0.0	NA	N
9/20/2013	11:32	SB-3	6.0	0.0	NA	N
9/20/2013	11:41	SB-4	1.0	0.0	NA	N
9/20/2013	11:42	SB-4	2.0	0.0	NA NA	N
9/20/2013	11:43	SB-4	3.0	4963.0	NA	N
9/20/2013	11:44	SB-4	4.0	4731.0	NA NA	N
9/20/2013	11:45	SB-4	5.0	3659.0	NA NA	N
9/20/2013	11:46	SB-4	6.0	2453.0	NA NA	N
3/20/2010	11.40		L	L	INA	114
9/20/2013	10:49	SVE Hydrocarbor SVE-1	Vent Fan	0.0	NA	NA
9/20/2013	10:49	SVE-1	Vent Fan			
9/20/2013		SVE-2		0.0	NA NA	NA NA
9/20/2013	10:53	SVE-2	Vent Fan	0.0	NA NA	NA NA
9/20/2013	10:55		Vent Fan	0.0	NA	NA
40/47/0044	10.55	Soil Bo		0.7		
10/17/2014 10/17/2014	10:55 10:57	SB-1 just below pipeline	1.0 2.0	0.7 0.6	N N	N N
10/17/2014	10:57		3.0	0.6	N	N
10/17/2014	10:58		4.0	1.6	N	N
10/17/2014	10:59		5.0	2.1	N	Y
10/17/2014	11:04	SB-2 hillside SW of PL	1.0	0.3	N	N
10/17/2014	11:05		2.0	0.5	N	N
10/17/2014 10/17/2014	11:09 11:10		3.0 4.0	0.7 0.7	N N	N N
10/17/2014	11:13		5.0	0.7	N	Y
10/17/2014	11:08	SB-3 N bank @ PL	1.0	231.0	N	N
10/17/2014	11:09	O   O   O   O   O   O   O   O   O   O	2.0	2064.0	N	Y
10/17/2014	11:11		3.0	23.5	N	N
10/17/2014	11:13		4.0	23.2	N	N
10/17/2014	11:15	100 100 100	5.0	17.6	N	N
10/17/2014	11:17	SB-4 Downstream in wash 15'	1.0	2127.0	N	Y
10/17/2014	11:19		2.0	140.9	N	N
10/17/2014	11:21		3.0	72.6	N	N
10/17/2014	11:23		4.0	87.9	N	N
10/17/2014	11:26	OD 5 D 301	5.0	58.7	N	N
10/17/2014 10/17/2014	11:27 11:30	SB-5 Downstream 30'	1.0 2.0	2514.0 1850.0	N N	<del>                                     </del>
10/17/2014	11:31		3.0	1957.0	N N	N
10/17/2014	11:32		4.0	2272.0	N N	N



# Enterprise Productions Table 5: Summary of Field Screening Results

		FIELD SCREENING R	ESULTS SU	JMMARY	7	
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading (ppm)	Petroflag Reading (mg/kg)	Lab Sample Collected Y/N
10/17/2014	11:33		5.0	2453.0	N	N
10/17/2014	12:13		6.0	2512.0	N	N
10/17/2014	12:14		7.0	517.0	N	N
10/17/2014	12:16		8.0	354.0	N	N
10/17/2014	12:35		9.0	150.6	N	N
10/17/2014	12:40	CD C Downstraam EE!	10.0	351.7	N	Y
10/17/2014	11:36	SB-6 Downstream 55'	1.0	8.5	N	N N
10/17/2014	11:38		2.0	7.2 6.3	N	N
10/17/2014 10/17/2014	11:40 11:42		3.0 4.0	227.0	N N	N
10/17/2014	11:42		5.0	28.0	N	
10/17/2014	11:45	On Bank between SB-5 and SB-6	1.0	3.0	N	N
10/17/2014	11:47		2.0	3.6	N	N
10/17/2014	11:48		3.0	2.9	N	N
10/17/2014	11:49		4.0	5.2	N	N
10/17/2014	11:50		5.0	10.2	N	Y
10/17/2014	12:00	SB-8 Upstream of release point	1.0	6.8	N	N
10/17/2014	12:02		2.0	177.4	N	Y
10/17/2014	12:04		3.0	6.8	N	N
10/17/2014	12:06		4.0	10.5	N	N
10/17/2014	12:08		5.0	5.3	N	N N
12/3/2014	11:15	South End Base	1.5	1707.0	1865.0	Υ
12/8/2014	11:15	SC-1 N Base	2.0	499.9	121.0	Υ
12/8/2014	11:20	SC-2 N Center Base	2.0	248.8	248.8	Υ
12/8/2014	11:25	SC-3 S Center Base	2.0	2932.0	339.0	Υ
12/8/2014	11:35	SC-4 S Base Test Pit	4.0	1452.0	1118.0	N
12/12/2014	13:00	SC-3 S. Center Base	2.0	514.0	79.0	Y
12/12/2014	14:30	SC-4 S. Base	6.5	9.4	15.0	Y
12/12/2014	14:37	SC-5 NE Base (area 3)	0-3.0	354.7	N	Y
12/12/2014	15:17	SC-6 NW Wall (area 3)	0-3.0	234.5	N	Y
12/12/2014	14:35	SC-7 SE Wall (area 4)	0-6.5	18.3	N	Y
12/12/2014	15:10	SC-8 SW Wall (area 4)	0-6.5	6.2	N N	Y
12/23/2014	12:00	E Wall	0-6.5	631.0	112.0	N
12/23/2014	13:15	W Wall	0-6.5	728.0	728.0	N
12/23/2014	13:30	S Wall	0-6.5	873.0	873.0	N
12/30/2014	12:30	S Wall	0-6.5	3.0	30.0	Y
					30.0 N	Y
12/30/2014	13:00	E Wall	0-6.5	1.2		Y
12/30/2014	13:05	W Wall	0-6.5	3.0	N	<del></del>
12/30/2014	13:10_	Base	6.5	6.6	N	Υ



Appendix A
Photographic Documentation

## Site Photographs Enterprise Products Chacon Jicarilla Apache D #102

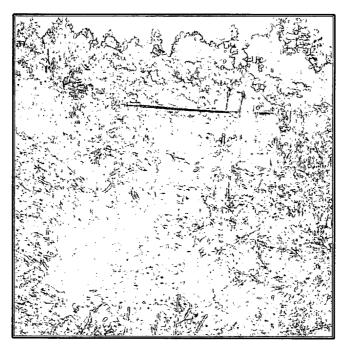


Photo 1: Manual excavation at the Chacon Jicarilla Apache D #102 pipeline release at a depth of approximately 1.5' bgs. Moderate hydrocarbon odor in base near south end (foreground) 12/3/2014.

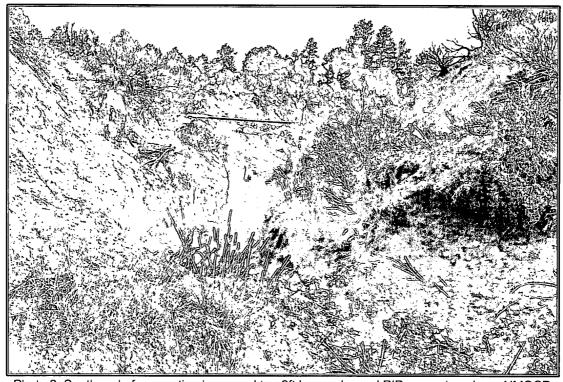


Photo 2: South end of excavation increased to ~2ft bgs , odor and PID screening above NMOCD standards.

## Site Photographs Enterprise Products Chacon Jicarilla Apache D #102

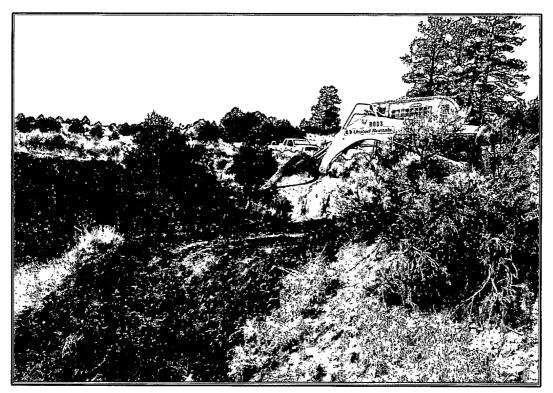


Photo 3: Skidsteer making access ramp for mini-excavator.



Photo 4: Mini-excavator loading contaminated soil by the bucket into the skidsteer bucket. Skidsteer then hauls each bucket to dump truck for removal.

## Site Photographs Enterprise Products Chacon Jicarilla Apache D #102



Photo 5: Rubber-tire backhoe excavating the southern portion of excavation on 12/30/2015.

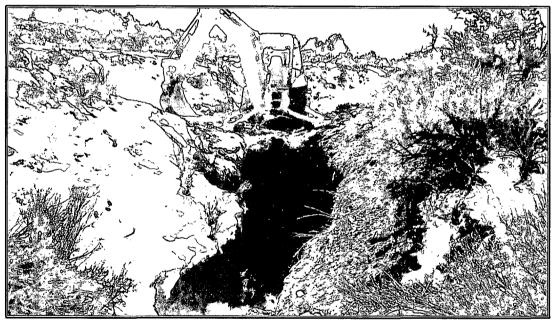


Photo 6: Completed excavation extent. 12/30/2014. Southern section dimension are now 8' wide, 6.5' below grade, and 14.5' in length.

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 97057-0676
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

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401  Dec 2014
2. Originating Site: Chacon Jicarilla Apache D#102
3. Location of Material (Street Address, City, State or ULSTR): UL K Section 26, T23N, R3W; 36.19759, -107.13412
4. Source and Description of Waste:
Source: Water and Sludge from Steaming Cleaning Vessels.  Description: Soil impacted with Natural Gas Liquids (Condensate and Water)
Estimated Volume 20 (yd²) bbls Known Volume (to be entered by the operator at the end of the haul)
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 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, Thomas Long 12-2-14, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Representative for Envirotech, 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: PBB ICAI HBL Securices
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:
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 Lunung SIGNATURE: Surface Waste Management Facility Authorized Agent  TITLE: Waste Coordinator  TITLE: Waste Coordinator  TELEPHONE NO.:  505-632-0615

Appendix C Laboratory Analytical Results



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

OrderNo.: 1410932

October 23, 2014

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

**FAX** 

RE: Jic Chicon D # 102

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 10/21/2014 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

andel

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1410932

Date Reported: 10/23/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Jic Chicon D # 102

Lab ID: 1410932-001

Client Sample ID: SB-4 @ 1'

**Collection Date:** 10/17/2014 11:17:00 AM **Received Date:** 10/21/2014 7:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analys	st: BCN
Diesel Range Organics (DRO)	570	9.9		mg/Kg	1	10/22/2014 10:06:43	AM 16006
Surr: DNOP	124	63.5-128		%REC	1	10/22/2014 10:06:43 /	AM 16006
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	st: NSB
Gasoline Range Organics (GRO)	370	50		mg/Kg	10	10/23/2014 1:31:51 Al	M 16008
Surr: BFB	322	80-120	S	%REC	10	10/23/2014 1:31:51 Al	M 16008
EPA METHOD 8021B: VOLATILES						Analys	st: NSB
Benzene	ND	0.050		mg/Kg	1	10/22/2014 2:34:48 PI	M 16008
Toluene	ND	0.050		mg/Kg	1	10/22/2014 2:34:48 P	M 16008
Ethylbenzene	ND	0.050		mg/Kg	1	10/22/2014 2:34:48 P	M 16008
Xylenes, Total	2.2	0.10		mg/Kg	1	10/22/2014 2:34:48 PI	M 16008
Surr: 4-Bromofluorobenzene	409	80-120	S	%REC	1	10/22/2014 2:34:48 PI	M 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SB-5 @ 1'

Project: Jic C

Jic Chicon D # 102

**Collection Date:** 10/17/2014 11:27:00 AM

**Lab ID:** 1410932-002

Matrix: SOIL

Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analy	st: BCN
Diesel Range Organics (DRO)	750	10		mg/Kg	1	10/22/2014 10:36:59	AM 16006
Surr: DNOP	111	63.5-128		%REC	1	10/22/2014 10:36:59	AM 16006
EPA METHOD 8015D: GASOLINE RA	ANGE					Analy	st: <b>NSB</b>
Gasoline Range Organics (GRO)	2700	49		mg/Kg	10	10/22/2014 1:08:54 F	M 16008
Surr: BFB	1220	80-120	s	%REC	10	10/22/2014 1:08:54 F	M 16008
EPA METHOD 8021B: VOLATILES						Analy	st: NSB
Benzene	ND	0.25		mg/Kg	10	10/22/2014 1:08:54 F	M 16008
Toluene	ND	0.49		mg/Kg	10	10/22/2014 1:08:54 F	PM 16008
Ethylbenzene	ND	0.49		mg/Kg	10	10/22/2014 1:08:54 F	PM 16008
Xylenes, Total	92	0.99		mg/Kg	10	10/22/2014 1:08:54 F	PM 16008
Surr: 4-Bromofluorobenzene	177	80-120	s	%REC	10	10/22/2014 1:08:54 F	PM 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Jic Chicon D # 102

Lab ID: 1410932-003

Project:

Client Sample ID: SB-5 @ 10'

Collection Date: 10/17/2014 12:40:00 PM

Matrix: SOIL Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/22/2014 3:45:02 PM	16006
Surr: DNOP	91.9	63.5-128	%REC	1	10/22/2014 3:45:02 PM	16006
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/22/2014 4:29:06 PM	1 16008
Surr: BFB	99.1	80-120	%REC	1	10/22/2014 4:29:06 PM	1 16008
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	10/22/2014 4:29:06 PM	1 16008
Toluene	ND	0.048	mg/Kg	1	10/22/2014 4:29:06 PM	1 16008
Ethylbenzene	ND	0.048	mg/Kg	1	10/22/2014 4:29:06 PN	1 16008
Xylenes, Total	ND	0.096	mg/Kg	1	10/22/2014 4:29:06 PM	1 16008
Surr: 4-Bromofluorobenzene	90.0	80-120	%REC	1	10/22/2014 4:29:06 PM	1 16008

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

Page 3 of 12

- P Sample pH greater than 2.
- Reporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SB-1 @ 5'

**Project:** Jic Chicon D # 102

**Collection Date:** 10/17/2014 10:59:00 AM

**Lab ID:** 1410932-004

Matrix: SOIL Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analy	st: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/22/2014 4:16:18 P	M 16006
Surr: DNOP	101	63.5-128	%REC	1	10/22/2014 4:16:18 P	M 16006
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/22/2014 4:57:48 P	M 16008
Surr: BFB	96.8	80-120	%REC	1	10/22/2014 4:57:48 P	M 16008
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.048	mg/Kg	1	10/22/2014 4:57:48 P	M 16008
Toluene	ND	0.048	mg/Kg	1	10/22/2014 4:57:48 P	M 16008
Ethylbenzene	ND	0.048	mg/Kg	1	10/22/2014 4:57:48 P	M 16008
Xylenes, Total	ND	0.095	mg/Kg	1	10/22/2014 4:57:48 P	M 16008
Surr: 4-Bromofluorobenzene	92.4	80-120	%REC	1	10/22/2014 4:57:48 P	M 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Jic Chicon D # 102

**Lab ID:** 1410932-005

Client Sample ID: SB-2 @ 5'

Collection Date: 10/17/2014 11:13:00 AM

Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS				Analys	t: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/22/2014 4:47:34 PI	M 16006
Surr: DNOP	101	63.5-128	%REC	1	10/22/2014 4:47:34 PI	vi 16006
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	it: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	10/22/2014 5:26:28 PI	d 16008
Surr: BFB	95.7	80-120	%REC	1	10/22/2014 5:26:28 PI	M 16008
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	10/22/2014 5:26:28 PI	vi 16008
Toluene	ND	0.050	mg/Kg	1	10/22/2014 5:26:28 PI	M 16008
Ethylbenzene	ND	0.050	mg/Kg	1	10/22/2014 5:26:28 PI	M 16008
Xylenes, Total	ND	0.10	mg/Kg	1	10/22/2014 5:26:28 PI	M 16008
Surr: 4-Bromofluorobenzene	94.1	80-120	%REC	, 1	10/22/2014 5:26:28 PI	M 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1410932

Date Reported: 10/23/2014

#### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SB-3 @ 2'

1410932-006

**CLIENT:** Souder, Miller and Associates

Collection Date: 10/17/2014 11:09:00 AM

Jic Chicon D # 102 Project:

Lab ID:

Received Date: 10/21/2014 7:00:00 AM

Analyses Result **RL Qual Units DF** Date Analyzed Batch **EPA METHOD 8015D: DIESEL RANGE ORGANICS** Analyst: BCN Diesel Range Organics (DRO) 160 10 mg/Kg 10/22/2014 5:18:54 PM 16006 1 Surr: DNOP 109 63.5-128 %REC 10/22/2014 5:18:54 PM 16006 1 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 10/22/2014 10:11:55 PM 16008 56 4.8 mg/Kg Surr: BFB 394 80-120 S %REC 10/22/2014 10:11:55 PM 16008 **EPA METHOD 8021B: VOLATILES** Analyst: NSB 10/22/2014 10:11:55 PM 16008 Benzene ND 0.048 mg/Kg Toluene ND 0.048 mg/Kg 10/22/2014 10:11:55 PM 16008 0.048 Ethylbenzene ND mg/Kg 10/22/2014 10:11:55 PM 16008 Xylenes, Total 0.27 0.097 mg/Kg 10/22/2014 10:11:55 PM 16008 Surr: 4-Bromofluorobenzene 110 80-120 %REC 10/22/2014 10:11:55 PM 16008

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
- 0 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

Page 6 of 12

- р Sample pH greater than 2.
- RLReporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

10/22/2014 10:40:29 PM 16008

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Jic Chicon D # 102

Lab ID:

1410932-007

Surr: 4-Bromofluorobenzene

Matrix: SOIL

93.5

Collection Date: 10/17/2014 11:45:00 AM Received Date: 10/21/2014 7:00:00 AM

Client Sample ID: SB-6 @ 5'

Result **RL Qual Units DF** Date Analyzed Analyses Batch **EPA METHOD 8015D: DIESEL RANGE ORGANICS** Analyst: BCN 10/22/2014 5:50:11 PM 16006 Diesel Range Organics (DRO) 10 mg/Kg 1 Surr: DNOP 97.0 63.5-128 %REC 10/22/2014 5:50:11 PM 16006 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.9 10/22/2014 10:40:29 PM 16008 mg/Kg 1 96.1 Surr: BFB 80-120 %REC 10/22/2014 10:40:29 PM 16008 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.049 mg/Kg 10/22/2014 10:40:29 PM 16008 Toluene ND 0.049 mg/Kg 10/22/2014 10:40:29 PM 16008 Ethylbenzene ND 0.049 mg/Kg 10/22/2014 10:40:29 PM 16008 ND 0.097 Xylenes, Total 10/22/2014 10:40:29 PM 16008 mg/Kg

80-120

%REC

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1410932

Date Reported: 10/23/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: SB-7 @ 5'

**Project:** Jic Chicon D # 102

Collection Date: 10/17/2014 11:50:00 AM

**Lab ID:** 1410932-008

Matrix: SOIL

Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS				Analy	/st: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/22/2014 6:21:32 F	PM 16006
Surr: DNOP	99.5	63.5-128	%REC	1	10/22/2014 6:21:32 F	PM 16006
EPA METHOD 8015D: GASOLINE RA	ANGE				Analy	/st: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/22/2014 11:08:59	PM 16008
Surr: BFB	94.0	80-120	%REC	1	10/22/2014 11:08:59	PM 16008
EPA METHOD 8021B: VOLATILES					Analy	/st: NSB
Benzene	ND	0.048	mg/Kg	1	10/22/2014 11:08:59	PM 16008
Toluene	ND	0.048	mg/Kg	1	10/22/2014 11:08:59	PM 16008
Ethylbenzene	ND	0.048	mg/Kg	1	10/22/2014 11:08:59	PM 16008
Xylenes, Total	ND	0.096	mg/Kg	1	10/22/2014 11:08:59	PM 16008
Surr: 4-Bromofluorobenzene	94.3	80-120	%REC	1	10/22/2014 11:08:59	PM 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1410932

Date Reported: 10/23/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Jic Chicon D # 102

1410932-009

Project:

Lab ID:

Client Sample ID: SB-8 @ 2'

Collection Date: 10/17/2014 12:02:00 PM

Matrix: SOIL Received Date: 10/21/2014 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analy	st: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/22/2014 6:52:33 F	PM 16006
Surr: DNOP	100	63.5-128	%REC	1	10/22/2014 6:52:33 F	PM 16006
EPA METHOD 8015D: GASOLINE RA	NGE	•			Analy	/st: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/22/2014 11:37:30	PM 16008
Surr: BFB	92.9	80-120	%REC	1	10/22/2014 11:37:30	PM 16008
EPA METHOD 8021B: VOLATILES					Analy	/st: NSB
Benzene	ND	0.049	mg/Kg	1	10/22/2014 11:37:30	PM 16008
Toluene	ND	0.049	mg/Kg	1	10/22/2014 11:37:30	PM 16008
Ethylbenzene	ND	0.049	mg/Kg	1	10/22/2014 11:37:30	PM 16008
Xylenes, Total	ND	0.097	mg/Kg	1	10/22/2014 11:37:30	PM 16008
Surr: 4-Bromofluorobenzene	93.1	80-120	%REC	1	10/22/2014 11:37:30	PM 16008

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 12

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410932 23-Oct-14

Client:

Souder, Miller and Associates

Project:

Jic Chicon D # 102

Project: Jie Chiec	on D # 102								
Sample ID MB-16006	SampType: MI	BLK	Test	Code: El	PA Method	8015D: Diese	l Range C	Organics	
Client ID: PBS	Batch ID: 16	006	R	unNo: 2	2037				
Prep Date: 10/21/2014	Analysis Date: 10	0/21/2014	S	47997	Units: mg/K	g			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10								
Surr: DNOP	9.4	10.00	_	94.0	63.5	128			
Sample ID LCS-16006	SampType: L0	s	Test	Code: El	PA Method	8015D: Diese	l Range C	Organics	
Client ID: LCSS	Batch ID: 16	Batch ID: 16006 RunNo: 22037  Analysis Date: 10/21/2014 SeqNo: 647999 Units: mg/Kg							
Prep Date: 10/21/2014	Analysis Date: 1	alysis Date: 10/21/2014 SeqNo: 647999					g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42 10	50.00	0	83.7	68.6	130			
Surr: DNOP	4.2	5.000		84.9	63.5	128	·····		
Sample ID MB-16000	SampType: MI	3LK	Test	Code: El	PA Method	8015D: Diese	l Range C	Organics	
Client ID: PBS	Batch ID: 16	000	R	lunNo: 2	2037				
Prep Date: 10/20/2014	Analysis Date: 1	0/21/2014	S	eqNo: 6	48092	Units: %RE	C		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3	10.00		83.4	63.5	128			
Sample ID LCS-16000	SampType: <b>L</b> 0	s	Test	Code: El	PA Method	8015D: Diese	el Range (	Organics	
Client ID: LCSS	Batch ID: 16	000	R	tunNo: 2	2037				
Prep Date: 10/20/2014	Analysis Date: 1	0/21/2014	s	eqNo: 6	48093	Units: %RE	С		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

5.000

5.4

#### 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

108

63.5

128

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Page 10 of 12

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1410932

23-Oct-14

Client:

Souder, Miller and Associates

Project:

Jic Chicon D # 102

Sample ID MB-16008 MK	SampTyp	ре: <b>МВ</b>	LK	Tes	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: <b>R22067</b>			F	RunNo: 2	2067						
Prep Date:	Analysis Date: 10/22/2014			S	SeqNo: 6	49563	Units: %RE	С				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: BFB	910		1000		90.7	80	120					

Sample ID LCS-16008 MK	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	)
Client ID: LCSS	Batch ID: R22067	RunNo: 22067		
Prep Date:	Analysis Date: 10/22/201	SeqNo: <b>649564</b>	Units: %REC	
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: BFB	1100 1	00 115 80	120	

Sample ID MB-16008	Samp1	ype: ME	BLK	Tes	8015D: Gaso	oline Rang	е					
Client ID: PBS	Batcl	n ID: 16	800	F	RunNo: 2	2067						
Prep Date: 10/21/2014	Analysis [	)ate: 10	0/22/2014	S	49565	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	910		1000		90.7	80	120					

Sample ID LCS-16008	Samp	Type: LC	s	Test	PA Method	od 8015D: Gasoline Range								
Client ID: LCSS	Batcl	h ID: 16	800	F										
Prep Date: 10/21/2014	Analysis [	Date: 10	0/22/2014	Units: mg/k	ζg									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)	30	5.0	25.00	0	121	65.8	139							
Surr: BFB	1100		1000		115	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 greater than 2.
- RL Reporting Detection Limit

Page 11 of 12

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410932

23-Oct-14

Client:

Souder, Miller and Associates

Project:

Jic Chicon D # 102

Sample ID MB-16008 MK	SampT	ype: Mil	BLK	les	tCode: E	PA Method	8021B: Volat	iles			
Client ID: PBS	Batch	ID: R2	2067	F	RunNo: 2	2067					
Prep Date:	Analysis D	ate: 10	0/22/2014	8	SeqNo: 6	49639	Units: %RE	С			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	0.94		1.000		94.5	80	120				

Sample ID LCS-16008 MK	SampTy	SampType: LCS TestCode: EPA Method 80					8021B: Volat	tiles		
Client ID: LCSS	Batch ID: R22067 RunNo: 2				2067					
Prep Date:	Analysis Da	ite: 10	0/22/2014	S	SeqNo: 6	49640	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID MB-16008	SampT	ype: ME	BLK	Test						
Client ID: PBS	Batcl	n ID: <b>16</b>	800	R	tunNo: 2	2067				
Prep Date: 10/21/2014	Analysis D	)ate: 10	0/22/2014	S	eqNo: 6	49641	Units: mg/K	ίg		
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	0.94		1.000		94.5	80	120			

Sample ID LCS-16008	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: <b>16</b>	800	F	RunNo: 2	2067				
Prep Date: 10/21/2014	Analysis D	Date: 10	0/22/2014	S	SeqNo: 6	49642	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	99.1	80	120			
Toluene	1.0	0.050	1.000	0	99.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0 101 80			120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- J Analyte detected below quantitation limits
- 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
- ND Not Detected at the Reporting Limit

Sample pH greater than 2. Reporting Detection Limit Page 12 of 12



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: SMA-FARM	Work Order Number:	1410932		RcptNo: 1	
Received by/date:	10/21/14	4400	,	AND THE STREET OF THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET, THE STREET,	
Logged By: Lindsay Mangin	10/21/2014 7:00:00 AN	Л	Juney Happy		
Completed By: Lindsay Mangin	10/21/2014 7:21:57 AM	Λ	Simby Hlyago		
Reviewed By: A- 10/2///	4				
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 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	erly 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 bro	oken?	Yes 🗆	No 🗹	# of preserved	
12. Does paperwork match bottle labels?		Yes 🗹	No 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)		163 🖭		(<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 📙	Ot a dead bear	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🕏	No ∐	Checked by:	
Consideration (if applicable)					
Special Handling (if applicable)  16. Was client notified of all discrepancies with	th this order?	Yes 🔀	No 🗆	NA.	
	C Data I				
Person Notified: Jesse  By Whom:	Sprague Date.	☐ eMail ☐	Phone   Fax	☐ In Person	
Regarding:	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	B5C.10	/		
Client Instructions:		P3 (-) 10	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	Andrews and the second	
17. Additional remarks:	•	A 101	121114		
18. Cooler Information					
Cooler No Temp °C Condition	Seal Intact   Seal No	Seal Date	Signed By		
1 1.7 Good	Yes		AND THE RESERVE OF THE BUTCH OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY O		

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Stan			☐ Level 4 (Full Validation)	Steve	. Moska	4	+	(Gas only)	ТРН 80158 (GRO (DRO) (MRO)		SIMS)		Anions (F,CI,NO3,NO2,PO4,SO4)	PCB'						
Accredi				Sampler: .	lesse !	Drague		TPH (	الظ	= =	· 1		10 ₂ ,	8082			1			
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□ EDD	(Type)_			Sample Tem	perature: \	7	1 #	ᆲ	ণ্ডা	bo 4	0 0	etals	Ž	side	(A	\frac{1}{2}				≥
				Container	Preservative	Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contro	BTEX + MTBE	BTEX + MTBE	15E	TPH (Method 418.1)	PAH's (8310 or	RCRA 8 Metals	(F,(	8081 Pesticides /	8260B (VOA)	(Semi-VOA)				Salg
Date	Time	Matrix	Sample Request ID	Type and #	1	HEALINO:	X	Ä	1 8C	₹   €	SH	₹	ions	31 P	30B	02				Air Bubbles (Y or N)
						1410932	ВП			F F	<u>4</u>	8	Ani	808	826	8270				Ą
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	1113		5B-Z e 51			-005	X		X											Γ
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10/20/14	130	Mi	to Walton		M	10/2/14 078	10			<u> </u>										
	f necessary,	samples sub	mitted to Hall Environmental may be subc	ontracted to other a	chidited laboratori	es. This serves as notice of this	s possi	bility. A	ny sub	o-contrac	ted data	will be	e clear	ly nota	ated on	the an	alytical	report.		
				\ /																



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

December 08, 2014

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

FAX

RE: Jic Chacon D 102 OrderNo.: 1412209

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/4/2014 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

4901 Hawkins NE

Albuquerque, NM 87109



ruu environmeniai Anaiysis Lavoraiory 4901 Hawkins NE Albuquerque, NM 87109

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

## Sample Log-In Check List

Client I	Name:	SMA-FARM		Work Order Numbe	er: 1412	209			RcptNo:	1
Receive	ed by/date	e:A	-12/04/10	1		<u>.</u>				
Logged	Ву:	Anne Thorr	ne	12/4/2014 7:55:00 AF	vī		ame	I.		
Comple	ted By:	Anne Thorn	ne	12/4/2014		•	Arne ,	11.	_	
Review	ed By:		33	in louder			Cime J	<i>,</i>	•	
Chain	of Cus	tody		12109/14						
1. Cus	stody sea	ls intact on sa	mple bottles?		Yes		No		Not Present 🗹	
2, Is C	Chain of C	custody compl	lete?		Yes	<b>V</b>	No		Not Present	
3. Hov	w was the	sample deliv	ered?		Cou	ier				
Log li	<u>1</u>									
4. Wa	is an atte	mpt made to o	cool the samples?	,	Yes	V	No		NA 🗆	
5. We	re all san	nples received	d at a temperature	of >0° C to 6.0°C	Yes	<b>✓</b>	No		NA 🗆	
6. Sa	mple(s) ir	n proper conta	tiner(s)?		Yes	V	No			
7, Suf	ficient sa	mple volume f	for indicated test(	s)?	Yes	<b>V</b>	No			
8. Are	samples	(except VOA	and ONG) proper	ly preserved?	Yes	<b>V</b>	No			
9. Wa	s preserv	ative added to	o bottles?		Yes		No	<b>Y</b>	NA 🗆	
10.VO	A vials ha	ave zero head:	space?		Yes		No		No VOA Vials 🗹	
11. We	ere any sa	ample contain	ers received broke	en?	Yes		No	<b>V</b>	4-6	
									# of preserved bottles checked	
		vork match bo	attle labels?		Yes	<b>Y</b>	No		for pH:	or >12 unless noted)
			ntified on Chain of	Custody?	Yes	<b>V</b>	No		Adjusted?	
			ere requested?		Yes	$\overline{\mathbf{V}}$	No	,		
15.We	re all hold	ding times abl	e to be met?		Yes	✓	No		Checked by:	
(lf r	no, notify	customer for a	authorization.)					;		
Specia	al Hand	lling (if app	olicable)							
			iscrepancies with	this order?	Yes		No		NA 🗹	
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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

OrderNo.: 1412386

December 10, 2014

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

**FAX** 

RE: Jicarilla Chacon D#102

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/9/2014 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 1412386

Date Reported: 12/10/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 N Center Base

**Project:** Jicarilla Chacon D #102

Collection Date: 12/8/2014 11:20:00 AM

**Lab ID:** 1412386-002 **Matrix:** MEOH (SOIL)

Received Date: 12/9/2014 7:45:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analys	t: BCN
Diesel Range Organics (DRO)	28	9.8		mg/Kg	1	12/9/2014 10:40:45 AN	1 16735
Surr: DNOP	84.4	63.5-128		%REC	1	12/9/2014 10:40:45 AN	1 16735
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	13	2.7		mg/Kg	1	12/9/2014 11:46:46 AN	1 R23008
Surr: BFB	261	80-120	S	%REC	1	12/9/2014 11:46:46 AN	1 R23008
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.027		mg/Kg	1	12/9/2014 11:46:46 AM	1 R23008
Toluene	ND	0.027		mg/Kg	1	12/9/2014 11:46:46 AN	1 R23008
Ethylbenzene	ND	0.027		mg/Kg	1	12/9/2014 11:46:46 AN	1 R23008
Xylenes, Total	0.070	0.054		mg/Kg	1	12/9/2014 11:46:46 AN	1 R23008
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	12/9/2014 11:46:46 AN	1 R23008

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 greater than 2.
- RL Reporting Detection Limit



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

December 16, 2014

Steve Moskal
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401

TEL. (303)

TEL: (505) 325-5667

**FAX** 

RE: Jicarilla Chacon D#102

OrderNo.: 1412641

#### Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/13/2014 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 qualifiers 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

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1412641

Date Reported: 12/16/2014

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: SC-3 @ 2'

**Project:** Jicarilla Chacon D #102

**Collection Date:** 12/12/2014 1:00:00 PM

Lab ID: 1412641-001

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Anal	yst: <b>JME</b>
Diesel Range Organics (DRO)	53	10		mg/Kg	1	12/15/2014 9:43:47	AM 16816
Surr: DNOP	87.3	63.5-128		%REC	1	12/15/2014 9:43:47	AM 16816
EPA METHOD 8015D: GASOLINE RA	NGE					Analy	yst: NSB
Gasoline Range Organics (GRO)	9.0	3.0		mg/Kg	1	12/15/2014 10:32:16	AM 16795
Surr: BFB	270	80-120	S	%REC	1	12/15/2014 10:32:16	AM 16795
EPA METHOD 8021B: VOLATILES						Anal	yst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	12/15/2014 10:32:16	AM 16795
Toluene	ND	0.030		mg/Kg	1	12/15/2014 10:32:16	AM 16795
Ethylbenzene	ND	0.030		mg/Kg	1	12/15/2014 10:32:16	AM 16795
Xylenes, Total	ND	0.059		mg/Kg	1	12/15/2014 10:32:16	AM 16795
Surr: 4-Bromofluorobenzene	113	80-120		%REC	1	12/15/2014 10:32:16	AM 16795

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 13

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Analytical Report Lab Order 1412641

Date Reported: 12/16/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Client Sample ID: SC-4 S Base #1

 Project:
 Jicarilla Chacon D #102
 Collection Date: 12/12/2014 2:30:00 PM

 Lab ID:
 1412641-002
 Matrix: SOIL
 Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	E ORGANICS				Analy	yst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/15/2014 10:13:50	AM 16816
Surr: DNOP	83.0	63.5-128	%REC	1	12/15/2014 10:13:50	AM 16816
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.4	mg/Kg	1	12/15/2014 11:01:00	AM 16795
Surr: BFB	98.0	80-120	%REC	1	12/15/2014 11:01:00	AM 16795
EPA METHOD 8021B: VOLATILES					Analy	yst: NSB
Benzene	ND	0.024	mg/Kg	1	12/15/2014 11:01:00	AM 16795
Toluene	ND	0.024	mg/Kg	1	12/15/2014 11:01:00	AM 16795
Ethylbenzene	ND	0.024	mg/Kg	1	12/15/2014 11:01:00	AM 16795
Xylenes, Total	ND	0.049	mg/Kg	1	12/15/2014 11:01:00	AM 16795
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	12/15/2014 11:01:00	AM 16795

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1412641

Date Reported: 12/16/2014

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: SC-5 NE Wall

**Project:** Jicarilla Chacon D #102

Collection Date: 12/12/2014 2:37:00 PM

**Lab ID:** 1412641-003

Matrix: SOIL

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Anal	yst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/15/2014 10:43:38	AM 16816
Surr: DNOP	80.9	63.5-128		%REC	1	12/15/2014 10:43:38	AM 16816
EPA METHOD 8015D: GASOLINE RA	NGE					Anal	yst: NSB
Gasoline Range Organics (GRO)	32	2.7		mg/Kg	1	12/15/2014 11:29:37	AM 16795
Surr: BFB	364	80-120	S	%REC	1	12/15/2014 11:29:37	' AM 16795
EPA METHOD 8021B: VOLATILES						Anal	yst: NSB
Benzene	ND	0.027		mg/Kg	1	12/15/2014 11:29:37	AM 16795
Toluene	ND	0.027		mg/Kg	1	12/15/2014 11:29:37	'AM 16795
Ethylbenzene	ND	0.027		mg/Kg	1	12/15/2014 11:29:37	' AM 16795
Xylenes, Total	0.23	0.053		mg/Kg	1	12/15/2014 11:29:37	' AM 16795
Surr: 4-Bromofluorobenzene	122	80-120	S	%REC	1	12/15/2014 11:29:37	' AM 16795

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 greater than 2.
- RL Reporting Detection Limit

Collection Date: 12/12/2014 2:50:00 PM

#### Lab Order 1412641

Date Reported: 12/16/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-6 NW Wall

Jicarilla Chacon D #102 Project: 1412641-004

Lab ID:

Matrix: SOIL Received Date: 12/13/2014 6:50:00 PM

Analyses Result RL Qual Units **DF** Date Analyzed Batch **EPA METHOD 8015D: DIESEL RANGE ORGANICS** Analyst: JME Diesel Range Organics (DRO) 12/15/2014 11:13:47 AM 16816 82 10 mg/Kg Surr: DNOP 84.1 63.5-128 %REC 12/15/2014 11:13:47 AM 16816 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 12/15/2014 11:58:14 AM 16795 14 2.2 mg/Kg Surr: BFB 301 %REC 12/15/2014 11:58:14 AM 16795 80-120 S 1 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.022 mg/Kg 12/15/2014 11:58:14 AM 16795 Toluene ND 0.022 12/15/2014 11:58:14 AM 16795 mg/Kg Ethylbenzene ND 0.022 mg/Kg 12/15/2014 11:58:14 AM 16795 Xylenes, Total 0.11 0.044 12/15/2014 11:58:14 AM 16795 mg/Kg Surr: 4-Bromofluorobenzene 117 80-120 %REC 12/15/2014 11:58:14 AM 16795

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

Page 4 of 13

- P Sample pH greater than 2.
- Reporting Detection Limit

#### Lab Order 1412641

Date Reported: 12/16/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7 Center East Wall

**Project:** Jicarilla Chacon D #102

**Collection Date:** 12/12/2014 2:35:00 PM

**Lab ID:** 1412641-005

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Anal	yst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/15/2014 11:43:50	AM 16816
Surr: DNOP	82.1	63.5-128	%REC	1	12/15/2014 11:43:50	AM 16816
EPA METHOD 8015D: GASOLINE RAI	NGE				Anal	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9	mg/Kg	1	12/15/2014 12:26:57	PM 16795
Surr: BFB	107	80-120	%REC	1	12/15/2014 12:26:57	' PM 16795
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.029	mg/Kg	1	12/15/2014 12:26:57	' PM 16795
Toluene	ND	0.029	mg/Kg	1	12/15/2014 12:26:57	PM 16795
Ethylbenzene	ND	0.029	mg/Kg	1	12/15/2014 12:26:57	PM 16795
Xylenes, Total	ND	0.058	mg/Kg	1	12/15/2014 12:26:57	PM 16795
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	12/15/2014 12:26:57	PM 16795

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

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- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1412641

Date Reported: 12/16/2014

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 Center West Wall

**Project:** Jicarilla Chacon D #102

**Collection Date:** 12/12/2014 3:10:00 PM

**Lab ID:** 1412641-006

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	ORGANICS				Analy	st: <b>JME</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/15/2014 9:52:33 A	M 16816
Surr: DNOP	74.1	63.5-128	%REC	1	12/15/2014 9:52:33 A	M 16816
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	2.1	mg/Kg	1	12/15/2014 12:55:42	PM 16795
Surr: BFB	96.7	80-120	%REC	1	12/15/2014 12:55:42	PM 16795
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.021	mg/Kg	1	12/15/2014 12:55:42	PM 16795
Toluene	ND	0.021	mg/Kg	1	12/15/2014 12:55:42	PM 16795
Ethylbenzene	ND	0.021	mg/Kg	1	12/15/2014 12:55:42	PM 16795
Xylenes, Total	ND	0.042	mg/Kg	1	12/15/2014 12:55:42	PM 16795
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	12/15/2014 12:55:42	PM 16795

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

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- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1412641

Date Reported: 12/16/2014

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Jicarilla Chacon D #102

**Lab ID:** 1412641-007

Collect

Matrix: SOIL

Client Sample ID: SC-9 South East Wall Collection Date: 12/12/2014 4:43:00 PM

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL (	Qual (	J <b>nits</b>	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS					Analys	st: JME
Diesel Range Organics (DRO)	88	9.9		mg/Kg	1	12/15/2014 10:14:01 A	M 16816
Surr: DNOP	80.9	63.5-128		%REC	1	12/15/2014 10:14:01 A	M 16816
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	740	29		mg/Kg	10	12/15/2014 1:24:26 PI	M 16795
Surr: BFB	483	80-120	S	%REC	10	12/15/2014 1:24:26 PI	M 16795
EPA METHOD 8021B: VOLATILES						Analys	st: NSB
Benzene	0.23	0.15		mg/Kg	10	12/15/2014 1:24:26 Pf	M 16795
Toluene	ND	0.29		mg/Kg	10	12/15/2014 1:24:26 Pt	M 16795
Ethylbenzene	ND	0.29		mg/Kg	10	12/15/2014 1:24:26 PI	M 16795
Xylenes, Total	11	0.58		mg/Kg	10	12/15/2014 1:24:26 PI	vi 16795
Surr: 4-Bromofluorobenzene	126	80-120	S	%REC	10	12/15/2014 1:24:26 PI	M 16795

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 greater than 2.
- RL Reporting Detection Limit

# Analytical Report Lab Order 1412641

Date Reported: 12/16/2014

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample 1D: SC-10 South West Wall

Project: Jicarilla Chacon D #102

Collection Date: 12/12/2014 4:46:00 PM

**Lab ID:** 1412641-008

Matrix: SOIL

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL (	Qual U	nits	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS					Analy	/st: <b>JME</b>
Diesel Range Organics (DRO)	34	10	r	ng/Kg	1	12/15/2014 10:35:24	AM 16816
Surr: DNOP	73.3	63.5-128	q	%REC	1	12/15/2014 10:35:24	AM 16816
EPA METHOD 8015D: GASOLINE RA	ANGE					Analy	yst: NSB
Gasoline Range Organics (GRO)	110	3.1	r	ng/Kg	1	12/15/2014 1:53:04 [	PM 16795
Surr: BFB	1600	80-120	S 9	%REC	1	12/15/2014 1:53:04 [	PM 16795
EPA METHOD 8021B: VOLATILES						Analy	yst: NSB
Benzene	ND	0.031	r	ng/Kg	1	12/15/2014 1:53:04 F	PM 16795
Toluene	ND	0.031	r	ng/Kg	1	12/15/2014 1:53:04 [	PM 16795
Ethylbenzene	ND	0.031	Г	ng/Kg	1	12/15/2014 1:53:04	PM 16795
Xylenes, Total	0.99	0.063	г	ng/Kg	1	12/15/2014 1:53:04	PM 16795
Surr: 4-Bromofluorobenzene	208	80-120	S 9	%REC	1	12/15/2014 1:53:04	PM 16795

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 greater than 2.
- RL Reporting Detection Limit

Lab Order 1412641

Date Reported: 12/16/2014

12/15/2014 2:21:46 PM 16795

### Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-11 S Base #2

107

 Project:
 Jicarilla Chacon D #102
 Collection Date: 12/12/2014 4:48:00 PM

 Lab ID:
 1412641-009
 Matrix: SOIL
 Received Date: 12/13/2014 6:50:00 PM

**Analyses** Result **RL Qual Units DF** Date Analyzed Batch **EPA METHOD 8015D: DIESEL RANGE ORGANICS** Analyst: JME Diesel Range Organics (DRO) 12/15/2014 10:56:51 AM 16816 10 mg/Kg 1 Surr: DNOP 79.2 63.5-128 %REC 12/15/2014 10:56:51 AM 16816 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 3.6 mg/Kg 12/15/2014 2:21:46 PM 16795 2.8 1 Surr: BFB 126 80-120 S %REC 12/15/2014 2:21:46 PM 16795 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.028 mg/Kg 12/15/2014 2:21:46 PM 16795 Toluene ND 0.028 mg/Kg 12/15/2014 2:21:46 PM 16795 Ethylbenzene ND 0.028 mg/Kg 12/15/2014 2:21:46 PM 16795 0.096 Xylenes, Total 0.056 mg/Kg 12/15/2014 2:21:46 PM 16795

80-120

%REC

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 greater than 2.
- RL Reporting Detection Limit

#### **Analytical Report** Lab Order 1412641

Date Reported: 12/16/2014

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: SC-12 South Wall

Jicarilla Chacon D #102 Project:

Collection Date: 12/12/2014 4:50:00 PM

Lab ID: 1412641-010 Matrix: SOIL

Received Date: 12/13/2014 6:50:00 PM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analy	/st: <b>JME</b>
Diesel Range Organics (DRO)	130	9.9		mg/Kg	1	12/15/2014 11:18:21	AM 16816
Surr: DNOP	84.5	63.5-128		%REC	1	12/15/2014 11:18:21	AM 16816
EPA METHOD 8015D: GASOLINE RA	NGE					Analy	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	150	2.9		mg/Kg	1	12/15/2014 2:50:20	PM 16795
Surr: BFB	1470	80-120	S	%REC	1	12/15/2014 2:50:20 F	PM 16795
EPA METHOD 8021B: VOLATILES						Analy	yst: <b>NSB</b>
Benzene	0.035	0.029		mg/Kg	1	12/15/2014 2:50:20	PM 16795
Toluene	ND	0.029		mg/Kg	1	12/15/2014 2:50:20 F	PM 16795
Ethylbenzene	ND	0.029		mg/Kg	1	12/15/2014 2:50:20	PM 16795
Xylenes, Total	0.92	0.058		mg/Kg	1	12/15/2014 2:50:20 [	PM 16795
Surr: 4-Bromofluorobenzene	213	80-120	S	%REC	1	12/15/2014 2:50:20	PM 16795

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

Page 10 of 13

- P Sample pH greater than 2.
- RLReporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1412641

16-Dec-14

Client:

Souder, Miller and Associates

Project:

Jicarilla Chacon D #102

Sample ID MB-16816	Sampl	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: PBS	Batcl	n ID: 16	816	F	RunNo: 2	3131				
Prep Date: 12/15/2014	Analysis E	Date: 12	2/15/2014	9	SeqNo: 6	83125	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Quai
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.6		10.00		75.8	63.5	128			

Sample ID LCS-16816	SampT	SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: LCSS	Batch	ID: 16	816	R	lunNo: 2	3131				
Prep Date: 12/15/2014	Analysis D	ate: 12	2/15/2014	4 SeqNo: 683126 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.2	68.6	130			
Surr: DNOP	3.8		5.000		76.3	63.5	128			

#### 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 greater than 2.
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1412641

16-Dec-14

Client:

Souder, Miller and Associates

Project:

Jicarilla Chacon D #102

Sample ID MB-16795

Prep Date: 12/12/2014

SampType: MBLK

Analysis Date: 12/15/2014

5.0

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 16795

RunNo: 23146 SeqNo: 683854

Units: mg/Kg

**RPDLimit** 

Analyte Gasoline Range Organics (GRO) Result PQL ND

SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD

Qual

Surr: BFB

930

1000

92.6

RunNo: 23146

SeqNo: 683855

80 120

Sample ID LCS-16795 Client ID: LCSS

SampType: LCS

Batch ID: 16795

Analysis Date: 12/15/2014

TestCode: EPA Method 8015D: Gasoline Range

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

Prep Date: 12/12/2014

Result **PQL** 21

5.0 25.00

SPK value SPK Ref Val %REC 0 85.6

LowLimit HighLimit 65.8

139

%RPD **RPDLimit** Qual

Surr: BFB

1100

1000

109

80

120

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits J
- 0 RSD is greater than RSDlimit R RPD outside accepted recovery limits
- S 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 greater than 2.
- Reporting Detection Limit

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# Hall Environmental Analysis Laboratory, Inc.

WO#:

1412641

16-Dec-14

Client:

Souder, Miller and Associates

Project:

Jicarilla Chacon D #102

Sample ID MB-16795	SampT	уре: <b>МЕ</b>	BLK	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batcl	n ID: 16	795	R	lunNo: 2	3146				
Prep Date: 12/12/2014	Analysis C	)ate: 12	2/15/2014	S	eqNo: 6	83878	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								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID LCS-16795	Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 16	795	F	RunNo: 2	3146				
Prep Date: 12/12/2014	Analysis E	Date: 12	2/15/2014	9	SeqNo: 6	83879	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.050	1.000	0	90.1	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.94	0.050	1.000	i <b>O</b>	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	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 greater than 2.
- 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 Nam	ne: SMA-FARM	Work Order	Number: 1412	641		RcptNo:	1
Received b	y/date: AF	[2]/3/14				,	
Logged By:	Anne Thorr	ne 12/13/2014 6:	50:00 PM		anne Am	_	; ;
Completed	By: Anne Thorr	ne 12/15/2014			ane Am		
Reviewed 8	By: A /	1211	5/14		0,11,2 //,1		
Chain of	Custody						
	y seals intact on sa	mple bottles?	Yes		No 🗆	Not Present	
	n of Custody compl		Yes	$\checkmark$	No 🗌	Not Present	
3. How wa	s the sample delive	ered?	Cou	rier			
<u>Log In</u>							
4. Was ar	attempt made to d	cool the samples?	Yes	V	No 🗆	NA 🗔	
5. Were a	ll samples received	at a temperature of >0° C to 6.	0°C Yes	V	No 🗌	NA 🗆	
6. Sample	e(s) in proper conta	iner(s)?	Yes	$\checkmark$	No 🗌		
7. Sufficie	nt sample volume f	or indicated test(s)?	Yes	$\mathbf{V}$	No 🗌		
8. Are san	nples (except VOA	and ONG) properly preserved?	Yes	$\checkmark$	No 🗌		
9. Was pro	eservative added to	bottles?	Yes		No 🗹	NA 🗆	
10.VOA via	als have zero heads	space?	Yes		No 🗆	No VOA Vials	
11, Were a	ny sample containe	ers received broken?	Yes		No 🗹	# of preserved	
			•		(	bottles checked	
	aperwork match bo iscrepancies on ch		Yes	V	No 📙	for pH: (<2 o	r >12 unless noted)
•	•	tified on Chain of Custody?	Yes	$\checkmark$	No 🗆	Adjusted?	·
14. Is it clea	ar what analyses w	ere requested?	Yes	V	No 🗌		
	I holding times able otify customer for a		Yes	<b>✓</b>	No 🗌	Checked by:	
Special H	andling (if app	licable)					
16. Was cli	ent notified of all di	screpancies with this order?	Yes		No 🗌	NA 🗹	-
Р	erson Notified:	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	Date				
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	egarding:						
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17. Additio	nal remarks:						
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email o	r Fax#:	Steve	n.maskel@Sodonilu.or	Project Mana	ger:		_	nly)	<b>1</b>					04)	,,						
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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BIEX+ M#	BTEX + MTBE	TPH 8015B	TPH (Method 418.1)	EDB (Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides / 8082 PCB	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or
1/12	1300	50:1	5C-3 @ 21	1402 Neoll K	Mesh	-001	X		Ž												
1	1430	1	SC-4 S. Besc #1	1		-602	X		X												
	H37		56-5 NE WELL			-603	X		X			Ì									
	1450		5c.6 NW well			7004	X		X												
	1435		5x-7 Center Ecostwell			-005	X		X												
	1510		SC-8 center west as			-006	X														
	1643		5c-9 South Eastwal			-107	X		$\mathcal{Z}$												
1/	1646		SC-10 Southwester	1 1	1	-608	$\lambda$		X												
$\sqrt{I}$	1648		5c11 5. Base #2		Y	-709	X,		$\overline{X}$												
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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

OrderNo.: 1412B90

January 02, 2015

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

**FAX** 

RE: Chacon D 102

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/31/2014 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

4901 Hawkins NE

Albuquerque, NM 87109

#### Analytical Report Lab Order 1412B90

Date Reported: 1/2/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S Wall

Project: Chacon D 102

Collection Date: 12/30/2014 12:30:00 PM

Lab ID: 1412B90-001

Matrix: SOIL

Received Date: 12/31/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Anal	yst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/31/2014 11:39:59	AM 17041
Surr: DNOP	94.2	63.5-128	%REC	1	12/31/2014 11:39:59	AM 17041
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.4	mg/Kg	1	12/31/2014 11:02:49	AM R23436
Surr: BFB	88.4	80-120	%REC	1	12/31/2014 11:02:49	AM R23436
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.024	mg/Kg	1	12/31/2014 11:02:49	AM R23436
Toluene	ND	0.024	mg/Kg	1	12/31/2014 11:02:49	AM R23436
Ethylbenzene	ND	0.024	mg/Kg	1	12/31/2014 11:02:49	AM R23436
Xylenes, Total	ND	0.047	mg/Kg	1	12/31/2014 11:02:49	AM R23436
Surr: 4-Bromofluorobenzene	94.5	80-120	%REC	1	12/31/2014 11:02:49	9 AM R23436

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Lab Order **1412B90**Date Reported: **1/2/2015**

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: E Wall

**Project:** Chacon D 102

CLIENT: Souder, Miller and Associates

Collection Date: 12/30/2014 1:00:00 PM

Lab ID: 1412B90-002

Matrix: SOIL

Received Date: 12/31/2014 7:30:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Anal	yst: BCN
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/31/2014 12:09:46	PM 17041
Surr: DNOP	89.0	63.5-128	%REC	1	12/31/2014 12:09:46	PM 17041
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.6	mg/Kg	1	12/31/2014 11:31:27	' AM R23436
Surr: BFB	90.3	80-120	%REC	1	12/31/2014 11:31:27	' AM R23436
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.026	mg/Kg	1	12/31/2014 11:31:27	' AM R23436
Toluene	ND	0.026	mg/Kg	1	12/31/2014 11:31:27	' AM R23436
Ethylbenzene	ND	0.026	mg/Kg	1	12/31/2014 11:31:27	' AM R23436
Xylenes, Total	ND	0.051	mg/Kg	1	12/31/2014 11:31:27	' AM R23436
Surr: 4-Bromofluorobenzene	93.9	80-120	%REC	1	12/31/2014 11:31:27	' AM R23436

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Analytical Report Lab Order 1412B90

Date Reported: 1/2/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: W Wall

Project: Chacon D 102

Collection Date: 12/30/2014 1:05:00 PM

Lab ID: 1412B90-003

Matrix: SOIL

Received Date: 12/31/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Anal	yst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/31/2014 11:38:3	7 AM 17041
Surr: DNOP	94.1	63.5-128	%REC	1	12/31/2014 11:38:3	7 AM 17041
EPA METHOD 8015D: GASOLINE RAI	NGE				Ana	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	12/31/2014 12:00:00	) PM R23436
Surr: BFB	90.5	80-120	%REC	1	12/31/2014 12:00:00	) PM R23436
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.031	mg/Kg	1	12/31/2014 12:00:00	) PM R23436
Toluene	ND	0.031	mg/Kg	1	12/31/2014 12:00:00	PM R23436
Ethylbenzene	ND	0.031	mg/Kg	1	12/31/2014 12:00:00	DPM R23436
Xylenes, Total	ND	0.061	mg/Kg	1	12/31/2014 12:00:0	) PM R23436
Surr: 4-Bromofluorobenzene	95.0	80-120	%REC	1	12/31/2014 12:00:0	PM R23436

#### 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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

#### Analytical Report Lab Order 1412B90

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/2/2015

CLIENT: Souder, Miller and Associates Client Sample ID: Base

 Project:
 Chacon D 102
 Collection Date: 12/30/2014 1:10:00 PM

 Lab ID:
 1412B90-004
 Matrix: SOIL
 Received Date: 12/31/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Anal	yst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/31/2014 11:59:57	'AM 17041
Surr: DNOP	92.5	63.5-128	%REC	1	12/31/2014 11:59:57	' AM 17041
EPA METHOD 8015D: GASOLINE RAI	NGE				Anal	yst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2	mg/Kg	1	12/31/2014 12:28:48	PM R23436
Surr: BFB	91.1	80-120	%REC	1	12/31/2014 12:28:48	PM R23436
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.032	mg/Kg	1	12/31/2014 12:28:48	PM R23436
Toluene	ND	0.032	mg/Kg	1	12/31/2014 12:28:48	PM R23436
Ethylbenzene	ND	0.032	mg/Kg	1	12/31/2014 12:28:48	PM R23436
Xylenes, Total	ND	0.063	mg/Kg	1	12/31/2014 12:28:48	PM R23436
Surr: 4-Bromofluorobenzene	95.4	80-120	%REC	1	12/31/2014 12:28:48	PM R23436

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 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1412B90

02-Jan-15

Client:

Souder, Miller and Associates

Project:

Chacon D 102

Sample ID MB-17041	SampType: MBLK TestCode: EPA Method						8015D: Diese	el Range C	Organics		
Client ID: PBS	Batch	1D: 17	041	F	RunNo: 2	3412					
Prep Date: 12/31/2014	Analysis D	ate: 12	2/31/2014	9	<b>692482</b> Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10						-			
Surr: DNOP	8.0		10.00		79.9	63.5	128				
Sample ID LCS-17041	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Diese	el Range C	)rganics		
Sample ID LCS-17041 Client ID: LCSS	•	ype: <b>LC</b> 1 ID: <b>17</b>			tCode: El		8015D: Diese	el Range C	Organics		
'	•	n ID: <b>17</b>		F		3412	8015D: Diese	J	Organics		
Client ID: LCSS	Batch	n ID: <b>17</b>	041 2/31/2014	F	RunNo: 2	3412		J	Organics RPDLimit	Qual	
Client ID: LCSS Prep Date: 12/31/2014	Batch Analysis D	n ID: 17 Date: 12	041 2/31/2014	F	RunNo: 2 SeqNo: 6	3412 92503	Units: mg/K	(g	·	Qual	

Sample ID 1412B90-001AMS	SampTy	ype: <b>M</b> \$	3	TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: S Wall	Batch ID: <b>17041</b> RunNo: <b>23412</b>										
Prep Date: 12/31/2014	Analysis Da	Analysis Date: 12/31/2014 SeqNo: 692553						(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	47	10	49.75	0	94.7	29.2	176				
Surr: DNOP	4.8		4.975		97.5	63.5	128				

Sample ID 1412B90-001	AMSD SampT	уре: М	SD	TestCode: EPA Method 8015D: Diesel Range Organics							
Client ID: S Wall	Batcl	n ID: 17	041	F	RunNo: 2	3412					
Prep Date: 12/31/2014	Analysis D	2/31/2014	S	SeqNo: 6	92554	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	49	9.9	49.46	0	98.3	29.2	176	3.17	23		
Surr: DNOP	4.9		4.946		98.1	63.5	128	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 greater than 2.
- RL Reporting Detection Limit

Page 5 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1412B90

02-Jan-15

Client:

Souder, Miller and Associates

460

471.5

Project:

Chacon D 102

Project: Chacon I	7 102									
Sample ID 5ML RB	SampT	Гуре: МЕ	3LK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batcl	h ID: <b>R2</b>	3436	F	RunNo: 2	3436				
Prep Date:	Analysis D	)ate: 12	2/31/2014	9	SeqNo: 69	92699	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								
Surr: BFB	870		1000		86.8	80	120			
Sample ID 2.5UG GRO LCS	SampT	Гуре: LC	s	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batcl	h ID: R2	3436	F	RunNo: 2	3436				
Prep Date:	Analysis E	)ate: 12	2/31/2014	S	SeqNo: 6	92700	Units: mg/K	ίg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.7	65.8	139			
Surr: BFB	970		1000		97.3	80	120			
Sample ID 1412B90-001AMS	SampT	Гуре: М.	3	Tes	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: S Wall	Batcl	h ID: <b>R2</b>	3436	F	RunNo: 2	3436				
Prep Date:	Analysis D	)ate: 12	2/31/2014	S	SeqNo: 69	92703	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
0										
Gasoline Range Organics (GRO)	11	2.4	11.79	0	97.4	47.9	144			
Gasoline Range Organics (GRO)  Surr: BFB  ——————————————————————————————————	11 460	2.4	11.79 471.5	0	97.4 97.7	47.9 80	144 120			
	460	2.4 Гуре: <b>M</b> \$	471.5		97.7	80		line Rang	e	
Surr: BFB	460 SD SampT		471.5 SD	Tes	97.7	80 PA Method	120	line Rang	<u> </u>	<u>=</u>
Sample ID 1412B90-001AMS	460 SD SampT	Гуре: <b>М</b> .S h ID: <b>R2</b>	471.5 SD 3436	Tes	97.7 tCode: El	80 PA Method 3436	120	J	<u> </u>	
Sum: BFB  Sample ID 1412B90-001AMS  Client ID: S Wall	460 SD SampT Batcl	Гуре: <b>М</b> .S h ID: <b>R2</b>	471.5 SD 3436 2/31/2014	Tes	97.7 tCode: Ef RunNo: 2: SeqNo: 69	80 PA Method 3436	120 8015D: Gaso	J	e RPDLimit	Qual

#### Qualifiers:

Surr: BFB

- 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

97.9

120

80

0

0

Page 6 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1412B90

02-Jan-15

Client:

Souder, Miller and Associates

Project:

Chacon D 102

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	tiles				
Client ID: PBS	Batch	Batch ID: <b>R23436</b>			RunNo: 2	3436				
Prep Date:	Analysis D	ate: 12	2/31/2014	S	SeqNo: 6	92710	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								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.0	80	120			

Sample ID 100NG BTEX LCS	Samp1	Гуре: LC	s	Tes	8021B: Vola	tiles				
Client ID: LCSS	Batcl	Batch ID: <b>R23436</b> RunNo: <b>23436</b>								
Prep Date:	Analysis [	Date: 12	ate: 12/31/2014 SeqNo: 692711 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	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.0	80	120			

Sample ID 1412B90-002AM	S Samp	Type: MS	3	Tes	tCode: El	tiles				
Client ID: E Wall	Bato	h ID: <b>R2</b>	3436	F	RunNo: 2	3436				
Prep Date:	Analysis I	Date: 12	2/31/2014	S	SeqNo: 6	92714	Units: mg/k	ίg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.53	0.026	0.5139	0	104	69.2	126	-,		
Toluene	0.52	0.026	0.5139	0.009353	100	65.6	128			
Ethylbenzene	0.54	0.026	0.5139	0	104	65.5	138			
Xylenes, Total	1.6	0.051	1.542	0.01653	101	63	139			
Surr: 4-Bromofluorobenzene	0.52		0.5139		101	80	120			

Sample ID 1412B90-002AM	I <b>SD</b> SampT	ype: MS	SD	8021B: Volat	tiles					
Client ID: E Wall	Batch	ID: <b>R2</b>	3436	F						
Prep Date:	Analysis D	ate: 12	2/31/2014	8	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.54	0.026	0.5139	0	105	69.2	126	1.44	18.5	
Toluene	0.53	0.026	0.5139	0.009353	101	65.6	128	1.03	20.6	
Ethylbenzene	0.54	0.026	0.5139	0	106	65.5	138	1.42	20.1	
Xylenes, Total	1.6	0.051	1.542	0.01653	101	63	139	0.315	21.1	
Surr: 4-Bromofluorobenzene	0.51		0.5139		99.4	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 greater than 2.
- RL Reporting Detection Limit

Page 7 of 7



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: 1412B90 RoptNo: 1 Received by/date: ann Am Logged By: Anne Thorne 12/31/2014 7:30:00 AM an Il Completed By: Anne Thorne 12/31/2014 Reviewed By: Chain of Custody Yes No 🗔 Not Present 1. Custody seals intact on sample bottles? 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 🗌 No  $\Box$ 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🖂 6. Sample(s) in proper container(s)? Yes 🔽 No 🗍 7. Sufficient sample volume for indicated test(s)? No 🗍 8. Are samples (except VOA and ONG) properly preserved? Yes 🗹 No 🗸 NA 🗌 Yes 9. Was preservative added to bottles? No 🗌 No VOA Vials Yes 🗌 10. VOA vials have zero headspace? No 🗹 Yes 11. Were any sample containers received broken? # of preserved bottles checked Yes 🔽 No 🗌 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 Yes 🗸 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 No 🗀 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes 🗹 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 Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No. Temp 'C: Condition Seal Intact Seal No. Seal Date 1.3 Good

	hain-	of-Cu	stody Record	Turn-Around			} !							g Tr e					
Client:	5M	Д		☐ Standard	⊡ Rush	Same Day	_		· s								MEN RA		
Mailing	Address	401	W Broadway	1	on D	102		 49	01 H		ww.t ns NE						109		
Fara	nington		n 8740   325 7535	Project #: 51	22855			- 25 j	ر بر در و 4- پر	5-34	5-397		Fax <b>ysis</b>		4.0	-410	7		100 M
	Package:	Steven	. Maskal Csoulunillus Can □ Level 4 (Full Validation)		iger: eve Mi	oska l	\$ (8021)	TPH (Gas only)	ROJ WIRE)		CINACI	(2)	PO4,SO4)	PCB's					
Accred	AP	☐ Othe	r	Sampler: On Ice	). Sor XYes ∫ perature: //	() No. W.		BE + TPH	(GROKE)	od 418.1)		2	I,NO ₃ ,NO ₂ ,	ides / 8082	٩)	-VOA)			(Y or N)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO =	RIEX WHER	BTEX + MTBE +	TPH 8015E (GROZDRO)	TPH (Method 418.1)	EDB (Method 504.1)	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
12/30	<del>                                     </del>	Soil	5 wall	1 40Z Meoulk	May	-00	X		K										
-	1300		E wall	mou kil	منسنہ سے آ	-00	1. 3		X	_	_								<del>   </del> -
	1305		w well Buse	1 402 11 V	Meal	-00	1		X		+	+-	┼-					+	<del>                                     </del>
	1200	4	Luse	MAN K	Meal	700	9 //		N										
<u> </u>																			
											- :	-							
Date: 436/N Date: 436/14	Date: Time: Relinquished by:  130   177				elibete	Date Time  12   13   17    Date Time  12   3   1/4    013	17	mark	s: -	ار ال	).ic	e licia	F. P	nte at	pri lus	3C	- 2 So	ملم	nilles.
7	necessary.	samples subr	mitted to Hall Environmental may be subc	contracted to other a	ccredited laboratorie			ibility. /	Any su	b-contr	acted da	a will t	e clear	ly nota	ted on	the an	alytical r	eport.	**************************************

<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

بالهشار مساحر

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

Oil Conservation Division 1220 South St. Francis Dr. OIL CONS. DIV DIST. 3

Form C-141

Revised August 8, 2011

MAR 3 0 2015 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

				Sa	nta Fe, NM 8	3/505					
		F	Releas	e Notific	ation and	Corrective	Action			<del></del>	
					OPERATO	OR	☐ Initial	Report	$\boxtimes$	Final Repor	
Name of Company: Enterprise Field Services LLC						Contact: Thomas Long					
Address: 6	14 Reilly	Ave, Farmin	gton, NN	187401	Telepho	Telephone No. 505-599-2286					
Facility Na	me: Later	al K-36; Sa	n Juan 2	8-7 Unit #3	Facility 7	Facility Type: Natural Gas Gathering Line Valve					
Surface O	wner: <b>BLN</b>	n			Owner:BLM	er:BLM API No.  ON OF RELEASE					
Unit Letter <b>N</b>	Section 6	Township 27N	Range 7W	Feet from the 1255	North South Line	Feet from the 1367	East Vest Line	County Rio Arrib	а		
		Latitude_	36.59	9037	Longit	ude <u>-107.6</u>	19455				
				NAT	<b>URE OF RE</b>	LEASE					

				LOCA	ATION	OF RE	LEASE			
Unit Letter <b>N</b>	Section 6	Township 27N	Range 7W	Feet from the 1255	North Line	South	Feet from the 1367	East/ Line	West	County Rio Arriba
		Latitude	36.59	9037		Longitu	de <u>-107.61</u>	9455		
				NAT	URE	OF REL	EASE			
		ral Gas Liqui				Volume Fluids	of Release <b>3-5 I</b>	BBLS	Volume	Recovered: NONE
Source of F	Release: Le	aking Valve o	on meter s	tem		1	l Hour of Occuri 14 @ 4:40 p.m.			d Hour of Discovery: 014 @ 5:40 p.m.
Was Immed	liate Notice		s 🗌 No	Not Red	quired	If YES, T Ketcham		tesy No	tification	Cory Smith – NMOCD; Shari
By Whom?							Hour. 12/31/20			
Was a Wate	ercourse Re	eached?	☐ Yes	⊠ No		If YES, \	olume Impactin	g the W	atercours	e
If a Waterco	ourse was I	mpacted, De	scribe Ful	ly.*						n the Lateral K-36/San Juan
Describe Ai (30) feet lor yards of hyd contractor o	rea Affecteding by rangir drocarbon in corrective a	d and Cleanung from thirte mpacted soil ction report is	p Action: en (13) to was exca s included	sixteen (16) fe vated and tran with this "Fina	s were e eet wide sported Il" C-141	xcavated. ranging fr to a NMO	The final excava om three (3) to s CD approved la	seven (7 nd farm	) feet dee facility. A	measured approximately thirty p. Approximately 120 cubic third party environmental
rules and re which may relieve the e ground water	egulations a endanger p operator of er, surface	all operators a public health o liability shoul water, humai	are require or the envi ld their open n health or	ed to report and ronment. The erations have t r the environm	d/or file accepta failed to ent. In a	certain rele ance of a ( adequatel addition, N	ease notification C-141 report by the y investigate an MOCD accepta laws and/or regi	s and po the NMC d remed nce of a ulations.	erform co OCD mark liate conta C-141 re	and that pursuant to NMOCD rective actions for releases and as "Final Report" does not amination that pose a threat to port does not relieve the
Signature:	Sm	tent	<u>/</u>	<del></del>			OIL CON	<u>ISER\</u>	<u>ATION</u> /	DIVISION
Printed Nar	ne: Jon Fie	lds			/	Approved I	oy Environmenta	al Specia	alist:	and the
Title: Direct	or, Environ	mental				Approval D	ate: 4/30/	15	Expiration	n Date:
E-mail Addı	ress:jefields	@eprod.con	า			Conditions	of Approval:			Attached
Date:	3-24-2	1015	Phor	ne: (713)381-6	684					

* Attach Additional Sheets If Necessary

#NCS 1503738901

Lateral K-36/San Juan 28-7 Unit #3 P/A
Release Report
Section 6, Township 27N, Range 7W
N36.59906, W107.61945
Rio Arriba County, New Mexico
February 23, 2015

# 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 K-36/San Juan 28-7 Unit #3 P/A 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

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

February 23, 2015

# Lateral K-36/San Juan 28-7 Unit #3 P/A Release Report

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2	Release	Summary1
3	NMOCD	Ranking1
4	Field Act	ivities2
5		pling2
6	Conclusion	ons3
7	Closure a	and Limitations3
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# Appendices

Appendix A Executed C-138 Solid Waste Acceptance Form

Appendix B Photograph Log

Appendix C Analytical Laboratory Reports

#### 1 Introduction

The Enterprise Products Operating, LLC (Enterprise) Lateral K-36/San Juan 28-7 Unit #3 P/A release site is located in Unit Letter N, Section 6, Township 27N, Range 7W in rural Rio Arriba County, New Mexico. The Lateral K-36 release occurred at an abandoned meter stem associated with the plugged and abandoned San Juan 28-7 Unit #3 well. The release was reported on December 15, 2014, by a third party working in the area.

On December 15, 2014, Enterprise personnel repaired the leak and tightened the valve at the abandoned meter stem. The release consisted of three to five barrels (bbl) of condensate mix based on impacted surface soil extent. Remedial activities which included excavation of the hydrocarbon impacted soils began on January 7, 2015, at which time a historic release was encountered at the site. Remedial work was concluded on January 26, 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 K-36/San Juan 28-7 Unit #3 P/A

Location - Unit Letter N (SE/SW), Section 6, Township 27N, Range 7W

Release Latitude/Longitude - N36.59906 and W107.61945, respectively

**Land Jurisdiction** – Bureau of Land Management (BLM)

Date Release Discovered - December 15, 2014

Agency Notification – BLM and New Mexico Oil Conservation Division (NMOCD)

**Agency Jurisdiction** – BLM

Diameter of Pipeline - 4-inch

**Source of Release** – Valve leak on the San Juan 28-7 Unit #3 P/A abandoned meter stem. old meter #70-480-01

Release Contents -condensate mix

Release Volume - 3 to 5 bbl

NMOCD Ranking - 10

**Date of Rule Engineering, LLC (Rule) Field Work** – December 16, 2014, and January 7, 9, and 23, 2015

**Subcontractor** – West States Energy Contractors, Inc. (West States)

**Disposal Facility** – Envirotech Land Farm (Permit #NM-01-011)

Amount of Contaminated Soil Excavated/Disposed - 120 cubic yards

# 3 NMOCD Ranking

In accordance with NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 10 documented in Table 1. Based on the ranking score of 10, 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 1,000 mg/kg total petroleum hydrocarbons (TPH).

Depth to groundwater at the site was estimated to be greater than 100 feet below ground surface (bgs), based on the elevation differential (547 feet) between the release location and the wash in Stove Canyon.

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.

The nearest surface water, an unnamed wash which ultimately drains to the wash located in Stove Canyon is located approximately 570 feet southeast of the release location.

#### 4 Field Activities

Enterprise, West States, and Rule personnel were onsite for the initiation of remediation activities on January 7, 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 January 7, 2015, based on visual observation and field screening results, the excavation was halted, and BLM and NMOCD were extended an invitation to the confirmation sampling event scheduled for January 9, 2015.

On January 9, 2015, Enterprise and Rule personnel collected five confirmation samples (SC-1 through SC-5) from each of the sidewalls and base of the excavation. BLM and NMOCD were not in attendance during confirmation sampling.

Excavation continued along the northeast sidewall on January 23, 2015, following receipt of analytical results which reported TPH and total BTEX above NMOCD action levels in soil sample SC-1. A final composite sample was collected on January 23, 2015, from the northeast sidewall and submitted for laboratory analysis. Approximately 120 cubic yards of hydrocarbon impacted soils and sandstone were removed from an area of excavation measuring approximately 30.5 feet x 13 (to 16) feet x 3 (to 7) feet in depth. The base of the excavation was terminated by a competent sandstone layer. 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 six soil composite samples from the sidewall and base of the excavation. Confirmation samples SC-1 through SC-5 were collected on January 9, 2015, and confirmation sample SC-6 was collected on January 23, 2015, following additional excavation along the northeast sidewall.

All soil samples were 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.

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 reports are included in Appendix C.

#### 6 Conclusions

The release of three to five bbl of condensate mix occurred from a valve on the San Juan 28-7 Unit #3 P/A abandoned meter stem along the Lateral K-36 pipeline. During remedial activities, historic contamination was encountered at the site. Five confirmation samples were collected from the sidewalls and base of the excavation on January 9, 2015, for laboratory analysis of total BTEX and TPH. Analytical results for the northeast sidewall (SC-1) exceeded NMOCD action levels for total BTEX and TPH. Excavation continued along the northeast sidewall on January 23, 2015, followed by the collection of confirmation sample SC-6 on the same day. The final excavation measured approximately 30.5 feet x 13 (to 16) feet x 3 (to 7) feet in depth.

Laboratory analytical results for final confirmation samples (SC-2 through SC-6) reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. All final confirmation samples reported TPH concentrations below the NMOCD action level of 1,000 mg/kg. Action levels are based on a NMOCD site ranking of 10.

On January 26, 2015, Enterprise received approval to backfill the excavation from Shari Ketcham of BLM. The excavation was backfilled with clean imported fill and contoured to the surrounding grade.

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 K-36/San Juan 28-7 Unit #3 P/A Rio Arriba County, New Mexico Enterprise Products

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources	
Depth to Groundwater				·	
<50 feet	20			NMOCD Online database	
50-99 feet	10	0	Elevation differential (547 feet) between the	NMOSE NMWRRS	
>100 feet	0	U	location and the wash in Stove Canyon.	Google Earth, and Visual Inspection	
Wellhead Protection Area					
<1,000 feet from a water source, or <200 feet	20 (Yes)		No water source or recorded water wells	NMOSE NMWRRS	
from private domestic water source	0 (No)	0	w/in 1,000 ft.	Gould Pass Quadrangle Visual Inspection	
			1	Visual Inspection	
Distance to Surface Water Body	т	· · · · · · · · · · · · · · · · · · ·		****	
<200 horizontal feet	20		Unnamed wash which drains to wash in Stove	Gould Pass Quadrangle	
200 to 1,000 horizontal feet	10	10	Canyon is located approximately 570 feet	Visual Inspection	
>1,000 horizontal feet	0		southeast of the site.	Google Earth	

Table 2. Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH Lateral K-36/San Juan 28-7 Unit #3 P/A Rio Arriba County, New Mexico Enterprise Products

			Sample Depth	VOCs (PID)	Benzene	Total BTEX	TPH-GRO	TPH-DRO
Sample ID	Date	Location	(ft bgs)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	
		NMOC	D Action Levels*	100	10	50	1,000	
SC-1	Jan 09, 15	Northeast Wall	0 to 7	1,129	0.60	87	1,000	180
SC-2	Jan 09, 15	Southwest Wall	0 to 7	287	<0.030	0.32	9.0	20
SC-3	Jan 09, 15	Southeast Wall	0 to 7	315	<0.031	<0.155	<3.1	<9.9
SC-4	Jan 09, 15	Northwest Wall	0 to 7	676	0.041	3.6	71	170
SC-5	Jan 09, 15	Base	3 to 7	1,310	0.50	16	220	28
SC-6	Jan 23, 15	Northeast Wall	0 to 5	270	<0.033	0.57	11	33

Notes: 1

ft bgs - feet below ground surface

VOCs - volatile organic compounds

PID - photo-ionization detector

ppm - parts per million

BTEX - benzene, toluene, ethylbenzene, and xylenes

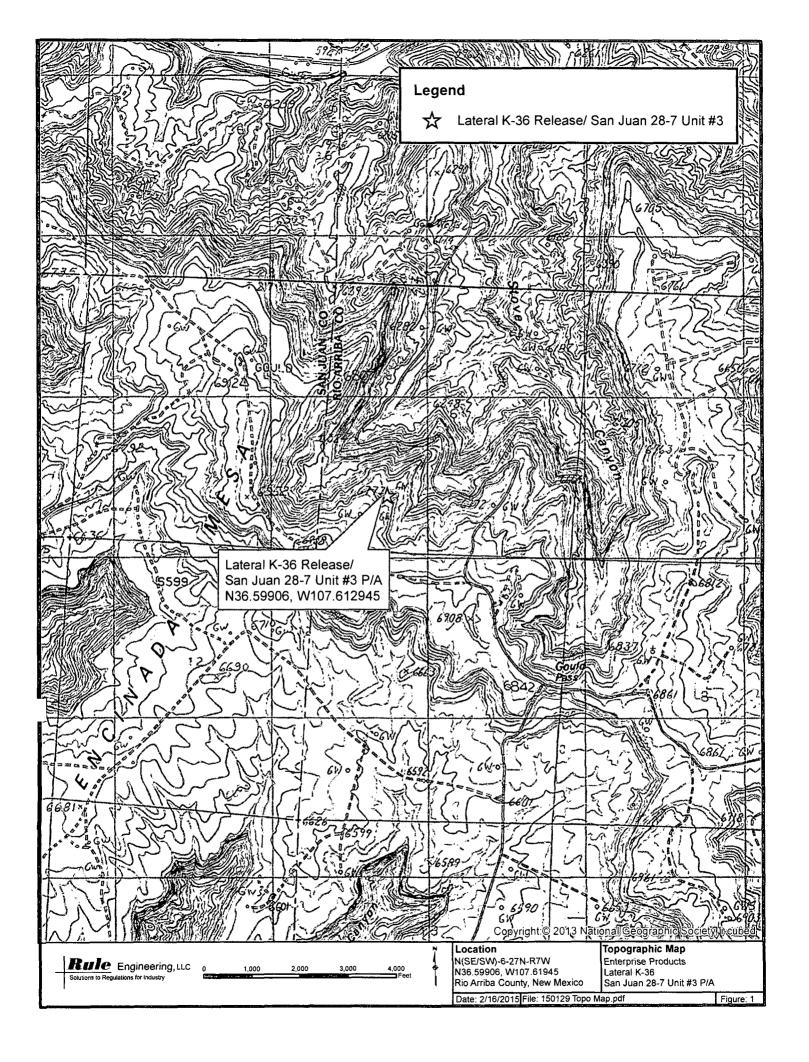
TPH-GRO - total petroleum hydrocarbons-gasoline range organics

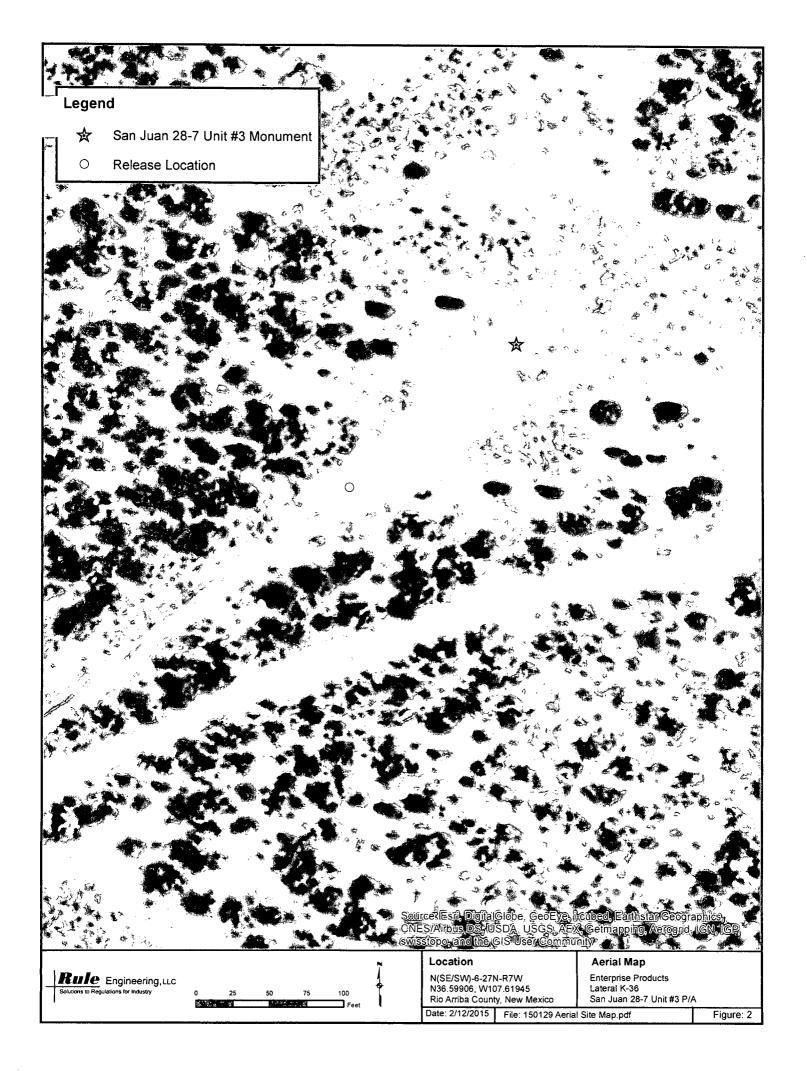
TPH-DRO - total petroleum hydrocarbons-diesel range organics

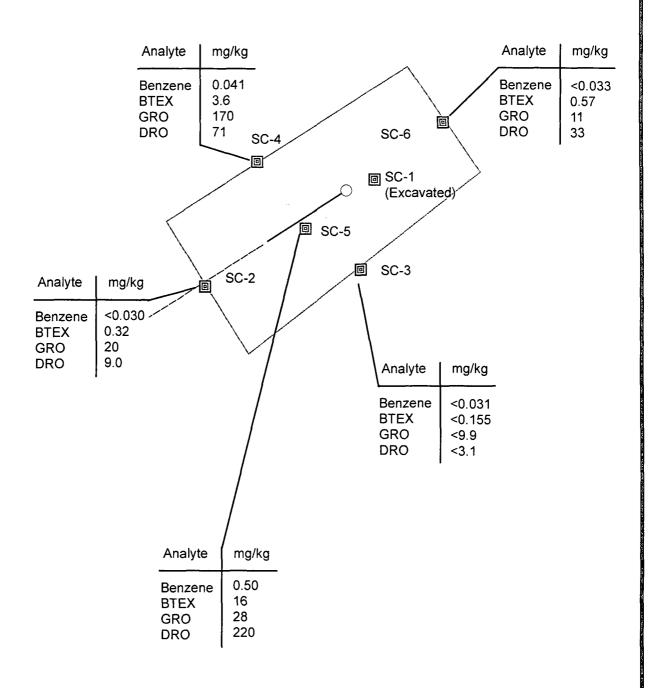
mg/kg - milligrams/kilograms

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

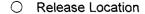
# **Figures**







#### Legend



Soil Sample

**Buried Pipeline** 

**Exposed Pipeline** 

Notes:

BTEX= Benzene, Toluene, Ethylbenzene, and Xylenes GRO= Gasoline Range Organics DRO= Diesel Range Organics

All samples are composite samples.

Samples SC-1 through SC-5 were collected on January 9, 2015.

Sample SC-6 was collected on January 9, 2015

Rule Engineering, LLC Solutions to Regulations for Industry

#### Location N(SE/SW)-6-27N-R7W N36.59906, W107.61945 Rio Arriba County, New Mexico

Soil Analytical Map Enterprise Products Lateral K-36 San Juan 28-7 Unit #3 P/A

Date: 2/18/2015 File: 150129 Soil Analytical Map.pdf.

Figure: 3

# Appendix A Executed C-138 Solid Waste Acceptance Form

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

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-138 9 705 7 - 068 Revised August 1, 2011 *Surface Waste Management Facility Operator

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

<b>REQUEST FOR</b>	APPROVAL TO	O ACCEPT	<b>SOLID</b>	WASTE

REQUEST FOR ATTROVAL TO ACCELT SOLID WASTE	
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401  Jan. 2015	
2. Originating Site: San Juan 28-7 Unit #3 P/A Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter N, Section 6, T27N, R7W; 36.599.37, -107.619455	
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.  5. Estimated Volume 20 yd bbls Known Volume (to be entered by the operator at the end of the haul) yd bbls	;
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby PRINT & SIGN NAME	
PRINT & SIGN NAME 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 be 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. (Chec 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	
Them Lay	
I, 1-6-15 , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature	
complete the required testing/sign the Generator Waste Testing Certification.	
Consistent Inc. do horoby contify that	
I,, representative for Envirotech, 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 sample	s
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.	
6. Transporter: West State Entergy Contractors , HBL , Dong Font 2 , 4 States	
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	
☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfill ☐ Other  Waste Acceptance Status:	
☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other	-

# Appendix B Photograph Log

#### Photograph #1

Client: Enterprise Products

Site Name:

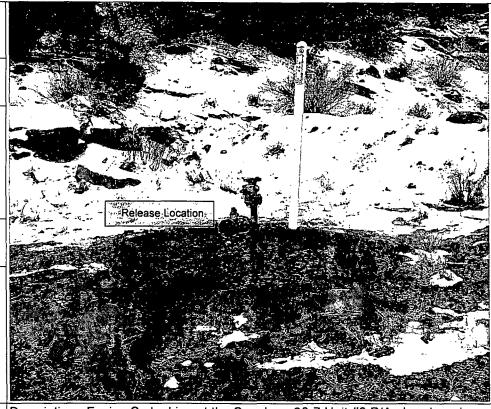
Lateral K-36/ San Juan 28-7 Unit #3 P/A

Date Photo Taken: December 16, 2014

Release Location: N36.59906, W107.61945

N-06-27N-07W Rio Arriba County, New Mexico

Photo Taken by: Deborah Watson



Description: Facing S, looking at the San Juan 28-7 Unit #3 P/A abandoned meter stem, along Lateral K-36 pipeline. Photo shows surface extent of release reported on December 15, 2014.

#### Photograph #2

Client: Enterprise Products

Site Name:

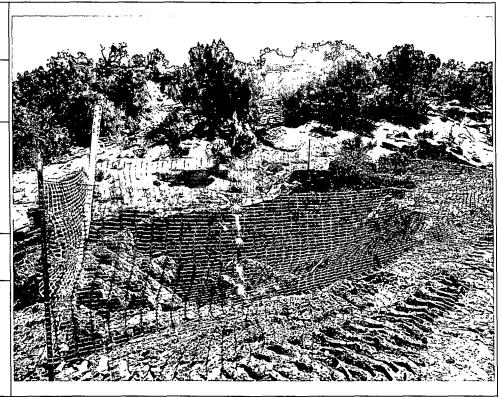
Lateral K-36/ San Juan 28-7 Unit #3 P/A

Date Photo Taken: January 9, 2015

Release Location: N36.59906, W107.61945

N-06-27N-07W Rio Arriba County, New Mexico

Photo Taken by: Deborah Watson



Description: Facing SE, looking at excavation following remediation on January 7, 2015. Excavation measured approximately 19 feet x 16 feet x 6 (to 7) feet in depth.

#### Photograph #3

Client: Enterprise Products

Site Name:

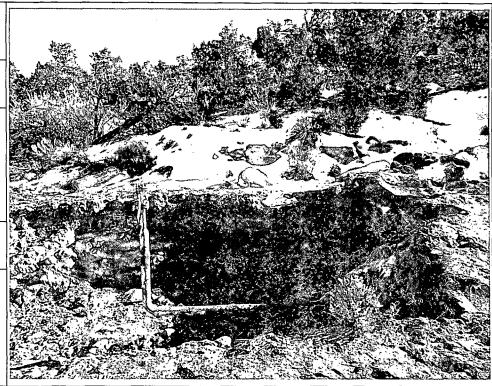
Lateral K-36/ San Juan 28-7 Unit #3 P/A

Date Photo Taken: January 23, 2015

Release Location: N36.59906, W107.61945

N-06-27N-07W Rio Arriba County, New Mexico

Photo Taken by: Deborah Watson



Description: Facing SE, looking at exposed Lateral K-36 pipeline and San Juan 28-7 Unit #3 P/A abandoned meter stem. Final area of excavation measured 30.5 feet x 13 (to 16) feet x 3 (to 7) feet in depth

#### Photograph #4

Client: Enterprise Products

Site Name:

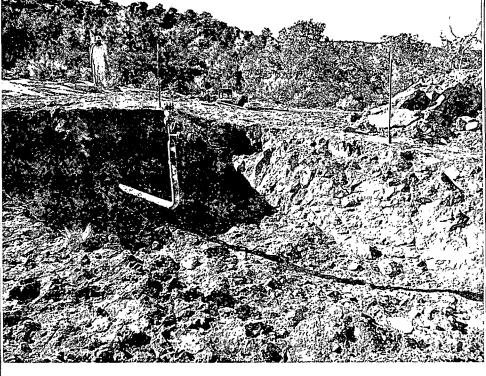
Lateral K-36/ San Juan 28-7 Unit #3 P/A

Date Photo Taken: January 23, 2015

Release Location: N36.59906, W107.61945

N-06-27N-07W Rio Arriba County, New Mexico

Photo Taken by: Deborah Watson



Description: Facing SW, looking at exposed Lateral K-36 pipeline and San Juan 28-7 Unit #3 P/A abandoned meter stem.

# Appendix C Analytical Laboratory Reports



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

January 14, 2015

Deborah Watson Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401

TEL: (505) 860-2712

**FAX** 

RE: Lateral K-36/San Juan 28-7 Unit #3

OrderNo.: 1501338

#### Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/10/2015 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 qualifiers 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

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1501338

Date Reported: 1/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample 1D: SC-1

Project: Lateral K-36/San Juan 28-7 Unit #3

**Collection Date:** 1/9/2015 1:38:00 PM

Lab ID: 1501338-001

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	ORGANICS					Analys	st: JME
Diesel Range Organics (DRO)	180	9.9		mg/Kg	1	1/14/2015 4:27:37 AM	17169
Surr: DNOP	97.0	63.5-128		%REC	1	1/14/2015 4:27:37 AM	17169
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	1000	35		mg/Kg	10	1/12/2015 10:47:45 Af	M R23589
Surr: BFB	408	80-120	S	%REC	10	1/12/2015 10:47:45 Al	M R23589
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	0.60	0.35		mg/Kg	10	1/12/2015 10:47:45 AM	M R23589
Toluene	16	0.35		mg/Kg	10	1/12/2015 10:47:45 Af	M R23589
Ethylbenzene	5.1	0.35		mg/Kg	10	1/12/2015 10:47:45 Af	M R23589
Xylenes, Total	65	0.71		mg/Kg	10	1/12/2015 10:47:45 Af	M R23589
Surr: 4-Bromofluorobenzene	132	80-120	S	%REC	10	1/12/2015 10:47:45 A	M R23589

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1501338

Date Reported: 1/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-2

Project:

Lateral K-36/San Juan 28-7 Unit #3

**Collection Date:** 1/9/2015 1:33:00 PM

Lab ID:

1501338-002

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL (	Qual Units	DF Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS			Analys	t: JME
Diesel Range Organics (DRO)	20	10	mg/Kg	1 1/14/2015 4:57:56 AM	17169
Surr: DNOP	96.7	63.5-128	%REC	1 1/14/2015 4:57:56 AM	17169
EPA METHOD 8015D: GASOLINE R.	ANGE			Analys	t: NSB
Gasoline Range Organics (GRO)	9.0	3.0	mg/Kg	1 1/12/2015 11:15:03 AM	1 R23589
Surr: BFB	138	80-120	S %REC	1 1/12/2015 11:15:03 AM	1 R23589
EPA METHOD 8021B: VOLATILES				Analys	t: NSB
Benzene	ND	0.030	mg/Kg	1 1/12/2015 11:15:03 AM	1 R23589
Toluene	0.075	0.030	mg/Kg	1 1/12/2015 11:15:03 AN	1 R23589
Ethylbenzene	0.043	0.030	mg/Kg	1 1/12/2015 11:15:03 AM	1 R23589
Xylenes, Total	0.20	0.061	mg/Kg	1 1/12/2015 11:15:03 AM	1 R23589
Surr: 4-Bromofluorobenzene	115	80-120	%REC	1 1/12/2015 11:15:03 AM	1 R23589

#### 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 8

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1501338

Date Reported: 1/14/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC Client Sample ID: SC-3

 Project:
 Lateral K-36/San Juan 28-7 Unit #3
 Collection Date: 1/9/2015 1:29:00 PM

 Lab ID:
 1501338-003
 Matrix: SOIL
 Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS				Analy	st: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/14/2015 5:27:35 AM	1 17169
Surr: DNOP	94.1	63.5-128	%REC	1	1/14/2015 5:27:35 AM	1 17169
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	1/12/2015 11:42:27 A	M R23589
Surr: BFB	94.8	80-120	%REC	1	1/12/2015 11:42:27 A	M R23589
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.031	mg/Kg	1	1/12/2015 11:42:27 A	M R23589
Toluene	ND	0.031	mg/Kg	1	1/12/2015 11:42:27 A	M R23589
Ethylbenzene	ND	0.031	mg/Kg	1	1/12/2015 11:42:27 A	M R23589
Xylenes, Total	ND	0.062	mg/Kg	1	1/12/2015 11:42:27 A	M R23589
Surr: 4-Bromofluorobenzene	118	80-120	%REC	1	1/12/2015 11:42:27 A	M R23589

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1501338

Date Reported: 1/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-4

Project: Lateral K-36/San Juan 28-7 Unit #3

**Collection Date:** 1/9/2015 1:35:00 PM

**Lab ID:** 1501338-004

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS					Analys	t: <b>JME</b>
Diesel Range Organics (DRO)	170	9.9		mg/Kg	1	1/14/2015 5:57:42 AM	17169
Surr: DNOP	109	63.5-128		%REC	1	1/14/2015 5:57:42 AM	17169
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	71	3.3		mg/Kg	1	1/12/2015 12:09:54 PM	1 R23589
Surr: BFB	430	80-120	s	%REC	1	1/12/2015 12:09:54 PM	1 R23589
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	0.041	0.033		mg/Kg	1	1/12/2015 12:09:54 PM	1 R23589
Toluene ·	0.15	0.033		mg/Kg	1	1/12/2015 12:09:54 PM	1 R23589
Ethylbenzene	ND	0.033		mg/Kg	1	1/12/2015 12:09:54 PN	1 R23589
Xylenes, Total	3.4	0.066		mg/Kg	1	1/12/2015 12:09:54 PN	1 R23589
Surr: 4-Bromofluorobenzene	139	80-120	S	%REC	1	1/12/2015 12:09:54 PM	1 R23589

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 greater than 2.
- RL Reporting Detection Limit

#### Lab Order 1501338

Date Reported: 1/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Rule Engineering LLC

Client Sample ID: SC-5

Project: Lateral K-36/San Juan 28-7 Unit #3

**Collection Date:** 1/9/2015 1:27:00 PM

Lab ID: 1501338-005

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL (	Qual Uni	ts Di	F Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analyst	: JME
Diesel Range Organics (DRO)	28	10	mg/	Kg 1	1/14/2015 6:27:59 AM	17169
Surr: DNOP	90.9	63.5-128	%R	EC 1	1/14/2015 6:27:59 AM	17169
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	220	3.2	mg/	'Kg 1	1/12/2015 3:16:38 PM	17155
Surr: BFB	348	80-120	s %R	EC 1	1/12/2015 3:16:38 PM	17155
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	0.50	0.032	mg/	'Kg 1	1/12/2015 3:16:38 PM	17155
Toluene	4.1	0.32	mg/	'Kg 1	0 1/12/2015 9:01:25 PM	17155
Ethylbenzene	0.51	0.032	mg/	'Kg 1	1/12/2015 3:16:38 PM	17155
Xylenes, Total	11	0.64	mg/	'Kg 1	0 1/12/2015 9:01:25 PM	17155
Surr: 4-Bromofluorobenzene	145	80-120	S %R	EC 1	1/12/2015 3:16:38 PM	17155

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1501338

14-Jan-15

Client:

Rule Engineering LLC

Project:

Surr: DNOP

Lateral K-36/San Juan 28-7 Unit #3

3.7

5.000

Project: Law	erai K-36/San Juan 28-7 Onit #3							
Sample ID MB-17169	SampType: MBLK	TestCode: EPA Method	TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID: PBS	Batch ID: 17169	RunNo: 23580						
Prep Date: 1/12/2015	Analysis Date: 1/12/2015	SeqNo: 696520	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	8.6 10.00	86.2 63.5	128					
Sample ID LCS-17169	SampType: <b>LCS</b>	TestCode: EPA Method 8015D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 17169	RunNo: 23634						
Prep Date: 1/12/2015	Analysis Date: 1/13/2015	SeqNo: 697804	Units: mg/Kg					
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					
Surr: DNOP	4.4 5.000	87.8 63.5	128					
Sample ID LCS-17189	SampType: <b>LCS</b>	TestCode: EPA Methoc	l 8015D: Diesel Range C	rganics				
Client ID: LCSS	Batch ID: 17189	RunNo: 23634						
Prep Date: 1/13/2015	Analysis Date: 1/14/2015	SeqNo: <b>697805</b>	Units: %REC					
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual				

74.1

63.5

128

#### 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 8

P Sample pH greater than 2.

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1501338

14-Jan-15

**Client:** 

Rule Engineering LLC

**Project:** 

Lateral K-36/San Juan 28-7 Unit #3

Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: R23589 RunNo: 23589 Prep Date: Analysis Date: 1/12/2015 SeqNo: 697022 Units: mg/Kg	
Prep Date: Analysis Date: 1/12/2015 SeqNo: 697022 Units: mg/Kg	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimi	Qual
Gasoline Range Organics (GRO) ND 5.0	
Surr: BFB         880         1000         88.1         80         120	
Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range	
Client ID: LCSS Batch ID: R23589 RunNo: 23589	
Prep Date: Analysis Date: 1/12/2015 SeqNo: 697023 Units: mg/Kg	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Gasoline Range Organics (GRO) 21 5.0 25.00 0 84.4 65.8 139	
Gasoline Range Organics (GRO)       21       5.0       25.00       0       84.4       65.8       139         Surr: BFB       910       1000       90.6       80       120	
Surr: BFB 910 1000 90.6 80 120	
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range	
Surr: BFB         910         1000         90.6         80         120           Sample ID         MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID:         PBS         Batch ID: 17155         RunNo: 23591	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID         MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID:         PBS         Batch ID: 17155         RunNo: 23591           Prep Date:         1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID         MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID:         PBS         Batch ID: 17155         RunNo: 23591           Prep Date:         1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID: PBS         Batch ID: 17155         RunNo: 23591           Prep Date: 1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit           Gasoline Range Organics (GRO)         ND 5.0	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID: PBS         Batch ID: 17155         RunNo: 23591           Prep Date: 1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Gasoline Range Organics (GRO)         ND 5.0           Surr: BFB         940         1000         93.9         80         120	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID: PBS         Batch ID: 17155         RunNo: 23591           Prep Date: 1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GR0)         ND         5.0         940         1000         93.9         80         120           Sample ID         LCS-17155         SampType: LCS         TestCode: EPA Method 8015D: Gasoline Range	Qual
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID: PBS         Batch ID: 17155         RunNo: 23591           Prep Date: 1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GR0)         ND         5.0         940         1000         93.9         80         120           Sample ID         LCS-17155         SampType: LCS         TestCode: EPA Method 8015D: Gasoline Range           Client ID:         LCSS         Batch ID: 17155         RunNo: 23591	
Surr: BFB         910         1000         90.6         80         120           Sample ID MB-17155         SampType: MBLK         TestCode: EPA Method 8015D: Gasoline Range           Client ID: PBS         Batch ID: 17155         RunNo: 23591           Prep Date: 1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697041         Units: mg/Kg           Analyte         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           Gasoline Range Organics (GRO)         ND         5.0         940         1000         93.9         80         120           Sample ID         LCS-17155         SampType: LCS         TestCode: EPA Method 8015D: Gasoline Range           Client ID:         LCSS         Batch ID: 17155         RunNo: 23591           Prep Date:         1/9/2015         Analysis Date: 1/12/2015         SeqNo: 697042         Units: mg/Kg	

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- Analyte detected below quantitation limits
- $\mathbf{o}$ RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- ND
- Not Detected at the Reporting Limit
- Page 7 of 8
- Sample pH greater than 2.
- Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1501338

14-Jan-15

Client:

Rule Engineering LLC

Project:

Lateral K-36/San Juan 28-7 Unit #3

Sample ID 5ML RB	Samp	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID: PB\$	Batch ID: R23589			F	3589					
Prep Date:	Analysis D	Date: 1/	1/12/2015 SeqNo: 697028			Units: mg/Kg				
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		110	80	120			

Sample ID 100NG BTEX LO	S Samp	SampType: LCS TestCode: EPA Method 8					8021B: Vola	tiles		
Client ID: LCSS	Bato	Batch ID: <b>R23589</b> RunNo: <b>23589</b>								
Prep Date:	Analysis	Date: <b>1/</b>	12/2015	S	97029	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	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID MB-17155	Samp	Гуре: <b>МЕ</b>	BLK	Tes	tCode: El	A Method	8021B: Volat	tiles		
Client ID: PBS	Batc	h ID: <b>17</b>	155	RunNo: 23591						
Prep Date: 1/9/2015	Analysis [	Date: 1/	12/2015	SeqNo: 697081			Units: mg/Kg			
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		108	80	120	•		

Sample ID LCS-17155	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	n ID: <b>17</b> '	155	F	RunNo: 2					
Prep Date: 1/9/2015	Analysis D	ate: 1/	12/2015	9	SeqNo: 6	97082	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	105	80	120			
Toluene	1.1	0.050	. 1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	114	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	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 greater than 2.
- 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

Clie	nt Name:	RULE ENGI	NEERING LL	. Work (	Order Numbe	r. 1501:	338	-		RcptN	No: 1
Rece	eived by/dat	e: <i>A</i>	01110	/5							
Logg	ed By:	Anne Thor	ne	1/10/201	5 12:40:00 P	М		an	Sh.	_	
Com	pleted By:	Anne Thor	ne	1/12/201	5			Den	11.	_	
Revi	ewed By:	NB		1/12/18				Clark	<i>,,,,,,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Chai	in of Cus	tody									
1. (	Custody sea	ls intact on sa	imple bottles?	)		Yes		No		Not Present	2
2.	s Chain of C	Custody comp	lete?			Yes	¥	No		Not Present	
3. F	low was the	sample deliv	ered?			Cour	<u>ier</u>				
Log	<u>In</u>										
4. 1	Nas an atte	mpt made to	cool the samp	oles?		Yes	$\checkmark$	No	<b>,</b> 🗆	na [	
5. V	Vere all san	nples received	i at a tempera	ture of >0° C	to 6.0°C	Yes	¥	No		NA [	]
6. 8	Sample(s) ir	n proper conta	iner(s)?			Yes	$\checkmark$	No	<b></b>		
7. 8	Sufficient sa	mple volume i	for indicated to	est(s)?		Yes	<b>Y</b>	No			
8. <i>P</i>	re samples	(except VOA	and ONG) pro	operly preserve	ed?	Yes	<b>✓</b>	No			
9. v	Vas preserv	rative added to	bottles?			Yes		No	$\checkmark$	NA [	
10.\	/OA vials ha	ive zero head	space?			Yes		No		No VOA Vials ☑	2
		ample contain		roken?		Yes		No	✓	[	
		•								# of preserved bottles checked	
		vork match bo				Yes	$\checkmark$	No		for pH:	O 40lono mate d\
•	•	pancies on ch		•		Voo	☑ .	No		Adjusted?	2 or >12 unless noted)
		at analyses w		in of Custody?			<b>⊻</b> .				
		ding times abl	· ·	•			$\mathbf{Z}$			Checked by	y:
		customer for a		•							
<b>0</b>	.:_! !!!		- 15 fo 1 - \								
		ling (if app								[**	<b>a</b>
16. V	Vas client n	otified of all di	screpancies v	vith this order?		Yes		No		NA 🗹	<u></u>
		Notified:			Date	day that have you of this h	727247 TA				
	By Wh	3			Via:	eMa	il [	Phone	Fax	In Person	
	Regard										,
17		Instructions:		Open and and the State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of State of Stat		- Es cars scales a			M 14400-1 W. 1741-1	And the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	
	Additional re										
18. 9	Cooler Info		Condition	liesanii M		74. F		( CLLAS	<b>5</b>	1	
	Cooler No	o Temp.ºC 1.4	Good	Seal Intact Yes	Seal No	Seal Da	(C.)	Signed	υy 🛴		
				<del></del>						•	

Onam-or-oustous Record				Turn-Around	Time:								_		· -	_		<b></b>	r e		
Client:	Rule	Engin	cering	□ Standard Project Name	Rush	<u>Samedong</u> uan 28-7 lin			54.0		A	IAI	Y:	<b>5</b> IS	5 L	AE	30		NT.		7
Mailing	Address	501	Airport Prive	Lateral K-	36/Sandi	ian 28-7 lin	J#3		490	1 Ha		w.ha						109			
Silve	205	Farm	ington NU 87401	Project #:								3975		Fax	-				· 		
Phone :	#: 505	325	9355						1, 67			1 1	\nal	ysis	Req	ues					
email o	r Fax#:			Project Mana	iger:			_	<u> </u>	MRO)		}		0,0				.			1
QA/QC I	Package: dard		☐ Level 4 (Full Validation)	D. Wats	ðη			\$ (8021)	92	-		SIMS)		PO4, S(	PCB's	,					
	Coreditation    NELAP   Other    EDD (Type)			Sampler: D	Yes	ENTO ENTO			HET +		5 (2)	8270 \$		)3,NO2	/ 8082		€ F				(S)
□ EDD	(Type)			Samplerrem	perature:	1420	- PT	題	H (	9	5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	j	tals	N.	ides	7	9				اخ
Date	Time	Matrix	Sample Request ID	Container Type and #	1			BTEX + NEE	BTEX + MTBE	TPH 8015B(GRO) DRO)	TPH (Method 418.1)	PAH's (8310 or 8270 SIMS)	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)
9-15	1338	Sirl	Sc-1	1-402 18NOH	Mech	-0	<u> </u>	X		Х											Ť
1-9-15	1333	Sorl	Sc-2			-с	02	X		Х											$\prod$
1-9-15	1329	Sorl	SC-3				CU3	X		X								.	. ]		Ī
1-9-15	1335	Sol	SC-4			1	704	, ,		X											
	1327	Snl	SC-5	7	1		205			X	-	-	_					_	-		<del> </del>
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										1	-	1-	$\dagger$			-		$\neg$	+	$\dashv$	+
Date:	9/15 1652 John Water			Received by: Received by:	hall	Date Tim	e 252 e	Ren	narks	Br 20C	uto	Ent	erpr	نمه			<u> </u>			1	
19/15	Plate: Time: Relinquished by:  1140 Austre Librate  If necessary samples submitted to Half Environmental may be submitted.			an	ne She	011/0/15															
• 1	f necessarv	samples sub	mitted to Half Environmental may be sub-	contracted to other a	ccredited laboratorie	es. This serves as noti	ice of this	s possil	bility. A	iny sub	-contrac	ted data	a will b	e dear	ly nota	ited or	the ar	natytica	ıl report		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

OrderNo.: 1501864

January 26, 2015

Deborah Watson

Rule Engineering LLC 501 Airport Dr., Ste 205

Farmington, NM 87401 TEL: (505) 860-2712

**FAX** 

RE: Lateral K-36/San Juan 28-7 Unit 3

#### Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/24/2015 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 qualifiers 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

4901 Hawkins NE

Albuquerque, NM 87109

#### Analytical Report Lab Order 1501864

Date Reported: 1/26/2015

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC Client Sample ID: SC-6

 Project:
 Lateral K-36/San Juan 28-7 Unit 3
 Collection Date: 1/23/2015 1:15:00 PM

 Lab ID:
 1501864-001
 Matrix: SOIL
 Received Date: 1/24/2015 11:30:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGI	E ORGANICS					Analys	:: <b>WL</b>
Diesel Range Organics (DRO)	33	10		mg/Kg	1	1/26/2015 11:11:06 AM	17390
Surr: DNOP	80.3	63.5-128		%REC	1	1/26/2015 11:11:06 AM	17390
EPA METHOD 8015D: GASOLINE RAI	NGE					Analys	: NSB
Gasoline Range Organics (GRO)	11	3.3		mg/Kg	1	1/24/2015 3:35:56 PM	17377
Surr: BFB	172	80-120	S	%REC	1	1/24/2015 3:35:56 PM	17377
EPA METHOD 8021B: VOLATILES						Analys	: NSB
Benzene	ND	0.033		mg/Kg	1	1/24/2015 3:35:56 PM	17377
Toluene	ND	0.033		mg/Kg	1	1/24/2015 3:35:56 PM	17377
Ethylbenzene	ND	0.033		mg/Kg	1	1/24/2015 3:35:56 PM	17377
Xylenes, Total	0.57	0.065		mg/Kg	1	1/24/2015 3:35:56 PM	17377
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	1/24/2015 3:35:56 PM	17377

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1501864

26-Jan-15

Client:

Rule Engineering LLC

Project:

Lateral K-36/San Juan 28-7 Unit 3

Sample ID MB-17390	Sampī	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range C	Organics	
Client ID: PBS	Batch	1D: <b>17</b>	390	F	RunNo: 2	3871				
Prep Date: 1/26/2015	Analysis D	ate: 1/	26/2015	S	SeqNo: 7	04287	Units: mg/F	<b>(</b> g		
Analyte _	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10				· · · · · · · · · · · · · · · · · · ·			<u> </u>	
Surr: DNOP	7.4		10.00		73.7	63.5	128			
Sample ID LCS-17390	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Sample ID LCS-17390 Client ID: LCSS	,	ype: LC			tCode: E		8015D: Dies	el Range (	Organics	
•	,	1D: <b>17</b>	390	. Б		3871	8015D: Dies Units: mg/k	J	Organics	
Client ID: LCSS	Batch	1D: <b>17</b>	390 26/2015	. Б	RunNo: 2	3871		J	Organics RPDLimit	Qual
Client ID: LCSS Prep Date: 1/26/2015	Batch Analysis D	n ID: 17 ate: 1/	390 26/2015	· F	RunNo: 2 SeqNo: 7	3871 04288	Units: mg/h	√g	ŭ	Qual

Sample ID 1501864-001AMS	SampT	/pe: <b>MS</b>	3	Test	tCode: El	PA Method	8015D: Dies	el Range C	Organics		
Client ID: SC-6	Batch	Batch ID: 17390 RunNo: 23871									
Prep Date: 1/26/2015	Analysis D	ate: 1/	26/2015	S	SeqNo: 7	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	64	10	49.95	32.62	62.9	29.2	176				
Surr: DNOP	5.2		4.995		103 .	63.5	128				

Sample ID 1501864-001AMS	D SampT	ype: <b>M</b> \$	SD	Tes	8015D: Dies	el Range (	Organics			
Client ID: SC-6	Batcl	n ID: <b>17</b>	390	F	RunNo: 2	3871				
Prep Date: 1/26/2015	Analysis D	Date: 1/	26/2015	8	SeqNo: 7	04535	Units: mg/F	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	69	9.9	49.70	32.62	72.8	29.2	176	7.20	23	
Surr: DNOP	5.2		4.970		104	63.5	128	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 greater than 2.

RL Reporting Detection Limit

Page 2 of 4

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1501864

26-Jan-15

Client:

Rule Engineering LLC

Project:

Lateral K-36/San Juan 28-7 Unit 3

Sample ID MB-17377

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 17377

RunNo: 23862

Prep Date: 1/23/2015

Analysis Date: 1/24/2015

SeqNo: 704138

Units: mg/Kg

Analyte Result

PQL

%REC

HighLimit

**RPDLimit** 

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

ND 5.0 880

1000

SPK value SPK Ref Val

88.4

120

Sample ID LCS-17377

Prep Date: 1/23/2015

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

%RPD

Client ID: LCSS

Batch ID: 17377

RunNo: 23862 SeqNo: 704139

LowLimit

LowLimit

Units: mg/Kg

%RPD

Qual

Analyte Gasoline Range Organics (GRO) Analysis Date: 1/24/2015 Result PQL

SPK value SPK Ref Val 25.00

%REC 89.6

65.8 80

Surr: BFB

22 5.0 970 1000

97.5

139 120

HighLimit

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- Reporting Detection Limit

Page 3 of 4

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1501864

26-Jan-15

Client:

Rule Engineering LLC

Project:

Lateral K-36/San Juan 28-7 Unit 3

Sample ID MB-17377	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batcl	n ID: 17	377	R	RunNo: 2	3862				
Prep Date: 1/23/2015	Analysis D	Date: 1/	24/2015	S	SeqNo: 7	04149	Units: mg/K	(g		
Analyte	Result	,			%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050				<u> </u>				
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total ND 0.10										
Surr: 4-Bromofluorobenzene	0.98		1.000		98.3	80	120			

Sample ID LCS-17377	SampT	Гуре: <b>LC</b>	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: <b>17</b> :	377	F	RunNo: 2	3862				
Prep Date: 1/23/2015	Analysis E	Date: 1/	24/2015	8	Units: mg/F	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	0.96	0.050	1.000	0	95.9	80	120			
Ethylbenzene			101	80	120					
Xylenes, Total	nes, Total 3.0 0.10 3.000 0 100 8				80	120				
Surr: 4-Bromofluorobenzene	1.1		1.000		106	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 greater than 2.
- RL Reporting Detection Limit

Page 4 of 4



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

**RULE ENGINEERING LL** RcptNo: 1 Client Name: Work Order Number: 1501864 01/24/15 Received by/date: an Ilm 1/24/2015 11:30:00 AM Logged By: Anne Thorne an Il-Completed By: Anne Thorne 1/24/2015 A 01124/15 Reviewed By: Chain of Custody 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 🗌 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 Yes 🗸 No 🗌 No [] Yes 🗸 6. Sample(s) in proper container(s)? No 🗀 7. Sufficient sample volume for indicated test(s)? Yes 🗸 No 🗌 Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? No 🗹 NA 🔲 Yes 🗌 9. Was preservative added to bottles? No 🗔 No VOA Vials 🗹 Yes 10. VOA vials have zero headspace? Yes No 🗸 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: Yes 🗹 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) No 🗆 Adjusted? Yes 🗹 13. Are matrices correctly identified on Chain of Custody? No 🗌 V 14. Is it clear what analyses were requested? Yes No 🗌 Checked by: Yes 🗹 15. Were all holding times able to be met? (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 eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler Not - Temp 2C 1.2 Good Yes

	Chaill-Ol-Gustouy Record				Time:					j.	IA	11	=	NV	7T E	20	N	ИF	NT	ΓΔΙ	ı
ilient:	Rule	Engin	eering	□ Standard Project Name	Rush	Some day Wuan 28-7 lint	<u> </u>			A	N		YS	SIS	S L	A	30		\T(		
lailing	Address	501 Av	spart Drive Sule 205	Lateral !	K-36/Sau	Wuan 28-7 ling	<u>}</u>	49	01 H	awki								'109			
			87461	Project #:				Τe	el. 50	5-34	5-39	975	F	ax	505-	345	-410 ⁻	7			
			2112				701 #		Am St.			· A	naly		Req	ues	į.	**			1 70
	or Fax#:			Project Mana	ger:		=	only)	独		ļ			304)	υ						
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#### OIL CONS. DIV DIST. 3

<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 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

MAR 3 0 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.

				San	ıta Fe	e, NM 87	505					
	Release Notification and Corrective Action											
					OP	ERATOR	₹		Initial	Report	⊠F	inal Repor
Name of C	ompany: I	Enterprise F	ield Ser	vices LLC	(	Contact: TI	nomas Long					
		ve, Farmin					No. 505-599-	2286				
Facility Na	me: <b>San J</b>	uan 29-5 #	214			Facility Typ	e: Natural Ga	as Gat	her Pipe	line		
Surface Ov	vner Priva	ate		Mineral O	wner.	RIM			API No			
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Unit Letter	Section	Township	Range	Feet from		South	Feet from	East	Mest	County		
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Type of Rele	ease: Natur	al Gas Liquid	ds			Volume o	f Release 3-5 B s	BLs	Volume	Recovered	d: None	
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If a Waterco	urse was In	npacted, Des	scribe Full	y.*	·-···			_ <del></del>				
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six (26) feet	long by thir	teen (13) fee	et wide by	nine (9) feet de	eep wa	s excavated	npleted on Feb I. Approximatel third party corr	ly 108 c	cubic yards	s of hydrod	carbon in	npacted
rules and re which may e relieve the o ground wate	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.											
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Printed Nam	ne: Jon E. F	ields		<u></u>		Approved by	/ Environmenta	l Specia	alist: 🗸	40		
Title: Directo	or, Environn	nental			_   .	Approval Da	ate: 5/6/);	5	Expiration	Date)		
E-mail Addr	ess:jefields	@eprod.com	1			Conditions of	of Approval:			Attache	ed 🗌	
Date: 3	24-2	015	Phor	ne: (713)381-66	884							

* Attach Additional Sheets If Necessary

#NCS 1507249522



OIL CONS. DIV DIST. 3
MAR 3 0 2015

#### **CORRECTIVE ACTION REPORT**

Property:

San Juan 29-5 #214 Well Tie Pipeline Release NE 1/4, S27 T29N R5W Rio Arriba County, New Mexico

> February 26, 2015 Apex Project No. 7250415G003

> > Prepared for:

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

Prepared by:

Ranee Deechilly
Environmental Scientist

Elizabeth Scaggs, P.G.

Division Manager

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#### **CORRECTIVE ACTION REPORT**

#### San Juan 29-5 #214 Well Tie Pipeline Release NE 1/4, S27 T29N R5W Rio Arriba County, New Mexico

**Apex Project No. 7250415G003** 

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The San Juan 29-5 #214 Well Tie Pipeline Release Site is located within the Enterprise Field Services LLC (Enterprise) pipeline right-of-way (ROW) in the northeast (NE) ¼ of Section 27 in Township 29 North and Range 5 West in rural Rio Arriba County, New Mexico (36.69990N, 107.34051W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Forest Service (USFS). The Site is surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

Beginning on February 5, 2015, Enterprise initiated corrective action activities at the Site in an effort to locate and repair the subsurface leak, and remediate potential hydrocarbon impact. The leak was subsequently identified and repaired. An unknown quantity of natural gas was released from the pipeline as a result of internal corrosion. The leak was identified by a release of natural gas at the ground surface.

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 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:



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

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

- Depth to groundwater is anticipated to be greater than 100 feet below grade surface (bgs). One water well, located approximately 3,100 feet to the west of the Site, was identified on the Office of the State Engineer (OSE) website database with a depth to water of 120 feet. Additionally, a cathodic well report for the San Juan 29-5 #214 indicates a depth to water of 150 feet, resulting in a depth to groundwater ranking of "0".
- 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 less than 100 feet from a small ephemeral wash that drains to an arroyo northwest of the Site, resulting in a distance to surface water ranking of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

Beginning on February 5, 2015, Enterprise initiated corrective action activities at the Site in an effort to locate and repair the subsurface leak, and remediate potential hydrocarbon impact. The leak was subsequently identified and repaired. An unknown quantity of natural gas was released from the pipeline as a result of internal corrosion. The leak was identified by a release of natural gas at the ground surface. During the corrective action activities, West States Energy Contractors provided heavy equipment and labor support, and Heather Woods and Ranee Deechilly, Apex environmental professionals, provided environmental support.

Subsequent to the completion of pipeline repairs, the hydrocarbon affected soils were excavated from the Site, resulting in an initial excavation of approximately 16 feet long by eight (8) feet wide, with a total depth of approximately six (6) feet bgs. Confirmation composite samples C-1 and C-2 were collected from the floor and sidewalls of the excavation to evaluate soils remaining in place and composite sample SP-1 was collected from the soil stockpile to determine the potential to reuse these soils as excavation backfill. Subsequent analytical results indicated that the floor of the excavation (C-1) and the sidewalls (C-2) near the release still exhibited evidence of hydrocarbon impact.

The Site was over-excavated on February 9, 2015, to remove material from the sidewalls and excavation floor near the point of release. Analytical results from confirmation samples C-3



through C-7 indicate that the sidewalls and floor no longer show evidence of hydrocarbon impact above New Mexico EMNRD OCD *Remediation Action Levels* (RALs).

The surface expression of the final excavation related to corrective action measured approximately 26 feet long by 13 feet wide at the maximum width, with a total depth of approximately nine (9) feet bgs. The repair excavation was extended north, beyond these dimensions, to facilitate the replacement of a full section of pipe.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silt with clay and weathered shale.

A total of approximately 108 cubic yards of hydrocarbon affected soils were transported to the Envirotech 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 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 aid in determining the excavation limits.

Apex's soil sampling program included the collection of a total of seven (7) confirmation samples (C-1 through C-7) from the resulting excavation for laboratory analysis. Additionally, one (1) composite sample (SP-1) was collected from the stockpiled soils to determine the potential to reuse these soils as excavation backfill. 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 confirmation soil 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 rush 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, and 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 *Remediation Plan*. 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 reporting limits associated with the final confirmation samples (C-3 through C-7) for soils remaining in place to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of "20". Soils associated with C-1 and C-2 were removed by excavation and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD Remediation Action Level.
- 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 Remediation Action Level.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 13 milligrams per kilogram (mg/kg), which are below the OCD Remediation Action Level for a Site ranking of "20".

The laboratory analyses of the stockpile composite sample (SP-1) indicated TPH GRO/DRO concentrations above the OCD *Remediation Action Level* for a Site ranking of "20". The stockpiled soils resulting from the excavation were transported to the Envirotech Landfarm near Hilltop, New Mexico for disposal/remediation.

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The San Juan 29-5 #214 Well Tie Pipeline Release Site is located within the Enterprise ROW in the NE ¼ of Section 27 in Township 29 North and Range 5 West in rural Rio Arriba County, New Mexico. The Site is located on land managed by the USFS. The Site is surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

Beginning on February 5, 2015, Enterprise initiated corrective action activities at the Site in an effort to locate and repair the subsurface leak, and remediate potential hydrocarbon impact. The leak was subsequently identified and repaired. An unknown quantity of natural gas was released from the pipeline as a result of internal corrosion. The leak was identified by a release of natural gas at the ground surface.

- 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 silt with clay and weathered shale.



- The surface expression of the final remedial action excavation measured approximately 26 feet long by 13 feet wide at the maximum width, with a total depth of approximately nine (9) feet bgs. The repair excavation was extended north, beyond these dimensions, to facilitate the replacement of a full section of pipe.
- Prior to backfilling, seven (7) confirmation samples were collected from the resulting excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD Remediation Action Levels for a Site ranking of "20".
- A total of approximately 108 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

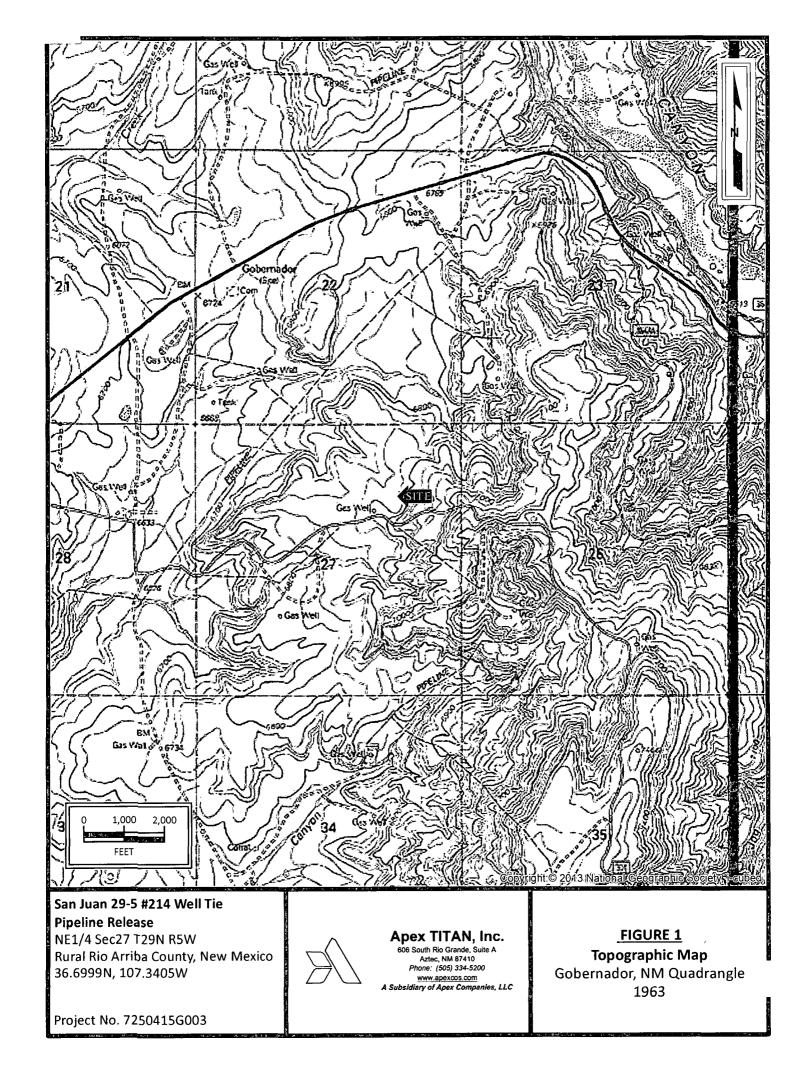
Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.

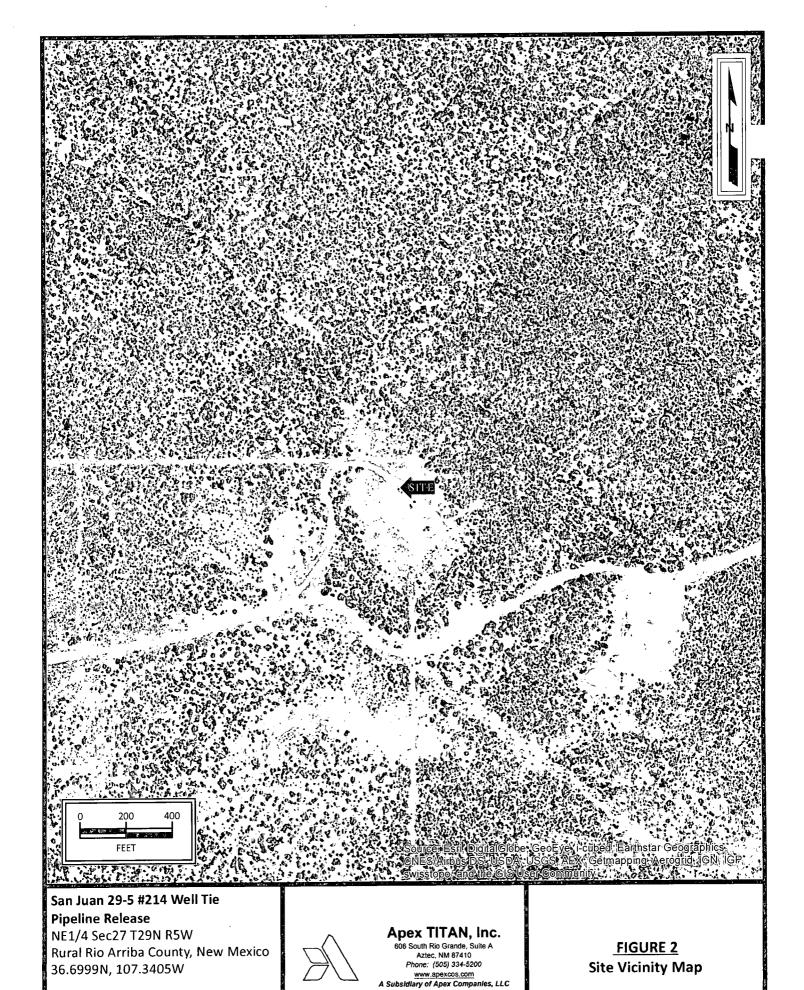
#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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.

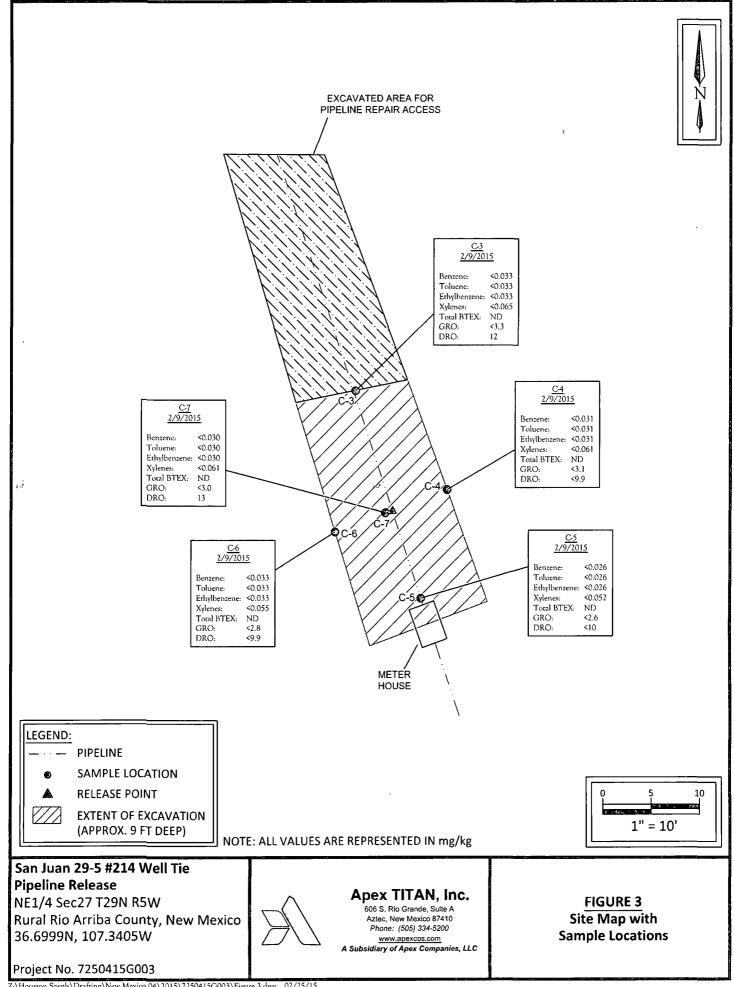
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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.





Project No. 7250415G003



I ct.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

# State of New Mexico 7057-0686 Form C-138 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.

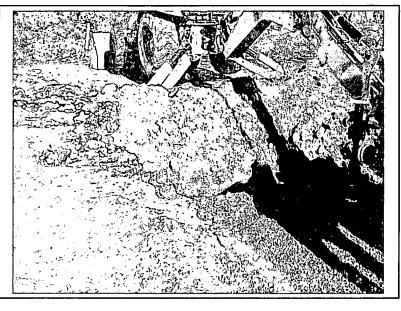
# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

REQUEST FOR ATTROVAL TO ACCELT SOLID WASTE	
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	
2. Originating Site: SJ 29-5#214 Pipeline Feb 2015	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter G, Section 27, T29N, R10W; 36.699905, -107.340519	
<ul> <li>4. Source and Description of Weste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.</li> <li>5. Estimated Volume 50 (yd) bbls Known Volume (to be entered by the operator at the end of the haul) (yd) bbls</li> </ul>	ls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 198	88
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 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. (Che 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, 2-9-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, representative for Envirotech, Inc. do hereby certify that representative samples of the dil field waste have been subjected to the paint filter test and tested for chloride content and that the sample 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.	les
6. Transporter: West State Entergy Contractors & Doug towte	
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	d)
PRINT NAN Kendra Runung TITLE: Waste Coordinator Date: 2-9-15	
SIGNATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent	



### Photograph 1

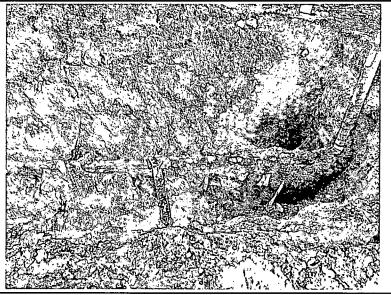
View of the Site at the beginning of corrective action activities, facing north.



### Photograph 2

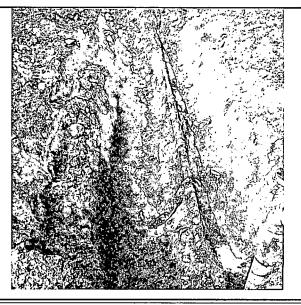
View of partially completed excavation, facing east.

, ,;



### Photograph 3

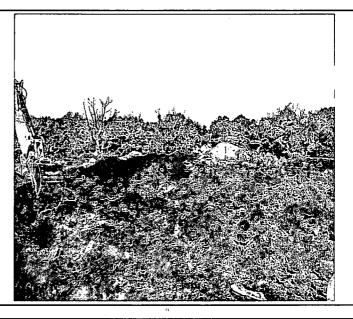
View of partially completed excavation, facing northwest.





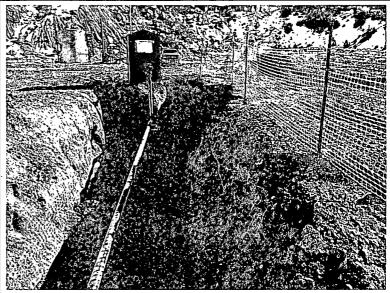
### Photograph 4

View of stockpile, facing north.



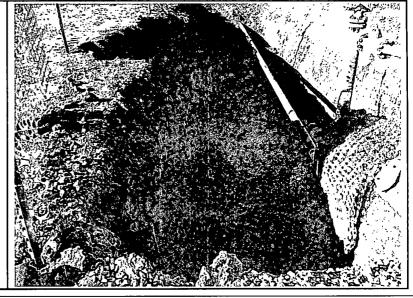
### Photograph 5

View of the final excavation at the completion of corrective action activities, facing southeast.



### Photograph 6

View of the final excavation at the completion of corrective action activities, facing north.





### TABLE 1 San Juan 29-5 (2214 Well Tie 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)
II	•••	Natural Resources vision, Remediation	10	NE	NE	NE	50	10	00
				Stockpile Sample F	lemoved to Landfar	m			
SP-1	2/5/2015	2 to 9	0.21	3.1	0.88	11	15	140	740
			Cor	nfirmation Samples	Removed by Excav	ation			
C-1	2/5/2015	2 to 9	4.0	36	7.9	100	148	950	8,400
C-2	2/5/2015	2 to 9	1.1	12	4.0	56	73	570	3,200
				Excavation Con	firmation Samples			· ·	
C-3	2/9/2015	2 to 9	<0.033	<0.033	<0.033	<0.065	ND	<3.3	12
C-4	2/9/2015	2 to 9	<0.031	<0.031	<0.031	<0.061	ND	<3.1	<9.9
C-5	2/9/2015	2 to 9	<0.026	<0.026	<0.026	<0.052	ND	<2.6	<10
C-6	2/9/2015	2 to 9	<0.033	<0.033	<0.033	<0.055	ND	<2.8	<9.9
C-7	2/9/2015	9	<0.030	<0.030	<0.030	<0.061	ND	<3.0	13

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



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

OrderNo.: 1502256

February 09, 2015

Heather Woods
APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787

FAX

RE: Enterprise SJ 29-5 #214

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/6/2015 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 qualifiers 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 1502256

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/9/2015

**CLIENT: APEX TITAN** 

Client Sample ID: SP-1

**Project:** 

Enterprise SJ 29-5 #214

Collection Date: 2/5/2015 12:45:00 PM

Lab ID:

1.3

1502256-001

Matrix: MEOH (SOIL)

Received Date: 2/6/2015 7:10:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS					Analys	t: JME
Diesel Range Organics (DRO)	740	9.9		mg/Kg	1	2/6/2015 10:00:46 AM	17601
Surr: DNOP	105	63.5-128		%REC	1	2/6/2015 10:00:46 AM	17601
EPA METHOD 8015D: GASOLINE RA	ANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	140	13		mg/Kg	5	2/6/2015 9:51:42 AM	17580
Surr: BFB	274	80-120	S	%REC	5	2/6/2015 9:51:42 AM	17580
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	0.21	0.13		mg/Kg	5	2/6/2015 9:51:42 AM	17580
Toluene	3.1	0.13		mg/Kg	5	2/6/2015 9:51:42 AM	17580
Ethylbenzene	0.88	0.13		mg/Kg	5	2/6/2015 9:51:42 AM	17580
Xylenes, Total	11	0.26		mg/Kg	5	2/6/2015 9:51:42 AM	17580
Surr: 4-Bromofluorobenzene	125	80-120	S	%REC	5	2/6/2015 9:51:42 AM	17580

; ;

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

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- $\mathbf{o}$ RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit P Sample pH greater than 2.
- Page 1 of 4
- Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

4.9

WO#:

1502256

09-Feb-15

Client:

APEX TITAN

Project:

Sample ID LCS-17601

Enterprise SJ 29-5 #214

Sample ID MB-17601 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS RunNo: 24136 Batch ID: 17601 Prep Date: 2/6/2015 Analysis Date: 2/6/2015 SeqNo: 711775 Units: mg/Kg Analyte **RPDLimit** Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD Qual Diesel Range Organics (DRO) ND 10 Surr: DNOP 8.5 10.00 84.7 63.5 128

Client ID: LCSS Batch ID: 17601 RunNo: 24136 Prep Date: 2/6/2015 Analysis Date: 2/6/2015 SeqNo: 711776 Units: mg/Kg %REC Result **PQL** SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 50 10 50.00 99.7 67.8 130 Surr: DNOP 4.9 5.000 98.1 63.5 128

TestCode: EPA Method 8015D: Diesel Range Organics

Sample ID MB-17564 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics Client ID: PBS Batch ID: 17564 RunNo: 24136 Prep Date: 2/4/2015 SegNo: 712630 Units: %REC Analysis Date: 2/6/2015 %REC Analyte Result **PQL** SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual 89.7 Surr: DNOP 9.0 10.00 63.5 128

Sample ID LCS-17564 SampType: LCS TestCode: EPA Method 8015D: Diesel Range Organics Client ID: LCSS Batch ID: 17564 RunNo: 24136 Prep Date: 2/4/2015 Analysis Date: 2/6/2015 SeqNo: 712631 Units: %REC Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

98.2

63.5

128

5.000

### **Dualifiers:**

Surr: DNOP

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits J
- 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
- Н Holding times for preparation or analysis exceeded
- ND
- Not Detected at the Reporting Limit

Page 2 of 4

- P Sample pH greater than 2.
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1502256

09-Feb-15

Client:

APEX TITAN

Project:

Enterprise SJ 29-5 #214

Sample ID MB-17580

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

RunNo: 24152

Prep Date:

Batch ID: 17580

Units: mg/Kg

Analysis Date: 2/6/2015

SeqNo: 712397

HighLimit

Analyte

Result PQL ND 5.0

%REC SPK value SPK Ref Val

LowLimit

Qual

**RPDLimit** 

Basoline Range Organics (GRO) Surr: BFB

940

1000

25.00

1000

94.0

120

Sample ID LCS-17580

SampType: LCS

RunNo: 24152

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

LCSS 2/5/2015

2/5/2015

Batch ID: 17580

Analysis Date: 2/6/2015

SeqNo: 712398

80

Units: mg/Kg

Qual

Analyte Sasoline Range Organics (GRO) Surr: BFB

Prep Date:

Result 24

1000

**PQL** 5.0

%REC SPK value SPK Ref Val 97.8 103

LowLimit 64 80

%RPD HighLimit **RPDLimit** 130 120

%RPD

1.5

### 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
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- Not Detected at the Reporting Limit ND
- P Sample pH greater than 2.
- RLReporting Detection Limit

Page 3 of 4

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1502256 09-Feb-15

Client:

**APEX TITAN** 

Project:

Enterprise SJ 29-5 #214

Sample ID MB-17580 SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: PBS Batch ID: 17580 RunNo: 24152 Prep Date: 2/5/2015 Analysis Date: 2/6/2015 SeqNo: 712441 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual enzene ND 0.050 ND 0.050 oluene ND 0.050 ±thylbenzene ND Yylenes, Total 0.10 Surr: 4-Bromofluorobenzene 1.0 1.000 104 80 120

Sample ID LCS-17580	Samp1	Type: <b>LC</b>	S	Tes	tCode: E	tiles				
Client ID: LCSS	Batcl	h ID: <b>17</b> :	580	F	RunNo: 2	4152				
Prep Date: <b>2/5/2015</b>	Analysis [	Date: 2/	6/2015	5	SeqNo: 7	12442	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	102	80	120			
. oluene	0.96	0.050	1.000	0	95.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120		•	
(ylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

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### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits 1
- 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 В
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH greater than 2.

RL

Page 4 of 4

# ENVIRONMENTAL

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

# Sample Log-In Check List

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

Client	Name:	APEX AZTE	С	Work O	rder Numb	er: <b>1502</b> 2	56		RcptNo:	1
Receiv	ed by/date	e: (\square \)	L	02/06	15					
Logged	d By:	LindsayMa	angin	2/6/2015	7:10:00 AN	1		Jimshij Hedrijs D		
Comple	eted By:	Lindsay Ma			7:29:13 AN	ī		Jumby Hleago		
Review	ved By:	AT O	210615	-						
Chain	of Cus	•								
			mple bottles?			Yes		No 🗌	Not Present 🐼	
2. ls (	Chain of C	Custody comp	lete?			Yes		No 🗆	Not Present	•
3. Ho	w was the	sample deliv	ered?			Cour	<u>ier</u>			
Log I	<u>ln</u>									
4. w	as an atte	mpt made to	cool the sampl	es?		Yes		No 🗌	na 🗆	
5. W	ere all sar	nples receive	d at a temperat	cure of >0° C t	o 6.0°C	Yes		No 🗆	NA 🗀	
6. Sa	ample(s) ii	n proper conta	niner(s)?			Yes		No 🗆		
7. Su	ifficient sa	mple volume	for indicated te	st(s)?		Yes		No 🗆		
8. Are	e samples	(except VOA	and ONG) pro	perly preserve	ed?	Yes		No 🗆		1 d
9. W	as presen	vative added t	o bottles?	•		Yes		No 🗹	NA 🗆	17
10.vc	OA vials h	ave zero head	space?			Yes		No 🗌	No VOA Vials 🕏	
11. W	ere any s	ample contair	ers received b	roken?		Yes		No 🙋		
								_	# of preserved bottles checked	
		work match be			•	Yes		No 📙	for pH:	r >12 unless noted)
			ain of custody ntified on Chai			Yes		No 🗌	Adjusted?	TE dillood flotody
			ere requested			Yes	<b>-7</b> 0	No 🗆		•
		ding times ab	· ·	•		Yes		No 🗀	Checked by:	
		-	authorization.)						l	
	- 44									
		<u>lling (if ap</u>					_			
16.W	as client r	notified of all d	iscrepancies w	ith this order?	• •	Yes		No 🗀	NA 🗗	I
	Perso	n Notified:			Date	:				
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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

February 09, 2015

Heather Woods
APEX TITAN
606 S. Rio Grande Unit A

Aztec, NM 87410 TEL: (505) 716-2787

FAX

RE: Enterprise SJ 29-5 #214

OrderNo.: 1502257

### Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/6/2015 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 1502257

Date Reported: 2/9/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-1

Project: Enterprise SJ 29-5 #214

**Collection Date: 2/5/2015 1:00:00 PM** 

Lab ID: 1502257-001

Matrix: MEOH (SOIL) Received Date: 2/6/2015 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS					Analys	: JME
Diesel Range Organics (DRO)	8400	100		mg/Kg	10	2/6/2015 10:22:14 AM	17601
Surr: DNOP	0	63.5-128	s	%REC	10	2/6/2015 10:22:14 AM	17601
EPA METHOD 8015D: GASOLINE R	ANGE					Analys	: NSB
Gasoline Range Organics (GRO)	950	13		mg/Kg	5	2/6/2015 10:20:30 AM	17580
Surr: BFB	929	80-120	s	%REC	5	2/6/2015 10:20:30 AM	17580
EPA METHOD 8021B: VOLATILES						Analys	: NSB
Benzene	4.0	0.13		mg/Kg	5	2/6/2015 10:20:30 AM	17580
Toluene	36	1.3		mg/Kg	50	2/6/2015 12:15:23 PM	17580
Ethylbenzene	7.9	0.13		mg/Kg	5	2/6/2015 10:20:30 AM	17580
Xylenes, Total	100	2.5		mg/Kg	50	2/6/2015 12:15:23 PM	17580
Surr: 4-Bromofluorobenzene	210	80-120	S	%REC	5	2/6/2015 10:20:30 AM	17580

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 5

- P Sample pH greater than 2.
- RL Reporting Detection Limit

### Lab Order 1502257

Date Reported: 2/9/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-2

**Project:** Enterprise SJ 29-5 #214

**Collection Date:** 2/5/2015 1:05:00 PM

**Lab ID:** 1502257-002

Matrix: MEOH (SOIL)

Received Date: 2/6/2015 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	SE ORGANICS					Analys	st: JME
Diesel Range Organics (DRO)	3200	100		mg/Kg	10	2/6/2015 11:40:14 AM	17601
Surr: DNOP	0	63.5-128	S	%REC	10	2/6/2015 11:40:14 AM	17601
EPA METHOD 8015D: GASOLINE RA	ANGE					Analys	st: NSB
Gasoline Range Organics (GRO)	570	49		mg/Kg	20	2/6/2015 12:44:12 PM	17580
Surr: BFB	252	80-120	S	%REC	20	2/6/2015 12:44:12 PM	17580
EPA METHOD 8021B: VOLATILES						Analys	st: NSB
Benzene	1.1	0.49		mg/Kg	20	2/6/2015 12:44:12 PM	17580
Toluene	12	0.49		mg/Kg	20	2/6/2015 12:44:12 PM	17580
Ethylbenzene	4.0	0.49		mg/Kg	20	2/6/2015 12:44:12 PM	17580
Xylenes, Total	56	0.98		mg/Kg	20	2/6/2015 12:44:12 PM	17580
Surr: 4-Bromofluorobenzene	131	80-120	S	%REC	20	2/6/2015 12:44:12 PM	17580

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 greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

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WO#:

1502257 09-Feb-15

Client: 'roject:	APEX 1	ΓΙΤΑΝ ise SJ 29-5 #2	214								
Sample ID		SampTy		DI K	Tes	tCode: El	PA Mathad	8015D: Diese	al Pange (	Tranice	
'		, ,	,					OUTSD. DIES	ei italige t	Jigailles	
' Client ID:	PBS	Batch			H	RunNo: 2	4136				
Prep Date:	2/6/2015	Analysis Da	ite: 2	6/2015	S	SeqNo: 7	11775	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range	Organics (DRO)	ND	10								
Surr: DNOP		8.5		10.00		84.7	63.5	128			
Sample ID	LCS-17601	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	ii
Client ID:	LCSS	Batch	ID: <b>17</b>	601	F	RunNo: 2	4136				
Prep Date:	2/6/2015	Analysis Da	ite: 2	/6/2015	S	SeqNo: 7	11776	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range	Organics (DRO)	50	10	50.00	0	99.7	67.8	130			
Surr: DNOP		4.9		5.000		98.1	63.5	128			
Sample ID	MB-17564	SampTy	pe: <b>M</b> I	BLK	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	PBS	Batch	ID: <b>17</b>	564	F	RunNo: 2	4136				
Prep Date:	2/4/2015	Analysis Da	ate: 2	/6/2015	S	SeqNo: 7	12630	Units: %RE	С		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.0		10.00		89.7	63.5	128			
Sample ID	LCS-17564	SampTy	pe: LC	:s	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Client ID:	LCSS	Batch	ID: <b>17</b>	564	F	RunNo: 2	4136				
Prep Date:	2/4/2015	Analysis Da	ite: 2	/6/2015	S	SeqNo: 7	12631	Units: %RE	С		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

Surr: DNOP

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

98.2

63.5

128

Page 3 of 5

- Sample pH greater than 2.
- Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1502257

09-Feb-15

Client:

APEX TITAN

roject:

Enterprise SJ 29-5 #214

TestCode: EPA Method 8015D: Gasoline Range Sample ID MB-17580 SampType: MBLK RunNo: 24152 Client ID: PBS Batch ID: 17580 Analysis Date: 2/6/2015 SeqNo: 712397 Units: mg/Kg Prep Date: 2/5/2015 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Basoline Range Organics (GRO) ND 5.0 1000 94.0 80 120 Surr: BFB 940

Sample ID LCS-17580 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 17580 RunNo: 24152 Analysis Date: 2/6/2015 SeqNo: 712398 Units: mg/Kg Prep Date: 2/5/2015 Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 130 Basoline Range Organics (GRO) 24 5.0 25.00 97.8 64 Surr: BFB 1000 1000 103 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 greater than 2.
- RL Reporting Detection Limit

Page 4 of 5

### Hall Environmental Analysis Laboratory, Inc.

WO#: **1502257** 

09-Feb-15

Client:

Analyte

lenzene

ioluene

F.thylbenzene

(ylenes, Total

Surr: 4-Bromofluorobenzene

APEX TITAN

'roject:

Enterprise SJ 29-5 #214

Result

1.0

0.96

1.0

3.1

1.1

**PQL** 

0.050

0.050

0.050

0.10

Sample ID MB-17580	Samo	Cypo: ME	) I/	Toc	tCode: El	DA Mathad	8021B: Vola	tilos		
•		Гуре: МЕ					OUZID. VOIA	เแยร		
Client ID: PBS	Batc	h ID: <b>17</b>	580	۲	RunNo: 2	4152				
Prep Date: 2/5/2015	Analysis [	Date: 2/	6/2015	\$	SeqNo: 7	12441	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
enzene	ND	0.050								
oluene	ND	0.050								
Ethylbenzene	ND	0.050								
(ylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			
Sample ID LCS-17580	Samp	Гуре: <b>LC</b>	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 17	580	F	RunNo: 2	4152				
Prep Date: 2/5/2015	Analysis [	Date: <b>2/</b>	6/2015	5	SeqNo: 7	12442	Units: mg/k	(g		

0

0

0

SPK value SPK Ref Val

1.000

1.000

1.000

3.000

1.000

%REC

102

95.7

101

102

111

LowLimit

80

80

80

80

80

HighLimit

120

120

120

120

120

%RPD

**RPDLimit** 

Qual

### *<u>Qualifiers:</u>*

- * 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 greater than 2.
- RL Reporting Detection Limit

Page 5 of 5

# **ENVIRONMENTAL**

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 RcptNo: 1 **APEX AZTEC** Work Order Number: 1502257 Client Name: Received by/date:

Logged By:	Lindsay Mangin	2/6/2015 7:10:00 AM		July Hago		
Completed By:	Lindsay Mangin	2/6/2015 7:32:53 AM		Jumby House		
Reviewed By:	Ar ozlul	0(15		U		
Chain of Cus	tody					
1. Custody sea	als intact on sample bottle	es?	Yes 🗌	No 🗌	Not Present 🗷	
2. Is Chain of C	Custody complete?		Yes 🗭	No 🗆	Not Present	
3. How was the	e sample delivered?		Courier			
<u>Log In</u>						
4. Was an atte	empt made to cool the sa	mples?	Yes 🗷	No 🗀	na 🗆	
5. Were all sar	mples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No 🗆	na 🗆	
6. Sample(s) i	n proper container(s)?		Yes 🗹	No 🗆		
7. Sufficient sa	imple volume for indicate	d test(s)?	Yes 🐼	No 🗆		
8. Are samples	s (except VOA and ONG)	properly preserved?	Yes 🐼	No 🗌		
9. Was presen	vative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
10.VOA vials h	ave zero headspace?		Yes 🗌	No 🗆	No VOA Viais 🗹	
11 Were any s	ample containers receive	d broken?	Yes 🗆	No 🗗	# of preserved bottles checked	
	work match bottle labels? pancies on chain of custo		Yes 🗹	No 🗌	for pH; (<2	or >12 unless noted)
13. Are matrices	s correctly identified on C	hain of Custody?	Yes 🗹	No 🗌	Adjusted?	
14. Is it clear wh	nat analyses were reques	ted?	Yes 🙋	No 📙	<b>.</b>	
	ding times able to be me customer for authorization		Yes 🕏	No L	Checked by:	•
Spe <u>cial Hand</u>	dling (if applicable)					
16.Was client r	notified of all discrepancie	s with this order?	Yes 🗌	No 🗆	NA 🗹	
Perso	n Notified:	Date:		1000 Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carlos Carl		
By Wi	hom:	Via:	, eMail	Phone 🗌 Fax	n Person	
Regar	ding:		The second second second second	Harrist Harrist Transportuni (N. 1880) (P. 1884)		
Client	Instructions:		A CONTRACTOR OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH			
t	•		•			· ·

17. Additional remarks:

### 18. Cooler Information

Ī	Cooler No	Temp ℃	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.6		Yes			

	CHAIN OF CUSTODY RECO
Project Manager H. Woods Sampler's Name Heather Woods / Range Die Proj. No.   Project Name	Laboratory: Hall Environmented  Address: Albuquerque, NM  Contact: Andy Freeman  Phone:  PO/SO #: 1250+1500+
, and a	De SJ 29-5#214 No/Type of Containers
	Sampler's Signature  Chilly Heath Woods  No/Type of Containers  Ale SJ 29-5#214  entifying Marks of Sample(s) To the Day of Containers  Lab Sample iD (Lab Use Only)
	2-1 11 × x 1502557-00
	2-2 111 * × 2 -002
	2 /2/10
	the thing
Turn around time ☐ Normal ☐ 25%	TOTAL SALES
Relinquished by (Signature)  Relinquished by (Signature)  Date of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property of the property	Date: Time: Apocived by: (Signature)  Date: Time: NOTES: Direct bill to Enterprise  Date: Time: Apocived by: (Signature)  Date: Time: Attn: Tom Long  Date: Time: Received by: (Signature)  Date: Time: Received by: (Signature)  Date: Time: Received by: (Signature)



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

OrderNo.: 1502361

February 13, 2015

Heather Woods

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (505) 716-2787

**FAX** 

RE: Enterprise San Juan 29-5 #214

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/10/2015 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

4901 Hawkins NE

Albuquerque, NM 87109

### Analytical Report Lab Order 1502361

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/13/2015

**CLIENT: APEX TITAN** 

Client Sample ID: C-3

**Project:** 

Enterprise San Juan 29-5 #214

**Collection Date:** 2/9/2015 1:38:00 PM

Lab ID:

1502361-001

Matrix: SOIL

Received Date: 2/10/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: JME
Diesel Range Organics (DRO)	12	9.9	mg/Kg	1	2/10/2015 9:24:57 AM	17655
Surr: DNOP	102	63.5-128	%REC	1	2/10/2015 9:24:57 AM	17655
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	2/10/2015 10:04:17 AM	1 R24212
Surr: BFB	91.0	80-120	%REC	1	2/10/2015 10:04:17 AM	1 R24212
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.033	mg/Kg	1	2/12/2015 1:25:30 PM	17626
Toluene	ND	0.033	mg/Kg	1	2/12/2015 1:25:30 PM	17626
Ethylbenzene	ND	0.033	mg/Kg	1	2/12/2015 1:25:30 PM	17626
Xylenes, Total	ND	0.065	mg/Kg	1	2/12/2015 1:25:30 PM	17626
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	2/12/2015 1:25:30 PM	17626

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 1502361

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/13/2015

**CLIENT: APEX TITAN** 

Client Sample ID: C-4

Project:

Enterprise San Juan 29-5 #214

**Collection Date:** 2/9/2015 12:45:00 PM

Lab ID:

1502361-002

Matrix: SOIL

Received Date: 2/10/2015 7:00:00 AM

Analyses	Result	RL Qı	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/10/2015 9:52:01 AM	17655
Surr: DNOP	106	63.5-128	%REC	1	2/10/2015 9:52:01 AM	17655
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	2/10/2015 10:33:02 AM	1 R24212
Surr: BFB	92.0	80-120	%REC	1	2/10/2015 10:33:02 AN	1 R24212
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.031	mg/Kg	1	2/12/2015 1:54:49 PM	17626
Toluene	ND	0.031	mg/Kg	1	2/12/2015 1:54:49 PM	17626
Ethylbenzene	ND	0.031	mg/Kg	1	2/12/2015 1:54:49 PM	17626
Xylenes, Total	ND	0.061	mg/Kg	1	2/12/2015 1:54:49 PM	17626
Surr: 4-Bromofluorobenzene	88.3	80-120	%REC	1	2/12/2015 1:54:49 PM	17626

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 8

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

# Analytical Report Lab Order 1502361

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/13/2015

CLIENT: APEX TITAN

Project: Enterprise San Juan 29-5 #214

**Lab ID:** 1502361-003

Client Sample ID: C-5

**Collection Date:** 2/9/2015 2:40:00 PM

**Received Date:** 2/10/2015 7:00:00 AM

Analyses	Result RL Qual Units				Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS		·		Analys	: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	2/10/2015 10:19:03 AM	1 17655
Surr: DNOP	109	63.5-128	%REC	1	2/10/2015 10:19:03 AM	1 17655
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	2.6	mg/Kg	1	2/10/2015 11:01:46 AM	1 R24212
Surr: BFB	91.5	80-120	%REC	1	2/10/2015 11:01:46 AN	1 R24212
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.026	mg/Kg	1	2/12/2015 2:24:04 PM	17626
Toluene	ND	0.026	mg/Kg	1	2/12/2015 2:24:04 PM	17626
Ethylbenzene	ND	0.026	mg/Kg	1	2/12/2015 2:24:04 PM	17626
Xylenes, Total	ND	0.052	mg/Kg	1	2/12/2015 2:24:04 PM	17626
Surr: 4-Bromofluorobenzene	91.6	80-120	%REC	1	2/12/2015 2:24:04 PM	17626

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 8

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

### Lab Order 1502361

Date Reported: 2/13/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-6

Project: Enterprise San Juan 29-5 #214

Lab ID: 1502361-004

Matrix: SOIL

**Collection Date:** 2/9/2015 1:35:00 PM **Received Date:** 2/10/2015 7:00:00 AM

Analyses	Result	RL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/10/2015 10:45:54 AM	A 17655
Surr: DNOP	102	63.5-128	%REC	1	2/10/2015 10:45:54 AM	A 17655
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	2.8	mg/Kg	1	2/10/2015 11:30:30 AM	A R24212
Surr: BFB	92.6	80-120	%REC	1	2/10/2015 11:30:30 AM	A R24212
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.033	mg/Kg	1	2/12/2015 2:53:18 PM	17626
Toluene	ND	0.033	mg/Kg	1	2/12/2015 2:53:18 PM	17626
Ethylbenzene	ND	0.033	mg/Kg	1	2/12/2015 2:53:18 PM	17626
Xylenes, Total	ND	0.055	mg/Kg	1	2/12/2015 2:53:18 PM	17626
Surr: 4-Bromofluorobenzene	81.4	80-120	%REC	1	2/12/2015 2:53:18 PM	17626

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 1502361

Date Reported: 2/13/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: C-7

**Project:** 

Enterprise San Juan 29-5 #214

Collection Date: 2/9/2015 12:39:00 PM

Lab ID:

1502361-005

Matrix: SOIL

Received Date: 2/10/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analysi	: JME
Diesel Range Organics (DRO)	13	9.9	mg/Kg	1	2/10/2015 9:46:11 AM	17655
Surr: DNOP	93.8	63.5-128	%REC	1	2/10/2015 9:46:11 AM	17655
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.0	mg/Kg	1	2/10/2015 11:59:20 AM	R24212
Surr: BFB	91.4	80-120	%REC	1	2/10/2015 11:59:20 AM	R24212
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.030	mg/Kg	1	2/12/2015 3:22:32 PM	17626
Toluene	ND	0.030	mg/Kg	1	2/12/2015 3:22:32 PM	17626
Ethylbenzene	ND	0.030	mg/Kg	1	2/12/2015 3:22:32 PM	17626
Xylenes, Total	ND	0.061	mg/Kg	1	2/12/2015 3:22:32 PM	17626
Surr: 4-Bromofluorobenzene	92.7	80-120	%REC	1	2/12/2015 3:22:32 PM	17626

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#:

1502361 13-Feb-15

Client:

APEX TITAN

Project:

Enterprise San Juan 29-5 #214

Sample ID MB-17655

SampType: MBLK

TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: PBS Batch ID: 17655

RunNo: 24202

Prep Date: 2/10/2015 Analysis Date: 2/10/2015

SeqNo: 713456

Units: mg/Kg

Analyte

Result **PQL** 10 %REC

**RPDLimit** Qual

iesel Range Organics (DRO)

ND

HighLimit 128

Surr: DNOP

8.5

10.00

SPK value SPK Ref Val

84.6

63.5

LowLimit

%RPD

%RPD

%RPD

0.288

%RPD

%RPD

0

Sample ID LCS-17655

SampType: LCS

TestCode: EPA Method 8015D: Diesel Range Organics

Client ID: LCSS

Batch ID: 17655

50

4.0

RunNo: 24202

Prep Date: 2/10/2015

Analysis Date: 2/10/2015

**PQL** 

10

SeqNo: 713458

100

80.8

%REC

Units: mg/Kg

Analyte iesel Range Organics (DRO)

Result

SPK value SPK Ref Val

50.00

5.000

LowLimit HighLimit 67.8

63.5

**RPDLimit** 

Qual

Surr: DNOP

TestCode: EPA Method 8015D: Diesel Range Organics

128

Client ID:

C-3

Sample ID 1502361-001AMS

SampType: MS

RunNo: 24202

Prep Date: 2/10/2015

Batch ID: 17655

Units: mg/Kg

Analysis Date: 2/10/2015

SeqNo: 713552

HighLimit

Analyte Diesel Range Organics (DRO) Surr: DNOP

4.8

Result

Result

Result

Result

4.4

9.4

51

51

SPK value SPK Ref Val **PQL** 

%REC

LowLimit 29.2

63.5

**RPDLimit** Qual

C-3

9.9 49.31 4.931

11.94 79.4 97 7

Sample ID 1502361-001AMSD

SampType: MSD

TestCode: EPA Method 8015D: Diesel Range Organics

**PQL** 

9.9

RunNo: 24202

176

128

Client ID: Prep Date:

Analyte

2/10/2015 Analysis Date: 2/10/2015

Batch ID: 17655

SeqNo: 713633

Units: mg/Kg

0

SPK value SPK Ref Val

49.41

10.00

5.000

%REC

79.6

97.7

LowLimit HighLimit %RPD **RPDLimit** 

Qual

Surr: DNOP

Diesel Range Organics (DRO)

128

128

176

23

4.8 4.941 Sample ID MB-17621 SampType: MBLK

Batch ID: 17621

Analysis Date: 2/10/2015

**PQL** 

POL

TestCode: EPA Method 8015D: Diesel Range Organics RunNo: 24202

SeqNo: 713699

29.2

63.5

Units: %REC

Qual

Surr: DNOP

TestCode: EPA Method 8015D: Diesel Range Organics

LowLimit HighLimit **RPDLimit** 

Sample ID LCS-17621

Analyte

Client ID:

Prep Date:

Client ID: LCSS

PBS

2/9/2015

SampType: LCS

SPK value SPK Ref Val

SPK value SPK Ref Val %REC

11.94

RunNo: 24202

%REC

88.3

93.7

Prep Date: 2/9/2015 Analyte

Batch ID: 17621

Analysis Date: 2/10/2015

SeqNo: 713700

Units: %REC

HighLimit

128

**RPDLimit** 

Page 6 of 8

Qual

R

Surr: DNOP

- Qualifiers: Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits I
- В Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

RPD outside accepted recovery limits

- 0 RSD is greater than RSDlimit

LowLimit

63.5

- Holding times for preparation or analysis exceeded Н

### 'Hall Environmental Analysis Laboratory, Inc.

WO#:

1502361

13-Feb-15

Client:

APEX TITAN

'roject:

Enterprise San Juan 29-5 #214

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Batch ID: R24212

RunNo: 24212

Client ID: PBS

Result

Prep Date:

Analysis Date: 2/10/2015

**PQL** 

SeqNo: 714075

Units: mg/Kg

SPK value SPK Ref Val %REC LowLimit HighLimit %RPD

Analyte

ND 5.0 910

**RPDLimit** 

Qual

iasoline Range Organics (GRO) Surr: BFB

90.8

80 120

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: R24212

5.0

RunNo: 24212

130

120

Prep Date:

Analysis Date: 2/10/2015

80

Analyte Basoline Range Organics (GRO) Result PQL

24

1000

25.00

SeqNo: 714076

Units: mg/Kg

%RPD

Surr: BFB

980

1000

SPK value SPK Ref Val %REC 95.9

LowLimit 64

HighLimit

**RPDLimit** 

Qual

98.1

Sample ID MB-17626

Client ID:

SampType: MBLK

Batch ID: 17626

TestCode: EPA Method 8015D: Gasoline Range RunNo: 24212

%REC

87.8

%RPD

%RPD

Analyte

Prep Date: 2/9/2015

Analysis Date: 2/10/2015

SeqNo: 714085

Units: %REC HighLimit

**RPDLimit** Qual

Surr: BFB

TestCode: EPA Method 8015D: Gasoline Range

Sample ID LCS-17626

Client ID: LCSS

SampType: LCS

PQL

RunNo: 24212

LowLimit

120

Qual

Analyte

Prep Date: 2/9/2015

Batch ID: 17626 Analysis Date: 2/10/2015

PQL

SPK value SPK Ref Val

SeqNo: 714086

Units: %REC

**RPDLimit** 

Surr: BFB

Result 990

Result

880

1000

1000

SPK value SPK Ref Val

%REC 99.1

LowLimit

HighLimit 120

### Qualifiers:

- E Value above quantitation range Analyte detected below quantitation limits J
- Value exceeds Maximum Contaminant Level.

Spike Recovery outside accepted recovery limits

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

- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Н
- ND

Reporting Detection Limit

- P Sample pH Not In Range

RL

Not Detected at the Reporting Limit Page 7 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1502361

13-Feb-15

Client:

APEX TITAN

roject:

Enterprise San Juan 29-5 #214

Sample ID MB-17626 TestCode: EPA Method 8021B: Volatiles SampType: MBLK Client ID: PBS Batch ID: 17626 RunNo: 24279 Prep Date: 2/9/2015 Analysis Date: 2/12/2015 SeqNo: 715392 Units: mg/Kg SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result HighLimit Qual ND 0.050 enzene oluene ND 0.050 ∟thylbenzene ND 0.050 Yylenes, Total ND 0.10 95.0 120 Surr: 4-Bromofluorobenzene 0.95 1.000 80

Sample ID LCS-17626	Samp	Type: LC	S	TestCode: EPA Method 8021B: Volatiles												
Client ID: LCSS	Batc	h ID: <b>17</b>	626	F	RunNo: 24279											
Prep Date: <b>2/9/2015</b>	Analysis [	Date: 2/	12/2015	9	SeqNo: <b>7</b>	15393	Units: mg/K									
4nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
enzene	1.1	0.050	1.000	0	111	80	120									
. Jluene	1.1	0.050	1.000	0	107	80	120									
Ethylbenzene	1.1	0.050	1.000	0	106	80	120									
ylenes, Total	3.2	0.10	3.000	0	107	80	120									
Surr: 4-Bromofluorobenzene	1.2		1.000		121	80	120			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 8 of 8

# HALL VIRONMENTAL ANALYSIS LABORATORY

Hall Enviro nu

ntal 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 Na	ame:	APEX AZTI	EC	Work Order	Numbe	er. 1502	361			RcptNo: 1					
Received	l by/dat	e:/	AT 02/1	0/15											
Logged B	By:	Anne Tho	ne	2/10/2015 7:0	0:00 Al	M		aone	I.	_					
Complete	ed By:	Anne Tho	rnie	2/10/2015				An	Am	_					
Reviewed	d By:	A /	102	110/15				Oliva ,	<i>,,,,,,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Chain o	f Cus	tody	V						""	······································					
1. Custo	ody sea	ils intact on s	ample bottles?			Yes		No		Not Present	]				
2. Is Ch	ain of (	Custody comp	lete?			Yes	¥	No		Not Present	Ī				
3. How	was the	sample deli	vered?			Cou	<u>ier</u>								
<u>Log In</u>															
4. Was	an atte	mpt made to	cool the samples	7		Yes	V	No		NA [	]				
5. Were	e all sar	nples receive	d at a temperatur	e of >0° C to 6.0	)°C	Yes	V	No		NA 🗆					
6. Sam	ple(s) i	n proper cont	ainer(s)?			Yes	$\checkmark$	No							
7. Suffic	cient sa	mple volume	for indicated test	(s)?		Yes	✓	No							
8. Are s	amples	(except VOA	and ONG) prope	rly preserved?		Yes	$\checkmark$	No							
9. Was	presen	ative added t	to bottles?			Yes		No	¥	NA 🗀					
10.VOA	vials h	ave zero head	Ispace?			Yes		No		No VOA Vials					
11. Were	e any s	ample contair	ners received brok	en?		Yes		No	<b>2</b>	# of preserved					
40 -										bottles checked					
		work match be pancies on ch	ottle labels? nain of custody)			Yes	✓	NO		for pH:	or >12 unless noted)				
•			ntified on Chain o	f Custody?		Yes	<b>V</b>	No		Adjusted?					
14. Is it c	lear w	at analyses v	vere requested?			Yes	$\checkmark$	No							
		ding times ab customer for	le to be met? authorization.)			Yes	V	No		Checked by:					
Special	Hand	lling (if ap	olicable)												
			liscrepancies with	this order?		Yes		No		NA 🗸					
		n Notified:			Date										
	By W				Via:	eMa	ii 🗆 F	hone	Fax	In Person					
	Regar														
		Instructions:		******											
17. Addi	tional r	emarks:													
18. <u>Coo</u>			Condition S		i No	Seal D	te V	Signed	<b>By</b>						

																			_		_ <u>∪</u> ⊓	AIN C	7 <u>, (</u>	<u> 1001001</u>		111
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						Phone:	١	, 								/_	] [					/ /		Page	_of	_
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Matrix	Date	Time	Comp	Grab	Identifying M	arks of Sample(s)	Start	End	δ V V	A/G H	250 E	Glass	P. 0	8	Bois Brek	TPH GROZDED		/ /	/ /	$^{\prime}$ $^{\prime}$		i	Lab Sa	ample ID (Lab l	Jse Only)	
S	2/9/15	133B			C-3							1	1	X	γ,						1:	50	2.3	361-0	ان	
S	2/9/15	1245			C -4							1	1	X	X									-C		
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Aeling	uished <b>b</b> y\(	(Signature)	)		pie:	Time: Recei	yed by	(Sign)	ture)			Date	<b>?</b> :	Time: Attn. Tom Long												
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Matrix Contail		V - Wastewa A - 40 ml via				S - Soil SD - So Or Glass 1 Liter	olid	L - Liqui 250 mJ -	d A Glass	- Air B	ag outh	C P/	- Cha O - Pl	rcoal t	ube or othe	SL-S	Sludge	+	) - Oil				_			