SITE	INFORMATION	
Report Type:	Closure Report	1RP-1902

Report Type: Closure Report 1RP-1902											
General Site Information:											
Site:		Union AJS Fed	Union AJS Federal #1								
Company:		EOG Resource	es								
Section, Townsh	ip and Range	Unit J	Sec. 08	T 21S	R 32E						
Lease Number:											
County:		Lea County			_						
GPS:			32.491712°			-103.6	94401°				
Surface Owner:		Fee									
Mineral Owner:											
Directions:		Travel south 5.79 miles on Campbell Rd from the W Carlsbad HWY, Turn left onto lease road and follow for 1.05 miles. Turn left onto lease road and follow for 1.22 miles. Turn right onto lease road and follow for 0.9 miles. Turn Left onto lease road and follow to location.									
Release Data:											
Date Released:		6/22//2008									
Type Release:		Produced Water									
Source of Contam	nination:	Overflowed Stock Tank									
Fluid Released: Fluids Recovered			45 bbl produced water								
Official Commun		20 bbl produced water									
			<u> </u>		lo						
Name:	James Kennedy				Clair Gonza	les					
Company:	EOG Resources				Tetra Tech						
Address:	5509 Champions D	r.			901 W. Wall	St.					
					Ste 100						
City:	Midland, Texas, 79	706			Midland, Texas, 79701						
Phone number:	(432) 258-4346				(432) 682-4	559					
Fax:											

Site Characterization	
Depth to Groundwater:	48.64' Below Ground Surface
Karst Potential:	Low

clair.gonzales@tetratech.com

James Kennedy@eogresources.com

Recommended Remedial Action Levels (RRALs)							
Benzene	Total BTEX	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	Chlorides			
10 mg/kg	50 mg/kg	100 mg/kg	100 mg/kg	600 mg/kg			

Email:



March 5, 2021

Environmental Specialist Oil Conservation Division 1220 South St. Francis Drive Santa Fe. New Mexico 87505

Closure Report for the EOG Resources, Union Federal SWD #1, Unit J, Section 8, Re: Township 21 South, Range 32 East, Lea County, New Mexico. 1RP-1902

Oil Conservation Division:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to assess and remediate a release that occurred at the EOG, Union Federal SWD #1, Unit J, Section 8, Township 21 South, Range 32 East, Lea County, New Mexico (Site). The site coordinates are 32.491712°, -103.694401°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico, C-141 Initial Report, the release was discovered on June 22, 2008, and released approximately 45 barrels of produced water due to an overflowed stock tank inside an unlined bermed area. A total of 20 barrels of the released fluids were recovered. The release occurred in the bermed area of the tank battery. There is a previous work plan and closure report referring to the remediation of this spill, both approved by the OCD, and is shown in Appendix B. This spill was excavated to approximately 4.0' below surface and a liner was installed. The release was closed along with 1RP-2538, 1RP-3563, and 1RP-3568. The C-141 form is included in Appendix Α.

Site Characterization

A site characterization was performed for the site and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the site is in a low karst potential area. The nearest well is listed in the USGS National Water Information Database website in Section 6, approximately 2.16 miles northwest of the site, and has a reported depth to groundwater of 48.64 feet below ground surface. Site characterization data is included in Appendix C.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene

901 West Wall, Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com



(collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg.

Soil Assessment and Analytical Results

On November 18, 2020, Tetra Tech personnel were onsite to evaluate and sample the release area. Based on the previously completed remediation, Tetra Tech installed a total of five (5) auger holes (AH-1 through AH-5) at total depths ranging from 0-1' – 4.0' below surface, in the lined area to verify the release was properly remediated. Therefore, auger holes were not installed any deeper to prevent damage to the previously installed liner. Additionally, six (6) horizontal samples (Horizontal-1 through Horizontal-6) at a depth of 0-1.0' were collected. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The results of the sampling are summarized in Table 1. The auger hole and horizontal sample locations are shown on Figure 3.

Referring to Table 1, none of the samples analyzed showed benzene, total BTEX, or TPH concentrations above the laboratory reporting limits with the exception of the TPH concentration of 201.2 mg/kg from auger hole (AH-1) at a depth 1.0'-2.0' below surface. However, elevated chloride concentrations were detected above RRAL. The area of AH-4 showed a chloride concentration of 975 mg/kg, at a depth of 3.0'-4.0' below surface. The area of Horizontal-2 showed a chloride concentration of 1,700 mg/kg, at a depth of 0-1.0' below surface. Vertical delineation was not reached during the site assessment but was found during remediation activities and confirmed with confirmation samples.

Remediation and Reclamation Activities

Based on the results of the soil assessment, Tetra Tech personnel were onsite February 1, 2021 through February 11, 2021, to supervise the remediation and reclamation activities as well as to collect confirmation samples. The impacted areas were excavated to total depths of 4.0' below surface to expose and inspect the previously installed liner, the liner was fully intact and free of damage, so no further excavation was required. The excavation area and depths are shown on Figure 4 and Table 2.

Confirmation sidewall samples were collected every 200 square feet. A total of six (6) sidewall samples (SW-1 through SW-6) were collected to ensure proper removal of the impacted soils. Additionally, a horizontal sample (H-2) was collected at the remediation to insure proper delineation of the previous exceedance. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 2. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The excavation depths and sample locations are shown in Figure 4.



Referring to Table 2, all final confirmation samples collected showed benzene, total BTEX, and TPH concentrations below the RRALs. Additionally, all final samples showed chloride concentrations below the 600 mg/kg threshold in the top 4' of soil.

Approximately 280 cubic yards of material was excavated and transported offsite for proper disposal. The previously installed liner was exposed and inspected, the liner was fully intact and free of damage, so no further excavation was required. The areas were then backfilled with clean material to surface grade.

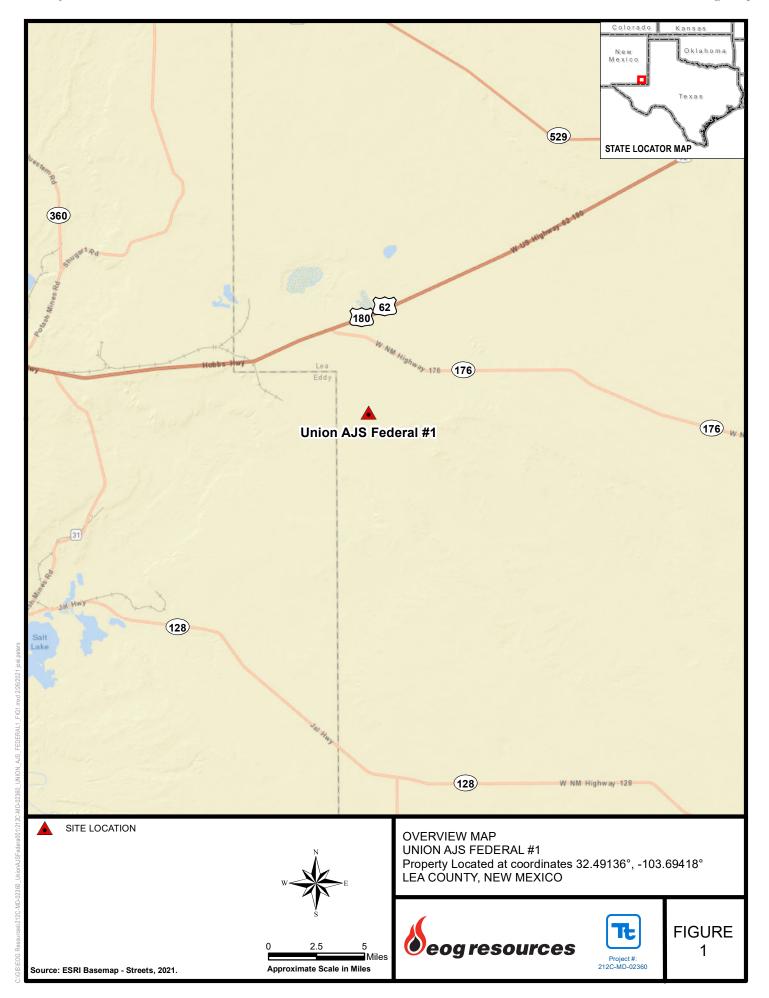
Conclusion

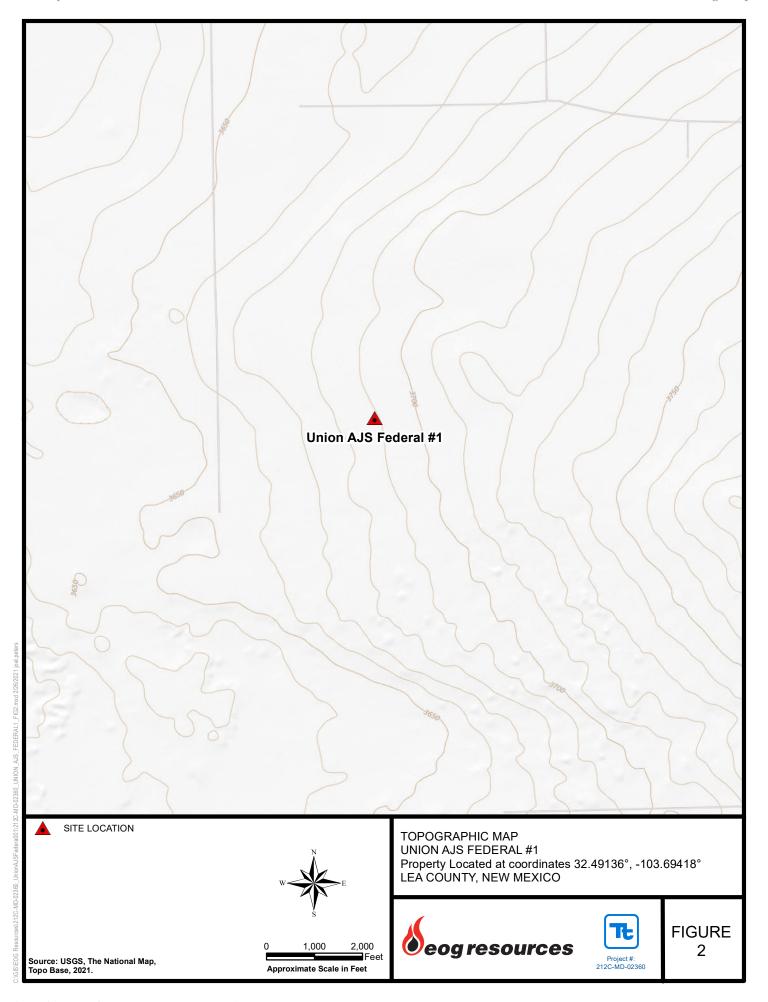
Based on the laboratory results and remediation activities performed, EOG requests closure of this spill issue. Additionally, this spill was previously remediated and closed along with 1RP-2538, 1RP-3563, and 1RP-3568, the previously approved work plan and closure report are shown in Appendix B. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

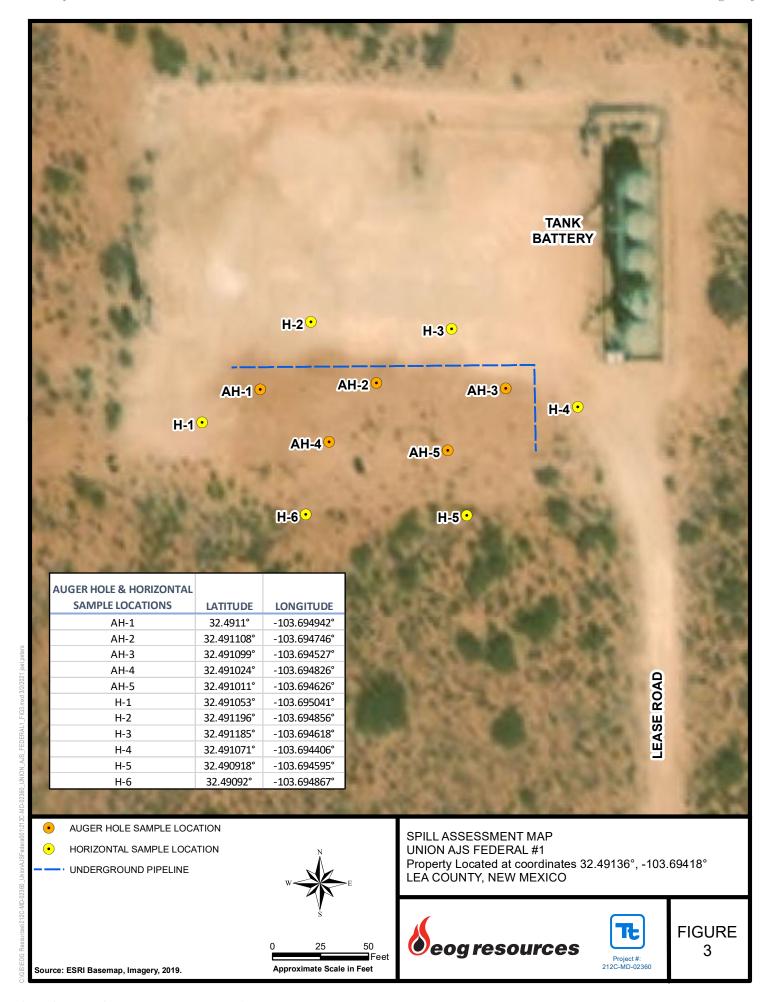
Respectfully submitted, TETRA TECH

Brittany Long, Project Manager Clair Gonzales, Senior Project Manager

Figures









Tables

Table 1 EOG Union AJS Federal #1 Lea County, New Mexico

		Commis	Soil Status TPH (mg/			mg/kg)	9)		Taluana	Eth b shannan a	Xylene	Total DTEV	Chloride	
Sample ID	Sample Date	Sample Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	(mg/kg)	Total BTEX (mg/kg)	(mg/kg)
	11/18/2020	0-1		Х	<50.0	<50.0	<50.0	<50.00	<0.00201	<0.00201	<0.00201	<0.002010	<0.002010	155
AH-1	"	1-2		Х	<50.0	149	52.2	201.2	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	500
AUT	"	2-3	Χ											271
	"	3-4	Х											173
	11/18/2020	0-1	Х		<50.0	<50.0	<50.0	<50.00	<0.00199	<0.00199	<0.00199	<0.001990	<0.001990	43.1
AH-2	"	1-2	Х		<49.9	<49.9	<49.9	<49.90	<0.00198	<0.00198	<0.00198	<0.001980	<0.001980	79.4
An-Z	"	2-3	Χ											105
	"	3-4	Х											35.7
	11/18/2020	0-1	Х		<49.8	<49.8	<49.8	<49.80	<0.00198	<0.00198	<0.00198	<0.001980	<0.001980	26.6
AH-3	"	1-2	Х		<50.0	<50.0	<50.0	<50.00	<0.00199	<0.00199	<0.00199	<0.001990	<0.001990	34.4
AH-3	"	2-3	Х											16.6
	"	3-4	Χ											22.2
	11/18/2020	0-1		Х	<49.9	<49.9	<49.9	<49.90	<0.00202	<0.00202	<0.00202	<0.002020	<0.002020	144
AH-4	"	1-2		Х	<50.0	<50.0	<50.0	<50.00	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	126
АП-4	"	2-3		Х										310
	"	3-4		Χ										975
	11/18/2020	0-1	Х		<50.0	<50.0	<50.0	<50.00	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	43.3
AH-5	"	1-2	Х		<49.9	<49.9	<49.9	<49.90	<0.00198	<0.00198	<0.00198	<0.001980	<0.001980	54.1
Ап-э	"	2-3	Х											96.6
	"	3-4	Χ											568
Horizontal-1	11/18/2020	0-1	Х		<49.8	<49.8	<49.8	<49.80	<0.00199	<0.00199	<0.00199	<0.001990	<0.001990	113
Horizontal-2	11/18/2020	0-1		Х	<50.0	<50.0	<50.0	<50.00	<0.00198	<0.00198	<0.00198	<0.001980	<0.001980	1700
	2/11/2021		Х		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	59.2
Horizontal-3	11/18/2020	0-1	Х		<50.0	<50.0	<50.0	<50.00	<0.00198	<0.00198	<0.00198	<0.001980	<0.001980	55.5
Horizontal-4	11/18/2020	0-1	Х		<49.9	<49.9	<49.9	<49.90	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	13.1
Horizontal-5	11/18/2020	0-1	Х		<50.0	<50.0	<50.0	<50.00	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	113
Horizontal-6	11/18/2020	0-1	Х		<50.0	<50.0	<50.0	<50.00	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	116

(-)

Released to Imaging: 11/2/2021 9:19:44 AM

Not Analyzed Excavation

Received by OCD: 10/7/2021 1:34:49 PM

Table 2 EOG Union AJS Federal #1 Lea County, New Mexico

		Sample	Soil Status			TPH (mg/kg)			Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
Sample ID	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	MRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Sidewall-1	2/11/2021		Х		<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	46.7
Sidewall-2	2/11/2021		Х		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	0.00264	0.00264	53.4
Sidewall-3	2/11/2021		Х		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	0.00250	0.00250	60.7
Sidewall-4	2/11/2021		Х		<49.9	<49.9	<49.9	<49.9	0.00285	<0.00199	<0.00199	0.00296	0.00581	51.7
Sidewall-5	2/11/2021		Х		<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	60.9
Sidewall-6	2/11/2021		Х		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	53.7

(-) Not Analyzed

Photos

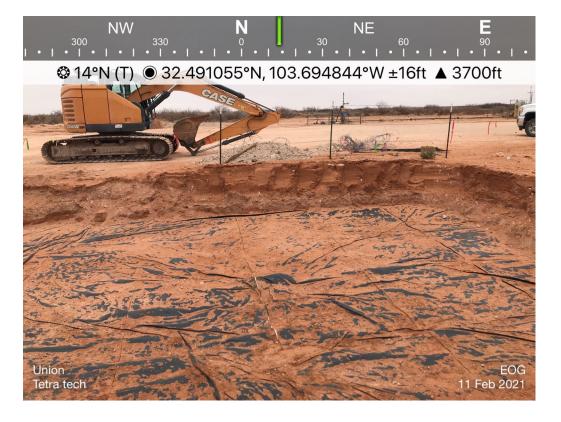
EOG Resources Union AJS Federal #1 Lea County, New Mexico







View of Remediation Activities – View East

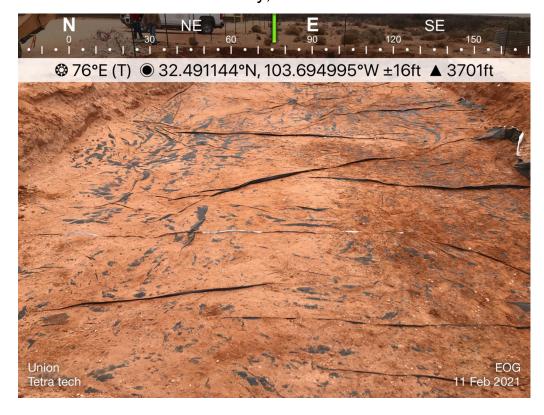


View of Remediation Activities – View North

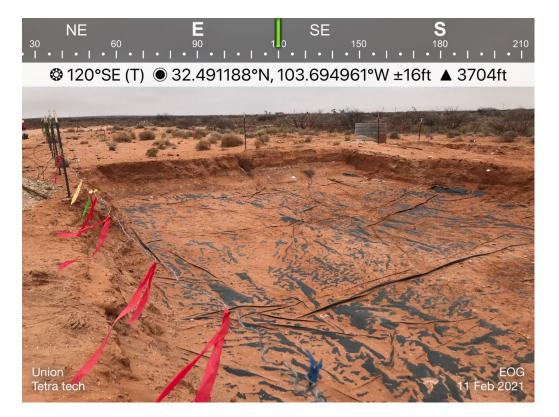
TETRATECH

EOG Resources Union AJS Federal #1 Lea County, New Mexico





View of Remediation - View East



View of Installed Trench- View Southeast

Appendix A

<u>District I</u> 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

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Ea NIM 97505

JUI, N 1 2008

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

IZZO B Bi Tiune	.is Di , Saina	10, 1111 07303				e, 19191 673	~ C A B	12 M 12 A	/ U & T			Side of form	
Release Notification and Corrective Action													
						OPERATOR X Initial Report Final Report							
Name of Co	mpany Ya	tes Petroleum	Corporat	ion		Contact Mike Stubblefield							
Address 105	South 4th	Street, Artesi	a, N.M. 8	8210			lo. 505-7484500	505-51	13-1712				
Facility Nan	ne Union A	AJS Federal #	1			Facility Typ	e Tank battery						
Surface Ow	ner Federa	<u> </u>		Mineral C)wner F	ederal		•	L'ease 	√ o.			
			,	IOC	ATIO	NOFDE	EACE		API	址 3	n 12	75 200	
Unit Letter	Section	Township	Range	Feet from the		N OF REI	Feet from the	Fast/W	Vest Line	County	71	25 350 2 4(Z	
J	8	21s	32e	1980'	FSL	/ South Eme	1980'	FEL	CSt Ellic	Lea	5	TIC	
			La	titude 32.41862	Lo	ngitude 103.	.72033						
				NA'	TURF	OF REL	EASE						
Type of Relea	ase: Produce	ed water and H	ydrocarbon		CIL	Volume of			Volume F	Recovered			
						45 B/PW			20 B/PW				
						½ Hydroca	rbon						
Source of Rel	lease stock t	ank					lour of Occurrence	2		Hour of Di	scovery		
Was Immedia	ate Notice G	iven?				6/22/2008 If YES, To			6/22/2008	3 6·00am			
was minicula	ale Notice G		s X No	Not Required			son's voice mail b	ox					
D 11/1 0.1	41 O. 111	C 1				Date and Hour 6/23/2008 10:00am							
By Whom? M Was a Water						If YES, Volume Impacting the Watercourse.							
was a water	course reac		Yes X N	o		11 125, 10	name impaeting i	io ir atore	ourse.				
If a Watercou	irse was Imr	acted, Describ	e Fully.*				· · · · · · · · · · · · · · · · · · ·		-				
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		m and Remedi			1 .	0 1							
Low power D	eans alarms	aid not work,	Stock tank	containing produc	cea wate	r overnowed.							
		nd Cleanup Ac											
				battery. The berm									
				r Chlorides using l s taken. Yates Petr									
occurred on 6	5/22/2008.					•			·				
				area > 1000', Dis						\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
I hereby certi	ly that the ir	itormation give	en above is er file certa	true and complete in release notificat	to the b	est of my knov Lperform corre	wledge and unders	tand that	pursuant to	o NMOCD	rules and	regulations	
environment. The acceptance of a C-141 report by the NMOCD marked as "Final I failed to adequately investigate and remediate contamination that pose a threat to grand NMOCD acceptance of a C-141 report does not relieve the operator of responsibility."							iter, surface water,	, human l	ealth or the	e environm	ent. In a	ddition,	
NMOCD acc	eptance of a	C-141 report of	loes not rel	ieve the operator of	of respor	nsibility for co						regulations	
		٠,					OIL CON	SEK V	AHON	DIVISI	<u>UN</u>		
Signature: [rausa	elefill						3-1	D.Mm.	21-			
Printed Name	· Mike Stub	 blefield				Approved by	District Superviso ENVIRU	TNIME	NTAL FI	VGINEE	R		
1 1 1 1 1 Ca 1 Cante	. Wine Stud	01011010						l l					
Title: Enviror	nmental Reg	ulatory Agent				Approval Dat	e 7.9.8	ජ	Expiration	Date: 9	9.0	B	
E-mail Addre	ss: mikes@	ypenm.com				Conditions of	Approval:				, _		
			m -:				~	AV	21 = .	Attache		1000	
Date: 6/30/	2008	,	Phone: 50:	5-748-4500		<u> </u>	mer tipat	<u>۱ ک د</u>	1167	1 1	TF. T/	1902	

Date: 6/30/2008 Phone: 505-748-4500 * Attach Additional Sheets If Necessary

Received by OCD: 10/7/2021 1:34:49 PM Form C-141 State of New Mexico Page 3 Oil Conservation Division

	Page 18 of 130
Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

(ft bgs)						
☐ Yes ☐ No						
Yes No						
☐ Yes ☐ No						
Yes No						
Yes No						
☐ Yes ☐ No						
☐ Yes ☐ No						
☐ Yes ☐ No						
☐ Yes ☐ No						
☐ Yes ☐ No						
☐ Yes ☐ No						
☐ Yes ☐ No						
tical extents of soil						
Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data Data table of soil contaminant concentration data Depth to water determination Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release Boring or excavation logs Photographs including date and GIS information Topographic/Aerial maps Laboratory data including chain of custody						

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Received by OCD: 10/7/2021 1:34:49 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

	Page 19 of 1.	30
Incident ID		
District RP		
Facility ID		
Application ID		

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a thr addition, OCD acceptance of a C-141 report does not relieve the operator o and/or regulations.	occ does not relieve the operator of liability should their operations have reat to groundwater, surface water, human health or the environment. In
Printed Name:	_ Title:
Signature: James Kennedy	Date:
email:	Telephone:
OCD Only	
Received by:	Date:

Received by OCD: 10/7/2021 1:34:49 PM Form C-141 State of New Mexico Page 6 Oil Conservation Division

Incident ID nGRL0822054735
District RP
Facility ID
Application ID

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

A scaled site and sampling diagram as described in 19.15.29.11 NMAC							
Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)							
☐ Laboratory analyses of final sampling (Note: appropriate ODC	☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)						
☐ Description of remediation activities							
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rer human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification to the O	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially notitions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete.						
Printed Name:							
Signature:	Date:						
email:	Telephone:						
OCD Only							
Received by:	Date:						
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.							
Closure Approved by:	Date: 11/02/2021						
Printed Name: Bradford Billings	Date: 11/02/2021 Evvi.Spec.A						

Appendix B

MARTIN YATES, III 1912-1985 FRANK W. YATES 1936-1986 S.P YATES



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210-2118

TELEPHONE (575) 748-1471

www.yatespetroleum.com

JOHN A. YATES

JOHN A. YATES JR.

DOUGLAS E. BROOKS
PRESIDENT
CHIEF EXECUTIVE OFFICER

JOHN D. PERINI EXECUTIVE VIGE PRESIDENT CHIEF FINANCIAL OFFICER

JAMES S. BROWN CHIEF OPERATING OFFICER

January 22, 2016

Mr. Jamie Keys or Ms. Kellie Jones NMOCD District I 1625 N. French Dr. Hobbs, NM 88240

RE:

Union Federal SWD #1

30-025-31412

Section 8, T21S-R32E Lea County, New Mexico

Mr. Keys or Ms. Jones,

1/26/2016

*Submitted via email to

Nomoch I: Bum.

-All analyticals attached

to submission.

AG

Yates Petroleum Corporation (Yates) would like to submit the attached plan of work to you regarding the two releases that occurred at the above mentioned facility on March 9, 2015 (1RP-3568) and March 10, 2015 (1RP-3568).

With NMOCD and BLM approval of this work plan, Yates will hold a bid meeting allowing several contractors the opportunity to submit bids on this remediation project. Bids that are received will be forwarded to Yates Management for review. Once Yates Management reviews the bids and gives approval, the remediation project will be awarded to a contractor for work to commence.

If you have any questions or concerns, I can be reached at (575) 748-4111 or by email at agriffin@yatespetroleum.com.

Thank You,

Amber Griffin

amber Griffin

Environmental Regulatory Agent Yates Petroleum Corporation **RECEIVED**

By JKeyes at 11:02 am, Feb 08, 2016

APPROVED

By JKeyes at 11:03 am, Feb 08, 2016

Yates Petroleum Corporation

Union Federal SWD #1 Work Plan

Section 8, T21S-R32E

Lea County, New Mexico

January 22, 2016

I. Location

The well is located approximately 31.1 miles east of Carlsbad, NM on Highway 62/180, approximately 5.8 miles south of Highway 62/180 on Campbell Road (County Road 29) and approximately 1.8 miles east of Campbell Road (County Road 29) on a lease road.

II. Background

On March 9, 2015, Yates had a release of 10 barrels produced water, with 10 barrels produced water recovered. On March 10, 2015, Yates had a release of 300 barrels produced water, with 300 barrels produced water recovered. The area affected from these releases was within the unlined, bermed battery. An initial Form C-141 was submitted, via e-mail, to the NMOCD District I office on March 18, 2015 for both releases.

On April 1, 2015 personnel returned to the release area and collected initial composite soil samples from the surface and from the depths of 6" – 2' below surface level using a hand auger. The soil samples were sent to an approved NMOCD laboratory and tested for BTEX 8021B, TPH 8015M, and Chlorides SM4500Cl-B. Yates received the analytical results on April 9, 2015 (Report H500883 attached to this work plan). The analytical results showed that BTEX was at levels below NMOCD RRAL's. The analytical results also showed that TPH was at levels above NMOCD RRAL's and there were elevated chloride levels. Yates determined that further vertical delineation of TPH and chlorides was needed within the release area.

Due to the initial analytical results and two releases occurring within two days, Yates made the decision to relocate the tanks of this location from the south side to the east side of the production pad. It was decided that the tanks needed to be in a steel containment with a liner to prevent further environmental issues if more releases occurred at this facility. Production started the process to relocate the tanks into a lined, steel containment system. The tanks also needed to be re-located in order for environmental personnel to be able to safely and effectively complete vertical delineation within the release area. Further sampling and remediation of this site was put on hold until the tank re-location process was compelte.

On July 29, 2015 personnel returned to the release area and completed further vertical delineation within the battery using a backhoe. During this sampling event, the release area was split into three separate sections in order to have a better picture of the contamination issues at the site. For Section 1 of the release area, Yates sampled at depths of 1' – 5' below surface level. For Section 2 of the release area, Yates was able to successfully collect soil samples from the depths of 3' – 13' below surface level. For Section 3 of the release area, Yates was able to successfully collect soil samples from the depth of 3' – 11' below surface level. The backhoe was not able to safely or effectively pull samples from deeper depths. The soil samples from this sampling event were sent to an approved NMOCD laboratory and tested for BTEX 8021B, TPH 8051M, and Chlorides 300.0. Yates received the analytical results August 7, 10 & 24, 2015 (Reports 1507D85, 1507D95 and 1508707 attached to this work plan). The analytical results showed that both BTEX and TPH had delineated to levels below NMOCD RRAL's. The analytical results showed that there were still elevated chloride levels, and Yates determined that further vertical delineation of chlorides was still needed within the release area.

The release area contains mostly sandy soils and these soils would collapse while digging with heavy equipment. The collapsing of soils created personnel safety issues and made it

impossible to obtain discrete samples from deeper depths. As a result, it was determined that a hollow stem auger core rig would be needed to complete further vertical delineation within the release area.

On November 9, 2015 Yates contacted a company with a hollow stem auger core rig to conduct further vertical delineation of the release area. The hollow stem auger was scheduled for December 15, 2015 and complete vertical delineation of chlorides was completed. Soil samples obtained with the hollow stem auger were sent to an approved NMOCD laboratory and tested for Chlorides 300.0. Yates received the analytical results on January 6, 2016 (Report 1512A71 attached to this work plan). The analytical results showed that Yates had successfully found the bottom of the chloride contamination.

III. Surface and Ground Water

Area surface geology is Cenozoic. The ChevronTexaco depth to ground water map shows the depth to groundwater to be approximately 100 feet making the site ranking for this site a zero (0). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is zero (0) based on the following:

Depth to ground water >100' Wellhead Protection Area > 1000' Distance to surface water body > 1000'

IV. Soils

The area consists of soils that are sand and interspersed with caliche and clay seams.

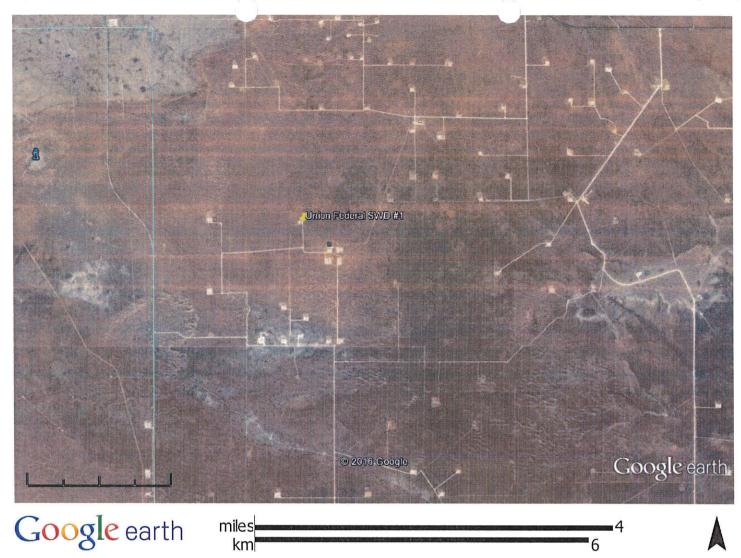
V. Scope of Work

Based off the analytical reports which show complete vertical delineation, Yates proposes to excavate four (4) feet from the release area. The excavation will be approximately 154' long, 29' wide. Once all soils have been excavated, a 20 mil synthetic liner will be placed in the bottom of the excavation. The backfill of the excavation will then be started with caliche (up to 2' below surface level) and finished with 2' of top soil or sand.

Contaminated soils that are excavated will be hauled to a NMOCD approved disposal facility, The Lea Land, Inc. Landfill.

The backfill material for the excavation will be purchased from the nearest BLM pit.

Once all excavation and backfill work is complete, Yates will submit a Final Form C-141 to NMOCD and BLM requesting closure of these three releases.



YATES PETROLEUM CORPORATION

Union Federal SWD #1 30-025-31412 Section 8, T21S-R32E Lea County, New Mexico 1RP-3568

DRAWING IS NOT TO SCALE

Friday, January 22, 2016

Sample Point #1

SW

SE

X

Sample Point #2

Old Tank Battery

- Release Area All equipment
has been
relocated to new
lined, steel
containment
system

Sample Point #3

New Tank Battery – Lined, Steel Containment

SE

Union Federal SWD #1

4/1/2015 H500883 Grab/Muger 5°C 5.2 295 10,500 10,736 4/1/2015 H500883 Grab/Muger 6° 3.59 271 3710 3,881 4/1/2015 H500883 Grab/Muger 1 0.64 152 1820 1,972 7/29/2015 H500883 Grab/Backhoe 2 ND ND 140 170 7/29/2015 1507D95 Grab/Backhoe 2 ND ND ND 170 7/29/2015 1507D95 Grab/Backhoe 3 ND ND ND ND 7/29/2015 1507D95 Grab/Backhoe 3 ND ND ND ND 7/29/2015 1507D95 Grab/Backhoe 7 - <th></th> <th>Sample Area</th> <th>Sample Date</th> <th>Analytical Report</th> <th>Sample Type</th> <th>Depth</th> <th>BTEX</th> <th>GRO</th> <th>DRO</th> <th>TOTAL</th> <th>Chlorides</th>		Sample Area	Sample Date	Analytical Report	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides
Release area 41/2015 HEGO883 GrabMuger 6° 3.59 271 3710 3861 Release area 41/2015 HEGO883 GrabMuger 7 8.83 426 3510 3908 Release area 41/2015 HEGO883 GrabBackhoe 7 ND ND 170 170 F Release area 7/29/2015 150/D95 GrabBackhoe 7 ND ND 140 140 F Release area 7/29/2015 150/D95 GrabBackhoe 7 ND ND ND ND F Release area 7/29/2015 150/D95 GrabBackhoe 7 ND	Surface	Release area	4/1/2015	H500883	Grab/Auger	Surface	5.21	295	10.500	10.795	11.600
Release area 4/1/2015 H500833 Grab/Auger 1** 0.54 152 150 1.972 Release area 4/1/2015 H500833 Grab/Auger 2 8.83 4/25 35.00 Release area 4/1/2015 1507095 Grab/Backhoe 7** ND ND 170 170 Release area 7/292015 1507095 Grab/Backhoe 2** ND ND 170 170 Release area 7/292015 1507095 Grab/Backhoe 3** ND	9	Release area	4/1/2015	H500883	Grab/Auger	9	3.59	271	3710	3,981	009'6
Release area 41/2016 HEXORBS Grab/Auger 2 8.83 4.26 35.00 Freese area 7728/2015 16707096 Grab/Backhoe 1 ND ND 170 170 Freese area 7728/2015 1607096 Grab/Backhoe 2 ND ND 170 170 Freese area 7728/2015 1607096 Grab/Backhoe 3 ND ND ND 170 Freese area 7728/2015 1607096 Grab/Backhoe 3 ND ND ND ND Freese area 7728/2015 1507096 Grab/Backhoe 7 ND ND ND ND Freese area 7728/2015 1507096 Grab/Backhoe 7 ND ND ND ND Freese area 7728/2015 1507096 Grab/Backhoe 7 ND ND ND ND Freese area 7728/2015 1507096 Grab/Backhoe 7 ND ND ND ND	1	Release area	4/1/2015	H500883	Grab/Auger	1.	0.54	152	1820	1,972	7,600
Release area 7729/2015 1597/2095 Grab/Backhoe 17 ND ND 170 170 P. Release area 7729/2015 1507/2095 Grab/Backhoe 2 ND ND 170 170 P. Release area 7729/2015 1507/2095 Grab/Backhoe 3 ND ND ND 170 170 P. Release area 7729/2015 1507/2095 Grab/Backhoe 4" ND <	2'	Release area	4/1/2015	H500883	Grab/Auger	2'	8.93	426	3510	3,936	10,400
FRelease area 7729/2015 1507/D95 GrabbBackhoe 27 ND ND 140 140 FRelease area 7729/2015 1507/D95 GrabBackhoe 37 ND ND 170 FRelease area 7729/2015 1507/D95 GrabBackhoe 37 ND ND ND FRelease area 7729/2015 1507/D95 GrabBackhoe 37 ND ND ND FRelease area 7729/2015 1507/D95 GrabBackhoe 37 ND ND ND FRelease area 7729/2015 1507/D95 GrabBackhoe 77 1 1 1 FRelease area 7729/2015 1507/D95 GrabBackhoe 77 1 1 1 FRelease area 7729/2015 1507/D95 GrabBackhoe 77 1 1 1 1 1 FRelease area 7729/2015 1507/D95 GrabBackhoe 77 1 1 1 1 1 1 1 1	1-1,	Release area	7/29/2015	1507D95	Grab/Backhoe	1,	QN	ND	170	170	069
Felesse area 7729/2015 1507D95 Grab/Backhoe 3° ND ND 170 170 Felesse area 7729/2015 1507D95 Grab/Backhoe 5° - <td>1-2'</td> <td>Release area</td> <td>7/29/2015</td> <td>1507D95</td> <td>Grab/Backhoe</td> <td>2.</td> <td>QN</td> <td>QN</td> <td>140</td> <td>140</td> <td>83</td>	1-2'	Release area	7/29/2015	1507D95	Grab/Backhoe	2.	QN	QN	140	140	83
Felease area 7729/2015 1507/D85 Grab/Backhoe 4" -	1-3'	Release area	7/29/2015	1507D95	Grab/Backhoe	3,	QN	QN	170	170	ND
Release area 77292015 1507D95 GaabBackhoe 3° ND ND ND ND Release area 77292015 1507D95 GaabBackhoe 4° ND ND ND ND Release area 77292015 1507D95 GrabBackhoe 7° 1° 1° 1° Release area 77292015 1507D95 GrabBackhoe 7° 1° 1° 1° Release area 77292015 1507D95 GrabBackhoe 7° 1° 1° 1° Release area 77292015 1507D95 GrabBackhoe 7° 1° 1° 1° Release area 77292015 1507D95 GrabBackhoe 7° 1° 1° 1° Release area 77292015 1508007 GrabBackhoe 1° 1° 1° 1° Release area 77292015 1508007 GrabBackhoe 1° 1° 1° 1° 1° Release area 12752015 1512A71 H	1-4'	Release area	7/29/2015	1507D85	Grab/Backhoe	4'	ı	-		ı	340
Totalization 1507/2015 1507/095 Grab/Backhoe 4" ND	1-5'	Release area	7/29/2015	1507D85	Grab/Backhoe	5,	1	,			130
Release area 7729/2015 1507096 Grab/Backhoe 4" ND ND ND Release area 7729/2015 1507096 Grab/Backhoe 5" "	2-3'	Release area	7/29/2015	1507D95	Grab/Backhoe	3'	ND	ND	ND	QN	1,600
7. Release area 7729/2015 1507/096 Grab/Backhoe 67 ND ND ND 7. Release area 7729/2015 1507/086 Grab/Backhoe 77 - - - - 7. Release area 7729/2015 1507/086 Grab/Backhoe 97 - <	2 - 4'	Release area	7/29/2015	1507D95	Grab/Backhoe	4'	ΩN	QN	ND	QN	5,700
Release area 7/29/2015 1507086 Grab/Backhoe 6° -	2-5'	Release area	7/29/2015	1507D95	Grab/Backhoe	5'	QN	ND	Q	QN	2,500
Release area 7/29/2015 1507D85 Grab/Backhoe 77 2 2 2 Release area 7/29/2015 1507D85 Grab/Backhoe 97 2 2 2 Release area 7/29/2015 1507D05 Grab/Backhoe 10 2 2 2 Release area 7/29/2015 1508707 Grab/Backhoe 17 2 2 2 2 Release area 7/29/2015 1508707 Grab/Backhoe 17 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2-6'	Release area	7/29/2015	1507D85	Grab/Backhoe	6'	-	•		-	11,000
Release area 7729/2015 1507/D85 Grab/Backhoe 6° -	2-7	Release area	7/29/2015	1507D85	Grab/Backhoe	7'	12		i.	-	8,700
Release area 7/29/2015 1507D85 Grab/Backhoe 9 -	2-8	Release area	7/29/2015	1507D85	Grab/Backhoe	8,	1	,	i		15,000
Release area 7729/2015 1508707 Grab/Backhoe 10° -	2-9'	Release area	7/29/2015	1507D85	Grab/Backhoe	.6	1	1.	1	1	5,600
Release area 7729/2015 1508/707 Grab/Backhoe 11* -	2-10,	Release area	7/29/2015	1508707	Grab/Backhoe	10,	-	ı.	·	ı	4,800
Release area 7/29/2015 1508707 Grab/Backhoe 12° -	2-11'	Release area	7/29/2015	1508707	Grab/Backhoe	11'				-	009'9
Release area 7/29/2015 1508707 Grab/Backhoe 137	2-12'	Release area	7/29/2015	1508707	Grab/Backhoe	12'	1				14,000
Release area 12/15/2015 1512A71 Hollow Stem Auger 15° - </td <td>2-13'</td> <td>Release area</td> <td>7/29/2015</td> <td>1508707</td> <td>Grab/Backhoe</td> <td>13'</td> <td>ı</td> <td></td> <td></td> <td>ı</td> <td>15,000</td>	2-13'	Release area	7/29/2015	1508707	Grab/Backhoe	13'	ı			ı	15,000
Release area 12/15/2015 15/12/271 Hollow Stem Auger 20° -	2-15'	Release area	12/15/2015	1512A71	Hollow Stem Auger	15'			1	,	5,500
Release area 12/15/2015 1512A71 Hollow Stem Auger 25' - </td <td>2-20.</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>20,</td> <td>i</td> <td>ı</td> <td>210</td> <td>1</td> <td>1,700</td>	2-20.	Release area	12/15/2015	1512A71	Hollow Stem Auger	20,	i	ı	210	1	1,700
Release area 12/15/2015 1512A71 Hollow Stem Auger 30° - </td <td>2-25'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>25'</td> <td></td> <td>ŗ.</td> <td>E</td> <td></td> <td>1,800</td>	2-25'	Release area	12/15/2015	1512A71	Hollow Stem Auger	25'		ŗ.	E		1,800
Release area 12/15/2015 1512A71 Hollow Stem Auger 35° - </td <td>2-30'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>30,</td> <td>1</td> <td></td> <td>,</td> <td>-</td> <td>1,600</td>	2-30'	Release area	12/15/2015	1512A71	Hollow Stem Auger	30,	1		,	-	1,600
Release area 12/15/2015 1512A71 Hollow Stem Auger 40° - </td <td>2-35'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>35'</td> <td>1</td> <td></td> <td></td> <td>1</td> <td>2,000</td>	2-35'	Release area	12/15/2015	1512A71	Hollow Stem Auger	35'	1			1	2,000
Release area 12/15/2015 1512A71 Hollow Stem Auger 45' - </td <td>2-40'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>40,</td> <td></td> <td></td> <td></td> <td></td> <td>1,800</td>	2-40'	Release area	12/15/2015	1512A71	Hollow Stem Auger	40,					1,800
Release area 12/15/2015 1512A71 Hollow Stem Auger 50' - </td <td>2-45'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>45'</td> <td></td> <td>ı</td> <td></td> <td></td> <td>200</td>	2-45'	Release area	12/15/2015	1512A71	Hollow Stem Auger	45'		ı			200
Release area 7/29/2015 1507D95 Grab/Backhoe 3° ND ND ND ND Release area 7/29/2015 1507D95 Grab/Backhoe 5° ND ND ND ND Release area 7/29/2015 1507D85 Grab/Backhoe 6° - <td>2-50'</td> <td>Release area</td> <td>12/15/2015</td> <td>1512A71</td> <td>Hollow Stem Auger</td> <td>50'</td> <td>-</td> <td></td> <td></td> <td></td> <td>230</td>	2-50'	Release area	12/15/2015	1512A71	Hollow Stem Auger	50'	-				230
Release area 7/29/2015 1507D95 Grab/Backhoe 4' ND ND ND ND Release area 7/29/2015 1507D95 Grab/Backhoe 5' ND ND ND ND Release area 7/29/2015 1507D85 Grab/Backhoe 7' - - - - - - Release area 7/29/2015 1507D85 Grab/Backhoe 8' - - - - - - Release area 7/29/2015 1507D85 Grab/Backhoe 9' -	3-3'	Release area	7/29/2015	1507D95	Grab/Backhoe	3,	QN	Q	Q	Q	5,600
Release area 7/29/2015 1507D95 Grab/Backhoe 5' ND ND ND ND Release area 7/29/2015 1507D85 Grab/Backhoe 7' -	3 - 4"	Release area	7/29/2015	1507D95	Grab/Backhoe	4.	QN	Q	Q	Q	430
Release area 7/29/2015 1507D85 Grab/Backhoe 6' -	3-5'	Release area	7/29/2015	1507D95	Grab/Backhoe	5.	Q	P	Ð	Q	2,500
Release area 7/29/2015 1507D85 Grab/Backhoe 7' -	3-6'	Release area	7/29/2015	1507D85	Grab/Backhoe	6,		ı	1	1	2,200
Release area 7/29/2015 1507D85 Grab/Backhoe 8' -	3-7	Release area	7/29/2015	1507D85	Grab/Backhoe				,		440
Release area 7/29/2015 1507D85 Grab/Backhoe 9' -	3-8'	Release area	7/29/2015	1507D85	Grab/Backhoe	-80	1				1,500
Release area 7/29/2015 1508707 Grab/Backhoe 10' - - - - Release area 7/29/2015 1508707 Grab/Backhoe 11' - - - - -	3-9'	Release area	7/29/2015	1507D85	Grab/Backhoe	.6	r	ı		,	1,200
Release area 7/29/2015 1508707 Grab/Backhoe 11'	3-10'	Release area	7/29/2015	1508707	Grab/Backhoe	10,			1	3	480
	3-11'	Release area	7/29/2015	1508707	Grab/Backhoe	11,		.1	ì		630

Site Ranking is ZERO (0). Depth to Ground Water >100' (approx. 100', per ChevronTexaco trend map).

All results are ppm.Chlorides for documentation.

Released: 10 B/PW; Recovered: 10 B/PW. Release Date: 3/9/2015, 1RP-3568 Released: 300 B/PW; Recovered: 300 B/PW. Release Date: 3/10/2015, 1RP-3568

Released to Imaging: 11/2/2021 9:19:44 AM



April 09, 2015

AMBER CANNON

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: UNION FEDERAL SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 04/02/15 11:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accred certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celes D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 (505) 748-4635

Fax To:

Received:

04/02/2015

Sampling Date:

04/01/2015

Reported:

04/09/2015

Sampling Type:

Soil

Project Name:

UNION FEDERAL SWD #1

Sampling Condition:

Cool & Intact

Project Number:

1RP-3568

Sample Received By:

Jodi Henson

Project Location:

8-21S-32E, LEA COUNTY

Sample ID: SURFACE (H500883-01)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	04/08/2015	ND	1.82	91.2	2.00	2.09	
Toluene*	0.677	0.200	04/08/2015	ND	1.74	86.9	2.00	0.754	
Ethylbenzene*	0.804	0.200	04/08/2015	ND	1.68	84.2	2.00	0.196	
Total Xylenes*	3.73	0.600	04/08/2015	ND	5.29	88.1	6.00	0.465	
Total BTEX	5.21	1.20	04/08/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	127 9	% 61-154	!						
TPH 8015M	mg/	'kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	295 50.0		04/06/2015	ND	193	96.5	200	0.183	
DRO >C10-C28	10500	50.0	04/06/2015	ND	203	101	200	0.985	
Surrogate: 1-Chlorooctane	128 5	% 47.2-15	7				3		
Surrogate: 1-Chlorooctadecane	215	% 52.1-17	'6						

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 7



Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:

04/02/2015

Sampling Date:

04/01/2015

Reported:

04/09/2015

Sampling Type:

Soil

Project Name:

UNION FEDERAL SWD #1

Sampling Condition:

Cool & Intact

Project Number:

1RP-3568

Sample Received By:

Jodi Henson

Project Location:

8-21S-32E, LEA COUNTY

Sample ID: 6" (H500883-02)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	04/08/2015	ND	1.82	91.2	2.00	2.09	
Toluene*	0.431	0.200	04/08/2015	ND	1.74	86.9	2.00	0.754	
Ethylbenzene*	0.453	0.200	04/08/2015	ND	1.68	84.2	2.00	0.196	
Total Xylenes*	2.70	0.600	04/08/2015	ND	5.29	88.1	6.00	0.465	
Total BTEX	3.59	1.20	04/08/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	130	% 61-154	(
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	271 50.0		04/06/2015	ND	193	96.5	200	0.183	
DRO >C10-C28	3710	50.0	04/06/2015	ND	203	101	200	0.985	
Surrogate: 1-Chlorooctane	113	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	125	% 52.1-17	6						

Cardinal Laboratories

*=Accredited Analyte

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

Celey & Kreene

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 7



Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210

Fax To:

(505) 748-4635

Received:

04/02/2015

Sampling Date:

04/01/2015

Reported:

04/09/2015

Sampling Type:

Soil

Project Name:

UNION FEDERAL SWD #1

Sampling Condition:

Cool & Intact

Project Number:

1RP-3568

Sample Received By:

Jodi Henson

Project Location:

8-21S-32E, LEA COUNTY

Sample ID: 1' (H500883-03)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/08/2015	ND	1.82	91.2	2.00	2.09	
Toluene*	0.058	0.050	04/08/2015	ND	1.74	86.9	2.00	0.754	
Ethylbenzene*	<0.050	0.050	04/08/2015	ND	1.68	84.2	2.00	0.196	
Total Xylenes*	0.478	0.150	04/08/2015	ND	5.29	88.1	6.00	0.465	
Total BTEX	0.536	0.300	04/08/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	135	% 61-154	1						
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	152	50.0	04/06/2015	ND	193	96.5	200	0.183	
DRO >C10-C28	1820	50.0	04/06/2015	ND	203	101	200	0.985	
Surrogate: 1-Chlorooctane	103	% 47.2-15	7	Marian Ma					
Surrogate: 1-Chlorooctadecane	114	% 52.1-17	6						

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keens

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 7



Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:

04/02/2015

Sampling Date:

04/01/2015

Reported:

DTEV 9031D

Sampling Type:

Soil

Project Name:

04/09/2015

Sampling Condition:

Cool & Intact

UNION FEDERAL SWD #1

Project Number:

1RP-3568

ma /lea

Sample Received By:

Jodi Henson

Project Location:

8-21S-32E, LEA COUNTY

Sample ID: 2' (H500883-04)

BTEX 8021B	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	04/08/2015	ND	1.82	91.2	2.00	2.09	
Toluene*	0.301	0.200	04/08/2015	ND	1.74	86.9	2.00	0.754	
Ethylbenzene*	0.262	0.200	04/08/2015	ND	1.68	84.2	2.00	0.196	
Total Xylenes*	8.37	0.600	04/08/2015	ND	5.29	88.1	6.00	0.465	
Total BTEX	8.93	1.20	04/08/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	115	% 61-154	1						
TPH 8015M	mg,	'kg	Analyze	d By: MS			olinia matteria de la constanta de la constant		
Analyte	Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	426	50.0	04/06/2015	ND	193	96.5	200	0.183	
DRO >C10-C28	3510	50.0	04/06/2015	ND	203	101	200	0.985	
Surrogate: 1-Chlorooctane	121	% 47.2-15	7	***************************************		A CO. AND INCOMES POR CONTRACT			
Surrogate: 1-Chlorooctadecane	131	% 52.1-17	6						

Analysis of December

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Celley & Frence

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 7



Notes and Definitions

5-06	matrix interference's.	
ND	Analyte NOT DETECTED at or above the reporting limit	
RPD	Relative Percent Difference	
**	Samples not received at proper temperature of 6°C or below.	
***	Insufficient time to reach temperature.	
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C	
	Samples reported on an as received basis (wet) unless otherwise noted on report	

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Celled & Keene

Celey D. Keene, Lab Director/Quality Manager

Page 6 of 7

	Relinquished by:	Relinquished by	o o	Consider				-		14	1	LAB # (lab use only)	ORDER #:	(lab use only)							Red
	ned by:	Mous annon quished by:	Hons:					2	-4	6	Surface	FIELD CODE	R# H500883	only)	Sampler Signature:	Telephone No: 575-748-4	City/State/Zip: Artesia, N	ress:	Comp: (505) 393-232f Yates Petroleum Corporation	Project Manager: Amber Cannon	ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240
	Date	4 2 20/5 Date	Separate report. Thank you												Mu (ie	575-748-4111 or 575-513-8799	Artesia, NM 88210	105 South 4th Street	roleum Corpora	annon	RIES 3, NM 88240
	=	=	Th:					Ŋ	1.	တ္	Surf.	Beginning Depth			MM	-8799			tion		
	Time	Time	: 8021B. Thank you					2		တ္ခ	Surf.	Ending Depth	1		MOM						
	Received by ELOT:	Redeived by:	Ĕ					4/1/2015	4/1/2015	4/1/2015	4/1/2015	Date Sampled									(505) 393-232
		Sten	Please show BTEX results as mg/kg.					11:45 AM	11:23 AM	11:06 AM	10:42 AM	Time Sampled			e-mail:	Fax No:					(505) 393-2326 FAX (505) 393-2476
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		4/2//5 Date	t chlorides on a					s	S	S	S	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix		acannon@yatespetroleum.com	Report Format:	ı	ı	l] P	IN OF CUSTODY RECORD AND ANALYSIS REQUEST
	Time							×	×	×	×		0151	П		t Fo		Project Loc:	P	Project Name:	REC
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remperature upon kecept:		Labels on container(s) Custody seals on container(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ?	Laboratory Comments: Sample Containers Intact? VOCs Free of Headsnace?	+				-	-		-	Cations (Ca, Mg, Na, K)		П			PO #:	.00	#	me:	DA
BBB	3	els on container(s) tody seals on container tody seals on cooler(s) tody seals on cooler(s) tiple Hand Delivered by Sampler/Client Rep.	le C	\dashv	-	\vdash		-			-	Anions (CI, SO4, Alkalinity)	TCLP:	П		×					S
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	Star	Y		\dashv	_		+				STREET, SQUARE, SQUARE,	RUSH TAT (Pre-Schedule) 24,	48, 72 hrs			SES			-	Do	7 05 7
	-	F15 - 415						×	\times	×	×	Standard TAT					l	1		Page	7 of 7



April 09, 2015

AMBER CANNON

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: UNION FEDERAL SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 04/02/15 11:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210

Fax To:

(505) 748-4635

Received:

04/02/2015

Sampling Date:

04/01/2015

Reported:

04/09/2015

Sampling Type:

Soil

Project Name:

UNION FEDERAL SWD #1

Sampling Condition:

Cool & Intact

Project Number:

1RP-3568

Sample Received By:

Jodi Henson

Project Location:

8-21S-32E, LEA COUNTY

Sample ID: SURFACE (H500883-01)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AP

Analyte

Reporting Limit Result

16.0

Reporting Limit

Analyzed 04/06/2015 Method Blank ND

BS 400 % Recovery 100

True Value QC 400

Qualifier

0.00

RPD

Sample ID: 6" (H500883-02)

Analyte

Analyte

Analyte

Chloride, SM4500CI-B

mg/kg

Analyzed

Analyzed By: AP

RPD

0.00

Chloride

Chloride

Result 9600

11600

16.0

04/06/2015

Method Blank ND

BS 400 % Recovery 100

True Value QC 400

Qualifier

Sample ID: 1' (H500883-03)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AP

Method Blank

BS

% Recovery True Value QC RPD

Qualifier

Chloride

Result 7600

Result

10400

16.0

Analyzed 04/06/2015

Analyzed

04/06/2015

ND

BS

400

RPD

0.00

Reporting Limit

Reporting Limit

16.0

400

100

400

400

0.00

Chloride

Sample ID: 2' (H500883-04)

Chloride, SM4500CI-B

mg/kg

Analyzed By: AP

Method Blank

ND

% Recovery

100

True Value QC

Qualifier

Cardinal Laboratories

*=Accredited Analyte

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Celey & Keene

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 4

ND



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celly & trune -

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 4

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	quish	nguish nguish		cia					C	: 0	NV	1	LAB # (lab use only)	ORDER #:	use							10
	Relinquished by:	MMbu annon		Special Instructions:					2'		6,1	Surface	FIELD CODE	R# H500883	(lab use only)	Sampler Signature:	Telephone No: 575-74	City/State/Zip: Artesia	Company Address: 105 South 4th Street	Comp: (505) 393-232f Yates Petroleum Corporation	Project Manager: Amber	ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240
	Date	4 2 20/S	separate report. Thank you	DU. ONLED DI										3		mbu (a	575-748-4111 or 575-513-8799	Artesia, NM 88210	outh 4th Street	etroleum Corporat	Amber Cannon	ORIES obs, NM 88240
		= =	Th.						2		ರ್ತ್	Surf.	Beginning Depth	7		25	8799			ion		
	Time	Time	Thank you		П			-	2		တ္ခ	Surf.	Ending Depth			ennov						
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	.	Stew	riease snow BTEX results as mg/kg.						11:45 AM	11:23 AM	11:06 AM	10:42 AM	Time Sampled			e-mail:	Fax No:					(505) 393-2326 FAX (505) 393-2476
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		-	chlorides on a						S	S	S	S	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Soild NP=Non-Potable Specify Other	Matrix		petroleum.com	Report Format:				' Pr	IN OF CUSTODY RECORD AND ANALYSIS REQUEST
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Jpor	by Sampler/Client Reby Courier?	Labels on container(s) Custody seals on container Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact	\vdash	+	+	+	+	-		-	-	Metals: As Ag Ba Cd Cr Pb Hg	Se	An		Standard		_		_	AL
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Temperature Upon Receipt:	by Sampler/Client Rep. ? by Courier? UPS [Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact?	\vdash		+	+	\vdash	×	×	×	-	BTEX 8021B/5030 or BTEX 82	260	Analyze For:				21S-32E,		ja F	SA
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				\perp		\perp			\times	×	\times	× S	Standard TAT		-		(I)				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

August 07, 2015

Amber Cannon
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4195

FAX

RE: Union Federal SWD #1

OrderNo.: 1507D85

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 7/31/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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: 1507D85

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/7/2015

	ates Petroleum Corporat Jnion Federal SWD #1	ion		La	ab Order:	1507D8	35
Lab ID: Client Sample ID:	1507D85-001 1-4'		9	Collection Date: Matrix:		28:00 AM	
Analyses		Result	RL Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	340	30	mg/Kg	20 8/4/2015 1		/st: LGT M 20587
Lab ID:	1507D85-002			Collection Date:	7/29/2015 7:3	31:00 AM	
Client Sample ID:	1-5'	-	Application of Michigan	Matrix:	Act hallow late a large		
Analyses		Result	RL Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	130	30	mg/Kg	20 8/4/2015 1		/st: LGT M 20587
Lab ID:	1507D85-003			Collection Date:	7/29/2015 8:0	04:00 AM	
Client Sample ID:	2-6'			Matrix:	SOIL		
Analyses		Result	RL Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	11000	750	mg/Kg	500 8/5/2015		yst: LGT 20587
Lab ID:	1507D85-004			Collection Date:	7/29/2015 8:0	09:00 AM	[
Client Sample ID:	2-7'			Matrix:	SOIL		
Analyses		Result	RL Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	8700	300	mg/Kg	200 8/5/2015		yst: LGT 1 20587
Lab ID:	1507D85-005			Collection Date:	7/29/2015 8:	13:00 AM	
Client Sample ID:	2-8'			Matrix:	SOIL		
Analyses		Result	RL Qual	Units	DF Date Ana	lyzed	Batch ID
EPA METHOD 300	0.0: ANIONS				Market Control of the	Analy	yst: LGT
Chloride		15000	750	mg/Kg	500 8/5/2015		

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3

- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order: 1507D85

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/7/2015

	ates Petroleum Corporat nion Federal SWD #1	ion			Lab Order: 1507D85
Lab ID: Client Sample ID:	1507D85-006 2-9'				Pate: 7/29/2015 8:16:00 AM trix: SOIL
Analyses		Result	RL Qua	l Units	DF Date Analyzed Batch ID
EPA METHOD 300. Chloride	.0: ANIONS	5600	300	mg/Kg	Analyst: LGT 200 8/5/2015 1:37:23 PM 20587
Lab ID:	1507D85-007			Collection D	Date: 7/29/2015 9:20:00 AM
Client Sample ID:	3-6'			Ma	trix: SOIL
Analyses		Result	RL Qua	al Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	2200	75	mg/Kg	Analyst: LGT 50 8/5/2015 1:49:48 PM 20587
Lab ID:	1507D85-008			Collection D	Date: 7/29/2015 9:25:00 AM
Client Sample ID:	3-7'			Ma	trix: SOIL
Analyses		Result	RL Qua	al Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	440	30	mg/Kg	Analyst: LGT 20 8/4/2015 2:07:49 PM 20587
Lab ID:	1507D85-009			Collection D	Date: 7/29/2015 9:35:00 AM
Client Sample ID:	3-8'			Ma	trix: SOIL
Analyses		Result	RL Qua	al Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	1500	75	mg/Kg	Analyst: LGT 50 8/5/2015 2:02:12 PM 20587
Lab ID:	1507D85-010			Collection D	Date: 7/29/2015 9:42:00 AM
Client Sample ID:	3-9'			Ma	trix: SOIL
Analyses		Result	RL Qua	al Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	1200	75	mg/Kg	Analyst: LGT 50 8/5/2015 2:14:37 PM 20587

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507D85

07-Aug-15

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sample ID MB-20587

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID: PBS

Prep Date:

8/4/2015

Batch ID: 20587 Analysis Date: 8/4/2015 RunNo: 27959

SeqNo: 841176

HighLimit

Units: mg/Kg

%RPD

RPDLimit

Qual

Analyte Chloride

PQL ND 1.5

Sample ID LCS-20587

LCSS

SampType: LCS

TestCode: EPA Method 300.0: Anions

Batch ID: 20587

Analysis Date: 8/4/2015

1.5

RunNo: 27959 SeqNo: 841177

Units: mg/Kg

HighLimit

%RPD **RPDLimit**

Qual

PQL

Page 3 of 3

Analyte Chloride

%REC

90

LowLimit

SPK value SPK Ref Val %REC LowLimit

90.5

110

Client ID:

Prep Date:

8/4/2015

15.00

SPK value SPK Ref Val

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Work Order Number: 1507D85 RoptNo: 1 Client Name Yates Petroleum Corpora Received by/date: Logged By: Lindsay Mangin 7/31/2015 7:10:00 AM 7/31/2015 8:24:11 AM Completed By: Lindsay Mangin Reviewed By: 07/31/15 Chain of Custody Not Present V Yes No 🗌 1. Custody seals intact on sample bottles? No 🗌 Not Present Yes V 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In NA Yes 🗌 No V 4. Was an attempt made to cool the samples? Approved by client. NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes Approved by client. Sample(s) in proper container(s)? Yes V No 🗔 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No V 9. Was preservative added to bottles? Yes No . No VOA Vials 🗹 10. VOA vials have zero headspace? No V 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 __ Yes 13. Are matrices correctly identified on Chain of Custody? No 14. Is it clear what analyses were requested? Checked by: Yes 🗸 No 15. Were all holding times able to be met? (if no, notify customer for authorization.) Special Handling (if applicable) NA V Yes No 🗌 16. Was client notified of all discrepancies with this order? Person Notified: Date eMail Phone Fax By Whom In Person Regarding Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By 21.0 Good

HALL ENVIRONMENTAL	ANALYSIS LABORATORY	-	60							(IV *			2144° 10 21V			- 1150mm(D						- 113	daya s				
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	X Standard	Project Name:	-	Project #:			Project Manager			Sampler:	On Ice:	Sample Temperature:	Container Type and #	1 - 40Z.	1 - 4oz.	1 - 4oz.	1 - 40z.	1 - 40Z.	1 - 40z.	1 - 40z.	1 - 4oz.	1 - 402.	1 - 402.			Received by:	Reserved by:
Chain-of-Custody Record	Yates Petroleum Corporation			0100 NM 88210	675-513-8709 or 575-748-4111		acannon@yatespetroleum.com	AACHTTO-AA3 37	☐ Level 4 (Full Validation)		contribution produce and		Sample Request ID	1-4'	1 - 5:	2-6'	2-7'	2-8'	2-9'	3-6'	3-7	3-8	3-9'			ed by:	50 DC
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ຮັ	Client: Y		Mailing Address:	dt. 0 20 k	Door #	100	email or Fax#:	QA/QC Package:	☐ Standard	Accreditation:	□ NELAP	☐ EDD (Type)	Date	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015		L ARANCE CONTRACTOR C	1.28.7.7.	,



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

August 10, 2015

Amber Cannon Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4217

FAX

RE: Union Federal SWD #1

OrderNo.: 1507D95

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/31/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-001 Client Sample ID: 1-1'

Collection Date: 7/29/2015 7:21:00 AM Received Date: 7/31/2015 8:00:00 AM

Analyses Result RL Qual Units **DF** Date Analyzed Batch EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: KJH Diesel Range Organics (DRO) 170 10 mg/Kg 8/3/2015 4:11:11 PM 20541 Surr: DNOP 98.0 57.9-140 %REC 1 8/3/2015 4:11:11 PM 20541 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.9 mg/Kg 8/4/2015 1:05:03 AM 1 20550 Surr: BFB 87.6 %REC 75.4-113 8/4/2015 1:05:03 AM 20550 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.049 mg/Kg 8/4/2015 1:05:03 AM 20550 Toluene ND 0.049 mg/Kg 8/4/2015 1:05:03 AM 20550 Ethylbenzene ND 0.049 mg/Kg 1 8/4/2015 1:05:03 AM 20550 Xylenes, Total ND 0.097 mg/Kg 8/4/2015 1:05:03 AM 20550 Surr: 4-Bromofluorobenzene 93.3 %REC 8/4/2015 1:05:03 AM 80-120 20550

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 12 J
- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-002 Matrix: SOIL

Collection Date: 7/29/2015 7:23:00 AM Received Date: 7/31/2015 8:00:00 AM

Client Sample ID: 1-2'

Analyses	Result	RL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	140	10	mg/Kg	1	8/5/2015 11:19:39 AM	20541
Surr: DNOP	94.4	57.9-140	%REC	1	8/5/2015 11:19:39 AM	20541
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/4/2015 1:29:49 AM	20550
Surr: BFB	88.4	75.4-113	%REC	1	8/4/2015 1:29:49 AM	20550
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.048	mg/Kg	1	8/4/2015 1:29:49 AM	20550
Toluene	ND	0.048	mg/Kg	1	8/4/2015 1:29:49 AM	20550
Ethylbenzene	ND	0.048	mg/Kg	1	8/4/2015 1:29:49 AM	20550
Xylenes, Total	ND	0.096	mg/Kg	1	8/4/2015 1:29:49 AM	20550
Surr: 4-Bromofluorobenzene	94.0	80-120	%REC	1	8/4/2015 1:29:49 AM	20550

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 2 of 12 J
- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Union Federal SWD #1 Project:

1507D95-003 Lab ID:

Matrix: SOIL

Collection Date: 7/29/2015 7:25:00 AM Received Date: 7/31/2015 8:00:00 AM

Client Sample ID: 1-3'

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analys	t: KJH
Diesel Range Organics (DRO)	170	100		mg/Kg	10	8/3/2015 5:32:17 PM	20541
Surr: DNOP	0	57.9-140	S	%REC	10	8/3/2015 5:32:17 PM	20541
EPA METHOD 8015D: GASOLINE RAI	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2015 1:54:34 AM	20550
Surr: BFB	89.8	75.4-113		%REC	1	8/4/2015 1:54:34 AM	20550
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.048		mg/Kg	1	8/4/2015 1:54:34 AM	20550
Toluene	ND	0.048		mg/Kg	1	8/4/2015 1:54:34 AM	20550
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2015 1:54:34 AM	20550
Xylenes, Total	ND	0.095		mg/Kg	1	8/4/2015 1:54:34 AM	20550
Surr: 4-Bromofluorobenzene	95.8	80-120		%REC	1	8/4/2015 1:54:34 AM	20550

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-004

SWD#I

Client Sample ID: 2-3'

Collection Date: 7/29/2015 7:52:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/3/2015 5:59:05 PM	20541
Surr: DNOP	104	57.9-140	%REC	1	8/3/2015 5:59:05 PM	20541
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/4/2015 2:19:17 AM	20550
Surr: BFB	91.6	75.4-113	%REC	1	8/4/2015 2:19:17 AM	20550
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	8/4/2015 2:19:17 AM	20550
Toluene	ND	0.049	mg/Kg	1	8/4/2015 2:19:17 AM	20550
Ethylbenzene	ND	0.049	mg/Kg	1	8/4/2015 2:19:17 AM	20550
Xylenes, Total	ND	0.098	mg/Kg	1	8/4/2015 2:19:17 AM	20550
Surr: 4-Bromofluorobenzene	98.2	80-120	%REC	1	8/4/2015 2:19:17 AM	20550

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-005

Client Sample ID: 2-4'

Collection Date: 7/29/2015 7:55:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/3/2015 6:26:29 PM	20541
Surr: DNOP	102	57.9-140	%REC	1	8/3/2015 6:26:29 PM	20541
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/4/2015 2:44:04 AM	20550
Surr: BFB	89.9	75.4-113	%REC	1	8/4/2015 2:44:04 AM	20550
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	8/4/2015 2:44:04 AM	20550
Toluene	ND	0.048	mg/Kg	1	8/4/2015 2:44:04 AM	20550
Ethylbenzene	ND	0.048	mg/Kg	1	8/4/2015 2:44:04 AM	20550
Xylenes, Total	ND	0.095	mg/Kg	1	8/4/2015 2:44:04 AM	20550
Surr: 4-Bromofluorobenzene	95.4	80-120	%REC	1	8/4/2015 2:44:04 AM	20550

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-006 Client Sample ID: 2-5'

Collection Date: 7/29/2015 7:58:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	S			Analys	t: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/3/2015 6:53:27 PM	20541
Surr: DNOP	102	57.9-140	%REC	1	8/3/2015 6:53:27 PM	20541
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/4/2015 10:07:35 AM	20550
Surr: BFB	92.1	75.4-113	%REC	1	8/4/2015 10:07:35 AM	20550
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	8/4/2015 10:07:35 AM	20550
Toluene	ND	0.048	mg/Kg	1	8/4/2015 10:07:35 AM	20550
Ethylbenzene	ND	0.048	mg/Kg	1	8/4/2015 10:07:35 AM	20550
Xylenes, Total	ND	0.096	mg/Kg	1	8/4/2015 10:07:35 AM	20550
Surr: 4-Bromofluorobenzene	99.9	80-120	%REC	1	8/4/2015 10:07:35 AM	20550

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-007

Client Sample ID: 3-3'

Collection Date: 7/29/2015 9:05:00 AM

Matrix: SOIL Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	3			Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/3/2015 7:20:30 PM	20541
Surr: DNOP	102	57.9-140	%REC	1	8/3/2015 7:20:30 PM	20541
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/4/2015 10:32:21 AM	20550
Surr: BFB	89.6	75.4-113	%REC	1	8/4/2015 10:32:21 AM	20550
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.047	mg/Kg	1	8/4/2015 10:32:21 AM	20550
Toluene	ND	0.047	mg/Kg	1	8/4/2015 10:32:21 AM	20550
Ethylbenzene	ND	0.047	mg/Kg	1	8/4/2015 10:32:21 AM	20550
Xylenes, Total	ND	0.094	mg/Kg	1	8/4/2015 10:32:21 AM	20550
Surr: 4-Bromofluorobenzene	97.3	80-120	%REC	1	8/4/2015 10:32:21 AM	20550

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-008

Matrix: SOIL

Collection Date: 7/29/2015 9:07:00 AM Received Date: 7/31/2015 8:00:00 AM

Client Sample ID: 3-4'

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/3/2015 7:47:32 PM	20541
Surr: DNOP	106	57.9-140	%REC	1	8/3/2015 7:47:32 PM	20541
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/4/2015 10:57:19 AM	20550
Surr: BFB	91.2	75.4-113	%REC	1	8/4/2015 10:57:19 AM	20550
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	8/4/2015 10:57:19 AM	20550
Toluene	ND	0.047	mg/Kg	1	8/4/2015 10:57:19 AM	20550
Ethylbenzene	ND	0.047	mg/Kg	1	8/4/2015 10:57:19 AM	20550
Xylenes, Total	ND	0.095	mg/Kg	1	8/4/2015 10:57:19 AM	20550
Surr: 4-Bromofluorobenzene	98.7	80-120	%REC	1	8/4/2015 10:57:19 AM	20550

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

8/4/2015 11:22:21 AM

8/4/2015 11:22:21 AM

8/4/2015 11:22:21 AM

8/4/2015 11:22:21 AM

20550

20550

20550

20550

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-009

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Client Sample ID: 3-5'

Collection Date: 7/29/2015 9:14:00 AM Received Date: 7/31/2015 8:00:00 AM

1

1

RL Qual Units Analyses Result DF Date Analyzed Batch EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: KJH Diesel Range Organics (DRO) ND 10 mg/Kg 1 8/3/2015 8:14:21 PM 20541 Surr: DNOP 101 57.9-140 %REC 8/3/2015 8:14:21 PM 1 20541 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.8 mg/Kg 8/4/2015 11:22:21 AM 20550 Surr: BFB 88.2 75.4-113 %REC 8/4/2015 11:22:21 AM 20550 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.048 mg/Kg 8/4/2015 11:22:21 AM 20550

0.048

0.048

0.096

80-120

mg/Kg

mg/Kg

mg/Kg

%REC

Matrix: SOIL

ND

ND

ND

94.2

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507D95

10-Aug-15

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sample ID MB-20541	sample ID MB-20541 SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 2	0541	R	RunNo: 2	7904							
Prep Date: 7/31/2015	Analysis Date:	8/3/2015	S	SeqNo: 8	39331	Units: mg/K	(g					
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range Organics (DRO)	ND 1	0										
Surr: DNOP	10	10.00		101	57.9	140						
Sample ID LCS-20541	SampType: L	.cs	Test	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics				
Client ID: LCSS	Batch ID: 2	0541	R	RunNo: 2	7904							

Sample ID LCS-20541	SampTyp	e: LC	s	Test	Code: EF	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch II	D: 205	541	R	unNo: 2	7904				
Prep Date: 7/31/2015	Analysis Date	e: 8/ 3	3/2015	S	eqNo: 8	39332	Units: mg/K	(g		
Analyte	Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.8	57.4	139			
Surr: DNOP	5.0		5.000		101	57.9	140			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 10 of 12

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

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507D95

10-Aug-15

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sample ID MB-20550	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	ID: 20	550	F	RunNo: 2	7919				
Prep Date: 7/31/2015	Analysis D	ate: 8/	3/2015	S	SeqNo: 8	39770	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	910		1000		91.4	75.4	113			
Sample ID LCS-20550	SampT	vpe: LC	s	Tes	tCode: FI	PA Method	8015D: Gaso	line Rano	IA.	

				F 555					_	
Client ID: LCSS	Batch	ID: 20	550	R	lunNo: 2	7919				
Prep Date: 7/31/2015	Analysis D	ate: 8/	3/2015	S	eqNo: 8	39772	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	79.6	122			
Surr: BFB	1000		1000		101	75.4	113			

Sample ID 5ML RB	SampType: MBLK	TestCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch ID: R27950	RunNo:	27950				
Prep Date:	Analysis Date: 8/4/2015	SeqNo:	840981	Units: %RE0	:		
Analyte	Result PQL SPK va	lue SPK Ref Val %REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910 1	000 91.1	75.4	113			

Sample ID 2.5UG GRO LCS	SampType: LCS	Test	Code: EPA Method	8015D: Gasoli	ne Range	9	
Client ID: LCSS	Batch ID: R2795	0 R	unNo: 27950				
Prep Date:	Analysis Date: 8/4/20) 15 S	eqNo: 840982	Units: %REC			
Analyte	Result PQL SF	K value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000	1000	101 75.4	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 11 of 12

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

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507D95

10-Aug-15

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sample ID MB-20550	SampT	ype: ME	BLK	Tes	tCode: El	A Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: 20	550	F	RunNo: 2	7919				
Prep Date: 7/31/2015	Analysis D	ate: 8/	3/2015	S	SeqNo: 8	39800	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	0.99		1.000		99.1	80	80 120			

Sample ID LCS-20550	SampT	ype: LC	S	Tes	tCode: EF	A Method	8021B: Volat	iles		
Client ID: LCSS	Batch	ID: 20	550	F	RunNo: 2	7919				
Prep Date: 7/31/2015	Analysis D	ate: 8/	3/2015	S	SeqNo: 8	39801	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	103	76.6	128			
Toluene	1.0	0.050	1.000	0	104	75	124			
Ethylbenzene	1.1	0.050	1.000	0	105	79.5	126			
Xylenes, Total	3.4	0.10	3.000	0	113	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID 5ML RB	SampTy	pe: ME	BLK	Test	Code: El	A Method	8021B: Volat	iles		
Client ID: PBS	Batch	ID: R2	7950	R	RunNo: 2	7950				
Prep Date:	Analysis Da	ate: 8/	4/2015	S	SeqNo: 8	41022	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	80	120			

Sample ID 100NG BTEX LC	S SampTy	pe: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	ID: R2	7950	F	lunNo: 2	7950				
Prep Date:	Analysis Da	te: 8/	4/2015	S	SeqNo: 8	41023	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 12 of 12

- P Sample pH Not In Range
- 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

Client Name: Yat	tes Petroleum Corpora	Work Order Number	15070	95		ReptNo:	1
Received by/date:	5A	0731 15					
Logged By: Li	indsay Mangin	7/31/2015 8:00:00 AM			of lythings		
Completed By: Li	indsay Mangin	7/31/2015 9:27:19 AM			Juney Allego		
Reviewed By:	Cs.	07/31/15					
Chain of Custon	<u>ly</u>						
1. Custody seals in	tact on sample bottles?		Yes		No 🗀	Not Present 🗹	
2. Is Chain of Cust	ody complete?		Yes	~	No 🗆	Not Present	
3. How was the sai	mple delivered?		Cour	ier			
Log In		*					
	t made to cool the sample	s?	Yes	Y	No 🗆	NA []	
5. Were all sample	es received at a temperatu	re of >0° C to 6.0°C	Yes	V	No 🗔	NA 🗀	
6. Sample(s) in pro	oper container(s)?		Yes	Y	No 🗔		
7. Sufficient sampl	le volume for indicated tes	t(s)?	Yes	V	No []		
8. Are samples (ex	coept VOA and ONG) prop	erly preserved?	Yes	V	No 🗀		
9. Was preservativ	ve added to bottles?		Yes		No 🗸	NA .	
10.VOA vials have	zero headspace?		Yes		No 🗆	No VOA Vials 🗹	
	ole containers received bro	ken?	Yes		No 🔽		
						# of preserved bottles checked	
	k match bottle labels?		Yes	~	No 🗌	for pH:	cr >12 unless noted)
	ncies on chain of custody)	-10-11-10	17	1.0	No 🗆	Adjusted?	or > 12 dilless noted)
1,030,0	rrectly identified on Chain		Yes	(Freeze)	No 🗆	20 MARTINE	etilizet ette Withhelmoodsooni
	analyses were requested?		Yes Yes	-	No []	Checked by:	
STATES STATES STATES	g times able to be met? stomer for authorization.)		165	. 	OV Sand	and a second	The state of the s
Special Handlin	ng (if applicable)						
account of the second of the s	fig (II applicable) fied of all discrepancies wi	th this order?	Vac		No 🗔	NA 🗸	
	grace in marte option and defended to the information of proceedings of the contract of the co	NAME AND ADDRESS OF THE PARTY O		Terrore (Normal Name of Street,		
Person N By Whon	and the first of the state of t	Date Via:	 □ eM	lail	Phone Fax	In Person	
Regardin	With the state of	VIA.	ALL PROPERTY OF THE PARTY OF TH	icali []	CIOIC TOX	WATER THE PROPERTY OF THE PROP	
Client Ins	Participan and Control of the Contro	and the particle management and an arrangement of the contract	NAME OF THE PERSON NAMED IN			SECONDECTED AND CONTROL OF CONTRO	
17 Additional rem	iarks:	and the second of the second o		NO AND DESCRIPTION OF THE PARTY	200 (100 (100 (100 (100 (100 (100 (100 (and and the second	
10 0-1-1-1	antin n						
18. Cooler Inform Cooler No	nation Temp °C Condition	Seal Intact Seal No	Seal D	oate 1	Signed By	and the second s	
1	Annual Control of the	Not Present	- Deli L		Orginou by		
	z sobsol e t						

MENTAL	>								4 2 .	-/		144. (0 4.6		and Art Spaline		55000000							Please snow billy. Please put chlorid	<u> </u>
HALL ENVIRONMENTAL	ANALYSIS LABOR	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analys	esei(J\zs2	(I) (I) (I) (I)	+ TT + 13 10 14 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	3E d 4 d 6 d 6 d 6 d 6 d 6 d 6 d 7	hod hod hod hod hod hod hod hod	BTEX + N BTEX + N TPH (Met B310 (PN RCRA 8 I RORA 8 I Anions (P R081 Pes 8081 Pes (V)	×	×	×	×	×	×	×	×	×		Remarks: TPH: 8015B, BTEX: 8021B. Please snow BTEX results as mg/kg. Anions: Chloride only. Please put chlorid	results on a separate report from 17th and DTLA
Turn-Around Time:	X Standard Rush	Project Name:	Union Federal SWD #1	Project #:	1RP-3568		Amber Griffin PO # 205-2020	771	Sampler: Amber Grillin 70.	Temperature: (-7_		Container Preservativ HEAL No.	1-40z. Ice -CCI	loe - CO?	Ice -CC3	1-40z. loe - \mathcal{NCU}	lce	-40z. Ice -///.	ce - 074	lce -CTX	1-4oz. Ice		Received by: Date Time F	Received by: Date Time
Chain-of-Custody Record		Pro	Mailing Address:	105 South 4th Street Artesia, NM 88210 Pro	Doope #: 575-513-8799 or 575-748-4111	=ax#: acarinon@yatespetroleum.com	VQC Package:	☐ Standard ☐ Level 4 (Full Valication)	Accreditation: San	NELAY COR	□ EDD (Type)	Date Time Matrix Sample Request ID Ty	7.21 Soil 1-1.	7:23 Soil 1 - 2'	7-25 Soil 1-3'	7-52 Soil 2 - 3'	7-55 Soil 2 - 4'	7:58 Soil 2 - 5'	9:05 Soil 3-3'	9:07 Soil 3-4'	9:14 Soil 3-5'		Date: Time: Relinquished by: 72015	Time: Reinquished by:



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

August 10, 2015

Amber Cannon Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4217

FAX

RE: Union Federal SWD #1

OrderNo.: 1507D95

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/31/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-001

Client Sample ID: 1-1'

Collection Date: 7/29/2015 7:21:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	690	30	mg/Kg	20	8/4/2015 9:59:21 PM	20603

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 1 of 10 J
- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-002

Client Sample ID: 1-2'

Collection Date: 7/29/2015 7:23:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	83	30	mg/Kg	20	8/4/2015 10:11:45 PI	M 20603

Matrix: SOIL

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507D95

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/10/2015

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Collection Date: 7/29/2015 7:25:00 AM

Client Sample ID: 1-3'

Lab ID: 1507D95-003

Matrix: SOIL

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Anal	yst: LGT
Chloride	ND	30	mg/Kg	20	8/4/2015 10:24:09 P	M 20603

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-004

Client Sample ID: 2-3'

Collection Date: 7/29/2015 7:52:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	1600	75	mg/Kg	50	8/5/2015 6:22:49 PM	20603

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 10 J
- Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

Lab ID: 1507D95-005

Client Sample ID: 2-4'

Collection Date: 7/29/2015 7:55:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	st: LGT
Chloride	5700	300	mg/Kg	200 8/5/2015 6:35:14 PM	20603

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-006

Matrix: SOIL

Client Sample ID: 2-5'

Collection Date: 7/29/2015 7:58:00 AM **Received Date:** 7/31/2015 8:00:00 AM

 Analyses
 Result
 RL Qual Units
 DF Date Analyzed
 Batch

 EPA METHOD 300.0: ANIONS
 Analyst: LGT

 Chloride
 2500
 150
 mg/Kg
 100 8/5/2015 6:47:39 PM
 20603

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project:

Union Federal SWD #1

1507D95-007

Client Sample ID: 3-3'

Collection Date: 7/29/2015 9:05:00 AM

Matrix: SOIL Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Anal	yst: LGT
Chloride	5600	300	mg/Kg	200 8/5/2015 7:00:04 PM	20603

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-008

Client Sample ID: 3-4'

Collection Date: 7/29/2015 9:07:00 AM

Matrix: SOIL Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	430	30	mg/Kg	20	8/4/2015 11:51:01 PI	M 20603

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1507D95

Date Reported: 8/10/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Project: Union Federal SWD #1

1507D95-009

Client Sample ID: 3-5'

Collection Date: 7/29/2015 9:14:00 AM

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: LGT
Chloride	2500	75	mg/Kg	50	8/5/2015 7:12:29 PM	20603

Matrix: SOIL

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

RPDLimit

1507D95

10-Aug-15

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sample ID MB-20603

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

8/4/2015

Batch ID: 20603 Analysis Date: 8/4/2015 RunNo: 27959

Units: mg/Kg

Prep Date:

SeqNo: 841213

SPK value SPK Ref Val %REC LowLimit

HighLimit

Chloride

PQL ND 1.5

Sample ID LCS-20603

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 20603

RunNo: 27959

Prep Date: 8/4/2015 Analysis Date: 8/4/2015

SeqNo: 841214

Units: mg/Kg

Analyte

%REC

HighLimit %RPD **RPDLimit**

%RPD

Qual

Qual

PQL

SPK value SPK Ref Val

14 1.5 15.00 96.4

Chloride

LowLimit

110

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 10 of 10

- P Sample pH Not In Range
- Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 503-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Yes V Yes V Yes V	No	Not Present ☑ Not Present ☐ NA ☐	
Yes V Yes V Yes V	No 🗆	Not Present NA	
Yes V Yes V Yes V	No 🗆	Not Present NA	
Yes V Yes V	No 🗆	Not Present NA	
Yes V Yes V	No 🗆	Not Present NA	
Yes V Yes V	No 🗆	Not Present NA	
Courier Yes ✓ Yes ✓	No 🗆	NA 🗆	
Yes ✓	Emeround		
Yes 🔽	Emeround		
Yes 🔽	Emeround		
	No 🗍	NA []	
Yes 🗹		I III B Seismail	
	No 🗀		
Yes 🗹	No []		
Yes 🗸	No 🗀		
Yes 🗌	No 🗸	NA 🗆	
Yes	No 🗆	No VOA Vials 🗹	
Yes 🗆	No 🗸	# of preserved	nyk des tre este ensurencement manage and
		bottles checked	
Yes 🔽	No 📖	0.7400 0014	or >12 unless noted)
Yes 🗸	No 🗆	Adjusted?	A Commission of the second Commission of the s
Yes 🗸	No 🗆		
Yes 🗸	No L	Checked by:	Control separation for the Market State of the State of t
promis_		يه ۱۱۱۰ د م	
Yes L	No L	NA 🛂	
te [2	ga.court	
eMail	Phone Fax	In Person	
to increase the contraction and the contraction of	nde lakis kekenjiri kerong takan da kekenolog penantan ang kelan 10000 celan	Security and the security of t	
	and the second second second		
Lower	l pianed po	í	
Seal Date	Signed By		
	Yes	Yes No Yes No	Yes No No VOA Vials V Yes No No VOA Vials V Yes No W # of preserved bottles checked for pH: (<2 c Yes V No Adjusted? Yes V No Checked by: Yes No No No NA V e e e eMail Phone Fax In Person

ONMENTAL	LABORATORY	al.com	9, NM 87109	345-4107	lest est				(\		√- ļu	oV) 80828 meS) 0728											1B. Please show BTEX only. Please put chloric	
HALL ENVIRONMENTAL	ANALYSIS L	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	100	os _'	d\ss بO۹	(es)	8.1 1.4 (HA	00 50 60 60 60 60 60	od 8 bor or or lets lets	TPH Meth EDB (Meth 8310 (PN/ RCRA 8 M Anions (F,	×	×	×	×	×	×	×	×	×		Remarks: TPH: 8015B, BTEX: 8021B. Please show BTEX results as mg/kg. Anions: Chloride only. Please put chlorid	resuits on a separate report from 1170 and DTLA
			49	Ţ	THE PARTY		Water Committee	-				M + X3T8 M + X3T8	×	×	×	×	×	×	×	×	×		Remarks: results as	esuits
			1 SWD #1		999		riffin	-2020	Amber Griffin (10)	°N □	7	HEAL NO.	100-	-00	-1723	-02st	-00	-777.	Ę	-(QX	507		07/31/15 0800	Date Time
Time:	□ Rush	ėi	Union Federal SWD #1		1RP-3568	ger:	Amber Griffin	PO # 205-2020	- 1	Ø Yes	perature: /	Preservativ e Type	Ice	jce 10e	lce	lce	lce	<u>s</u>	ce	ce	Ce		The state of the s	
Turn-Around Time:	X Standard	Project Name:		Project #:		Project Manager.			Sampler:	On Ice:	Sample Temperature:	Container Type and #	1 - 4oz.	1 - 4oz.	1 - 4oz.	1 - 4oz.	1 - 40z.	1 - 40z.	1 - 40z.	1 - 40z.	1 - 4oz.		Received by:	Received by.
Chain-of-Custody Record	Yates Petroleum Corporation			tesia. NM 88210				☐ Level 4 (Full Validation)		Commission of the Commission of the Commission of Commissi		x Sample Request ID		1-2'	-3	2-3	2-4'	2-5'	3-3'	3-4'	3-5		Relinquished by:	Relinquished by:
-15-jc	etroleu	***************************************		Pet Art	575-51	acanno			.40			Matrix	7.21 Soil	7:23 Soil	7:25 Soil	7.52 Soil	7:55 Soil	7:58 Soil	9:05 Soil	9:07 Soil	9:14 Soil		Relinqu	Kelingui
ain-c	Yates P		ress:	4th Str		*#×	age:	מי	n:		(ad/	ä ∃ H	7.21	7:23	7:25	7:52	7:55	7:58	9:05	9:07	9:14		Time:	Time:
ပ်	Client:		Mailing Address:	105 South 4th Street Artesia. NM	Doore #:	email or Fax#:	QA/QC Package:	□ Standard	Accreditation:	□ NELAP	□ EDD (Type)	Date	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015		1 2 Z	1



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

OrderNo.: 1512A71

January 06, 2016

Amber Griffin
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4111

FAX

RE: Union Federal SWD #1

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 8 sample(s) on 12/23/2015 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 www.hallenvironmental.com 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

andyl

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1512A71

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/6/2016

	ates Petroleum Corporat Union Federal SWD #1	ion			La	ıb O	rder: 151	2A71	
Lab ID: Client Sample ID:	1512A71-001 2-15'				Collection Date: Matrix:			0 AM	i ii
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	d Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	5500	300		mg/Kg	200	12/31/2015 9:09	Analyst: 9:41 PM	
Lab ID:	1512A71-002			,	Collection Date:	12/	15/2015 8:43:0	0 AM	
Client Sample ID:	2-20'				Matrix:	SO	IL		
Analyses		Result	RL	Qual	Units	DF	Date Analyze	d Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	1700	75	i	mg/Kg	50	12/31/2015 9:22	Analyst: 2:05 PM	
Lab ID:	1512A71-003				Collection Date:	12/	15/2015 8:54:0	0 AM	
Client Sample ID:	2-25'				Matrix:	SO	IL		
Analyses		Result	RL	Qual	Units	DF	Date Analyze	d Ba	tch ID
EPA METHOD 300	0.0: ANIONS							Analyst:	LGT
Chloride		1800	75	5	mg/Kg	50	12/31/2015 9:3	4:30 PM	23002
Lab ID:	1512A71-004				Collection Date:	12	/15/2015 9:05:0	00 AM	
Client Sample ID:	2-30'				Matrix:	SC	OIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyze	d Ba	atch ID
EPA METHOD 300	0.0: ANIONS	1600	75	;	mg/Kg	50		Analyst	
1		1000		•	mg///g		12/01/2010 0.4	0.001 1	20002
Lab ID:	1512A71-005				Collection Date:			00 AM	
Client Sample ID:	2-35'	-			Matrix:			<u> </u>	101 0 1000
Analyses		Result	RL	Qual	Units	DF	Date Analyze	d Ba	atch ID
EPA METHOD 300	0.0: ANIONS							Analyst	: LGT

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

75

mg/Kg

2000

Qualifiers:

Chloride

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3

50 12/31/2015 9:59:19 PM 23002

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

Analytical Report

DF Date Analyzed

Batch ID

Analyst: LGT

12/30/2015 1:06:47 AM 23001

Lab Order: 1512A71

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/6/2016

	ates Petroleum Corpora Union Federal SWD #1	ation		La	ıb O	rder: 15	12A71	
Lab ID: Client Sample ID:	1512A71-006 2-40'	9 050		Collection Date: Matrix:			00 AM	
Analyses	9	Result	RL Qual	Units	DF	Date Analyze	d Batch	ID
EPA METHOD 300 Chloride	0.0: ANIONS	1800	75	mg/Kg	50	12/31/2015 10:	Analyst: LG 36:34 PM 230	
Lab ID:	1512A71-007			Collection Date:	12/	15/2015 10:25	:00 AM	
Client Sample ID:	2-45'			Matrix:	SO	IL		
Analyses		Result	RL Qual	Units	DF	Date Analyze	d Batch	ID
Analyses EPA METHOD 300	0.0: ANIONS	Result	RL Qual	Units	DF		d Batch Analyst: LG	
	0.0: ANIONS	Result 700	RL Qual	Units mg/Kg	DF		Analyst: LG)T
EPA METHOD 300	0.0: ANIONS 1512A71-008		30		20	12/30/2015 3:1	Analyst: LG 3:10 PM 230)T

RL Qual Units

mg/Kg

30

Result

230

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

Qualifiers:

Analyses

Chloride

EPA METHOD 300.0: ANIONS

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

RPDLimit

1512A71

06-Jan-16

Client:

Yates Petroleum Corporation

Project:

Union Federal SWD #1

Sam	ple ID	MB-2	3001
352066	500000000	6760 mm 0000	

SampType: MBLK

TestCode: EPA Method 300.0: Anions

PBS Client ID:

Batch ID: 23001

RunNo: 31145

HighLimit

Prep Date: 12/29/2015 Analysis Date: 12/30/2015

SeqNo: 953296

Units: mg/Kg

Analyte Chloride

Result **PQL** SPK value SPK Ref Val %REC ND 1.5

TestCode: EPA Method 300.0: Anions

LowLimit

LowLimit

Sample ID LCS-23001

SampType: LCS Batch ID: 23001

RunNo: 31145

Prep Date: 12/29/2015

LCSS

Units: mg/Kg

Analysis Date: 12/30/2015

1.5

SeqNo: 953297

Qual

Analyte Chloride

Client ID:

Result PQL

SPK value SPK Ref Val %REC 15.00

SPK value SPK Ref Val

HighLimit

RPDLimit Qual

Sample ID MB-23002 Client ID:

PBS

SampType: MBLK Batch ID: 23002

TestCode: EPA Method 300.0: Anions RunNo: 31168

Units: mg/Kg

RPDLimit

RPDLimit

Analyte Chloride

Prep Date:

12/29/2015

Analysis Date: 12/30/2015 Result

ND

14

SeqNo: 954140

%REC LowLimit HighLimit

%RPD

%RPD

%RPD

Qual

Sample ID LCS-23002

Client ID: LCSS SampType: LCS

PQL

1.5

1.5

TestCode: EPA Method 300.0: Anions RunNo: 31168

Units: mg/Kg

Prep Date:

12/29/2015

Batch ID: 23002 Analysis Date: 12/30/2015

SeqNo: 954141

%RPD

Page 3 of 3

Qual

Analyte Chloride

Result PQL

14

SPK value SPK Ref Val 15.00

%REC LowLimit 92.4

90

HighLimit 110

Qualifiers:

- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits S % Recovery outside of range due to dilution or matrix
- Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- 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

Client Name: Yates Petroleum Corp	orat Work Order Numbe	r: 1512/	A71		RcptNo:	1
Received by/date:	12/23/15					
Logged By: Lindsay Mangin	12/23/2015 9:40:00 A	M		Julythogo		
Completed By: Lindsay Mangin	12/23/2015 10:25:55	AM		Julytha		
Reviewed By:	12/23/15					
Chain of Custody						
1. Custody seals intact on sample bott	les?	Yes		No []	Not Present	
2. Is Chain of Custody complete?		Yes		No []	Not Present	
3. How was the sample delivered?		Cour	<u>ier</u>			
Log In						
4. Was an attempt made to cool the sa	amples?	Yes		No 🗀	NA []	
5. Were all samples received at a temp	perature of >0° C to 6.0°C	Yes		No 🗀	NA []	
6. Sample(s) in proper container(s)?		Yes		No []		
7. Sufficient sample volume for indicate	ed 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 receive	ed broken?	Yes		No 🗹	# of preserved	
12.Does paperwork match bottle labels	2	Yes	القدا	Na [7]	bottles checked for pH:	
(Note discrepancies on chain of cus		Yes		No 🗀		or >12 unless noted)
13. Are matrices correctly identified on 0	Chain of Custody?	Yes		No []	Adjusted?	
14. Is it clear what analyses were reque	sted?	Yes		No 🗀		
15. Were all holding times able to be me (If no, notify customer for authorization)		Yes		No 🗔	Checked by:	
Special Handling (if applicable)						
16. Was client notified of all discrepanci	5	Yes		No [:]	NA 🗹	
Person Notified:	Date:				11/1 (22)	
By Whom:	Via:	l ∐ eMa	ail I] Phone [] Fax	☐ In Person	
Regarding:	Andre May for much commerce of the field of the disputer commerce of the second of the second of the second of			Janes C.Janes	[-]	
Client Instructions:					***************************************	
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Conditi		Seal Da	ate	Signed By]	
1 9.8 Good	Yes					
Page 1 of 1						

Client:	Yates P	etroleun	Yates Petroleum Corporation	X Standard	□ Rush		t	E	ANA	ANALYSIS		AB	ORAL	LABORATORY
				Project Name:	10 to				WWW	www.hallenvironmental.com		ntal.con	c	
Mailing Address:	SSS:				Union Federal SWD #1	SWD #1	45	301 Hay	4901 Hawkins NE		uquenqu	ne, NM	Albuquerque, NM 87109	
105 South 4th Street	th Stre	et Artes	Artesia, NM 88210	Project #:			-	el. 505	Tel. 505-345-3975	75 F	Fax 505	505-345-4107	1107	
Phone #:		575-513	575-513-8799 or 575-748-4111		1RP-3568	89				Analy	Analysis Request	dnest	To the second	
email or Fax样:	34	agriffin@	agriffin@yatespetroleum.com	Project Manager:	ger:									
QA/QC Package:	ge:		☐ Level 4 (Full Validation)		Amber Griffin PO # 205-2020	riffin 2020		(Gas/D						
1 ()		Č		Sampler:	Am	Amber Griffin AC		8910	(1.10				(VC	
EDD (Type)	(e)	ב ב ב		Sample Temperature:	0		-	8 P	po			(A(η-Λ(
	Tme	Matrix	Sample Request ID	Container Type and #	Preservativ e Type	HEAL NO. (ろ12パタラ)	M + X3T8 M + X3T8	Method	TPH (Meth	8310 (PNA RCRA 8 M	(7) anoinA teeq 1808	OV) 808S8	ne2) 0728	
12/15/2015	8:32	8:32 Soil	2-15	1 - 402.		100-					×			
12/15/2015	8:43	8:43 Soil	2-20,	1 - 402.		200-					×			
12/15/2015	8:54	8:54 Soil	2-25	1 - 4oz.		-683				4	×			
12/15/2015	9:05	9:05 Soil	2-30.	1 - 402.		-024					×			
12/15/2015	9:34	9:34 Soil	2-35	1 - 402.		100					×			1
12/15/2015	9:55	9:55 Soil	2-40'	1 - 402.	•	20%					×			
12/15/2015	10:25 Soil	Soil	2-45'	1 - 402.		tB-					×			
12/15/2015	10:56 Soil	Soil	2-50'	1 - 402.		200-					×			
7	Time:	Relinquished bys		Received by:	-*	Date Time	Remarks:		lions: 0	Anions: Chloride only.	only.		1	_
Date:	THE CYCLE	Relinquished by:	De Company	Received by:	42	Date Time								



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

August 24, 2015

Amber Griffin
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4111

FAX

RE: Union Federal SWD #1

OrderNo.: 1508707

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/14/2015 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1508707

Date Reported: 8/24/2015

1508707

Hall Environmental Analysis Laboratory, Inc.

CLIENT:

Yates Petroleum Corporation

Project:

Lab ID:

Analyses

Union Federal SWD #1

1508707-001

Client Sample ID: 2-10'

Collection Date: 7/29/2015 8:20:00 AM

Matrix: SOIL

Lab Order:

EPA METHOD 300.0: ANIONS

Chloride

4800

Result

150 mg/Kg

RL Qual Units

100 8/20/2015 8:01:16 PM

DF Date Analyzed

Analyst: LGT 20871

Batch ID

Lab ID:

Analyses

1508707-002

300

Collection Date: 7/29/2015 8:24:00 AM

Matrix: SOIL

Client Sample ID:

RL Qual Units

DF Date Analyzed Batch ID

6600

Result

200 8/20/2015 8:13:41 PM

Analyst: LGT

20871

Lab ID:

Chloride

1508707-003

mg/Kg

mg/Kg

Collection Date: 7/29/2015 8:28:00 AM

500 8/20/2015 8:26:05 PM

Matrix: SOIL

Analyses

Client Sample ID: 2-12'

RL Qual Units

DF Date Analyzed

DF Date Analyzed

Batch ID

20871

Analyst: LGT

EPA METHOD 300.0: ANIONS Chloride

EPA METHOD 300.0: ANIONS

Lab ID: 1508707-004 14000

Result

Result

750

Collection Date: 7/29/2015 8:32:00 AM

Matrix: SOIL

Analyses

Lab ID:

Chloride

Client Sample ID: 2-13'

1508707-005

RL Qual Units

Batch ID

EPA METHOD 300.0: ANIONS

Chloride

Client Sample ID: 3-10'

15000

750

mg/Kg

Analyst: LGT 500 8/20/2015 8:38:30 PM 20871

Collection Date: 7/29/2015 9:47:00 AM

Matrix: SOIL

Analyses

Result

RL Qual Units

DF Date Analyzed

Batch ID

EPA METHOD 300.0: ANIONS

480

30

mg/Kg

20 8/19/2015 1:50:55 PM 20871

Analyst: LGT

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 1 of 2
- P Sample pH Not In Range
- RLReporting Detection Limit

Analytical Report

Lab Order: 1508707

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:

Yates Petroleum Corporation

Project:

Lab ID:

Union Federal SWD #1

1508707-006

Client Sample ID: 3-11'

1508707

Matrix: SOIL

Lab Order:

Collection Date: 7/29/2015 9:53:00 AM

Analyses

RL Qual Units

DF Date Analyzed

Batch ID

Analyst: LGT

EPA METHOD 300.0: ANIONS

Chloride

630

Result

mg/Kg

30

20 8/19/2015 2:03:20 PM 20871

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

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 2 of 2

P Sample pH Not In Range

Reporting Detection Limit RL



Dall Environmental Analysis Laboratory 4901 Huwkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-410 / Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Yates Petroleum Corpora V	Vork Order Nymber:	15087	07	una varia de la constitució de	Ropt	No 1
Received by/date: (S)	3/14/15					
Logged By: Ashley Gallegos 8/1	4/2015 9:18:00 AM			At		
Completed By: Ashley Gallegos 8/1	4/2015 1:48:59 PM			A		
Reviewed By:	3/14/15			V		
Chain of Custody	4.17					
1. Custody seals intact on sample bottles?		Yes		No	Not Present	v
2. Is Chain of Custody complete?		Yes	V	No	Not Present	
3 How was the sample delivered?		Couri	<u>or</u>			
<u>Log In</u>						
4. Was an attempt made to cool the samples?		Yes	v	No	NA	
5. Were all samples received at a temperature of	>0° C to 6 0°C	Yes	v	No 🗌	NA .	A Primer
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	v	No		
9. Was preservative added to bottles?		Yes		No 🗸	NA	
10.VOA vials have zero headspace?		Yes		No	No VOA Vials	V.
11, Were any sample containers received broken?		Yes		No 🗸	# of preserved	
		1972	C-1		bottles checke	d
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	V	No	for pH:	(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Cu	stady?	Yes	V	No	Adjusted	1?
14. Is it clear what analyses were requested?		Yes	v	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 L	. NA	~
Person Notified:	Date	er pier in the second	-	THE RESERVE TO BE STONE OF THE	and .	
By Whom.	Via	еМ	ail	Phone F	ax In Person	
Regarding		A Light of Column Column			The state of the s	A COLUMN
Client Instructions.	Company of the Compan	Albert In Section (1989)	oct, incressing is entirely breated	anne and the second section of the second	andria a la ser en a la commencia de la cidade de la companya (a la companya (a cidade de la companya de la co	encolari.
17. Additional remarks:						
18. Cooler Information Cooler No Temp °C Condition Seal 1 5.6 Good Yes	Intact Seal No	Seal D	ate	Signed By	age of the same of	

HALL ENVIRONMENTAL	LABORATORY	I.com	3, NM 87109	505-345-4107	981					\V-ia	DV) 80828 ne2) 0758 olddu8 iiA												
ALL ENVIR	ANALYSIS LA	www.hallenvironmental.com	ns NE - Albuquerque, NM 87109	Fax	Analysis Kequest	-		ON (I	1A9 \$ 1O3,	or etal	EDB (Meth 8310 (PNA Arrions (F, 8081 Pesti	×	× 4,007 par contin	>	< :	×	×	×				Anions: Chloride only.	Date Time
	4	s	4901 Hawkins NE	Tel. 505-345-3975		luo s	(Gas) 8 Hd.	L +	387 8 bo	M + X3T8 M + X3T8 orbeM H9T rbeM) H9T								2000			Remarks:	The size (dec. /except
: Time:	d ·□ Rush	ic:	Union Federal SWD #1		1RP-3568	ager:	Amber Griffin PO # 205-2020	Amhar Griffin 11.	N D No	nperature: 5.6°C	Preservativ HEAL No.	/Oly	Not required	Not Required	Not Required	Not Required	Not Required -005	Not Required - 000				Same 06/14/15 0918	Date Time
Turn-Around Time:	X Standard	Project Name:	1	Project #:		Project Manager	a-au-lineaghteore	\top	On Ice:	Sample Temperature:	Container Type and #	404	707.	1 - 402.	1 - 402.	1 - 402.	1 - 40z.	1 - 40z.				Received by.	Received by
Chain-of-Custody Record	Corporation			ia, NM 88210	575-513-8799 or 575-748-4111	agriffin@yatespetroleum.com	Control In Transfer	Leve 4 (ruii vailualuui)			Sample Request ID	37.6	2 44,	11.2	2 - 12	2 - 13'	3 - 10'	3-11				odby Sviftin	1
in-of-Cus	Yates Petroleum Corporation		SS:	105 South 4th Street Artesia, NM 88210	575-513-		.ii			0	Time Matrix		8:20 Soil	8:24 Soil	8:28 Soil	8:32 Soil	9:47 Soil	9:53 Soil		a de Asia		Time. Relinquished by	Time: Relinquished by
Chai	Olent: Yal		Mailing Address:	105 South 4tl	# e0000	email or Fax#:	QAQC Package:	Standard	Accreditation	EDD (Top)	Date		7/29/2015	7,29/2015	7/29/2015	7/29/2015	7/29/2015	7/29/2015				Opte: Tir	3

Received by OCD: 10/7/2021 1:34:49 PM

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

State of New M

Energy Minerals and Nat By JKeyes at 9:30 am, Apr 11, 2016

RECEIVED

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



t Office in 9 NMAC.

			Kele	ase Notific	atior	i and Co	rrective A	ction				
						OPERA	ГOR		☐ Initia	al Report	\boxtimes	Final Report
Name of Co				OGRID Num	ber	Contact						- mar respons
Yates Petro	leum Corp	oration		25575		Amber Grif	fin					
Address						Telephone 1						
104 S. 4 th S						575-748-14	5355					
Facility Na		92				Facility Typ	е					
Union Fede	eral SWD #	#1				Battery						
Surface Ow	ner	The state of the s		Mineral O	wner				API No			
Federal				Federal					30-025			
				LOCA	TIO	N OF REI	FACE					
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	Fact/V	Vest Line	County		
J	8	21S	32E	1980		South	1980	1	East	Lea		
L							75.30			200		
				Latitude 32.4	9136	_Longitude	103.69418				200	
-				NAT	URE	OF REL	EASE					
Type of Rele				Wante		Volume of	Release			Recovered		
Produced Wa			S-11-VI			10 B/PW			10 B/PW			
Source of Re Water transfe						3/9/2015; A	lour of Occurrence	e	3/9/2015;	Hour of Dis	covery	
Was Immedi		Given?	Yes	No Not Re	auired		Whom? N/A		3/9/2013,	AIVI		No. of the Control of the Control
By Whom?					1	Date and H						
Was a Water		ched?	Yes 🛛	No	talline verse	200 - 100 -	olume Impacting t	the Wate	ercourse			
						11 125, 10		ine wate	acourse.			
		pacted, Descr em and Reme		T-1 *				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Ø	
					ter com	ing to the loc	ation, causing the	etorage	tanks to o	verflow and	roloono	maduard
water. Wells	s were shut	in or produce	d water was	sent to another S	Salt Wat	ter Disposal f	acility. Vacuum ti	ruck(s) v	vere called	to recover t	he snill	produced
Describe Are	ea Affected	and Cleanup	Action Take	en.*								- And Harrison - III
An approxim	nate area of	30'X 20' with	nin an unlin	ed bermed tank b	attery.	Vacuum truck	s were called and	d recove	red all of th	ne produced	water r	eleased.
Impacted sor	lls will be ex	cavated /hau	led to a NM	OCD approved f	acility.	Vertical and	horizontal deline	ation sar	nples will	be taken and	l analys	sis ran for
be submitted	to the OCI	or documents of the content of the c	losure If th	muai anaiyucai i ne analytical resu	esuits i Its are a	or IPH & B.	TEX are under RR AL a work plan w	(AL'S (S	ite ranking	the OCD I	l Repor	t, C-141 will
Water: >100	0' (approxi	mately 100',	per Chevro	nTexaco Trend	Map),	Wellhead Pi	otection Area: N	lo. Dista	ince to Sui	rface Water	r Body:	o Ground : >1000'.
SITE RANK	KING IS 0.	Yates Petrol	leum reque	sts closure base	d off al	l work being	completed as pe	r NMO	CD appro	ved work p	lan. 4'	of
contaminate	ed soils wer	e excavated f	rom the re	lease area, a 20	mil line	er was install	ed in the bottom	of the	excavation	, and the ex	cavatio	on was
I hereby cert	Contamina	information of	e taken to I	R360 Environme	ental Sc	backast of mu	ighway 62/180. knowledge and u		. 1 41	ND (OOD	
regulations a	all operators	are required t	to report an	d/or file certain re	elease n	otifications a	nd perform correct	inderstai	ions for rel	suant to NM eases which	OCD n	ules and
public health	or the envi	ronment. The	e acceptance	e of a C-141 repo	rt by th	e NMOCD m	arked as "Final R	eport" d	loes not rel	ieve the ope	rator of	fliability
should their	operations l	nave failed to	adequately	investigate and re	emediat	by the NMOCD marked as "Final Report" does not relieve the operator of liability nediate contamination that pose a threat to ground water, surface water, human healt						man health
or the enviro	nment. In	addition, NMO	OCD accept	ance of a C-141	report d	loes not reliev	e the operator of	responsi	ibility for c	ompliance v	vith any	y other
federal, state	e, or local la	ws and/or reg	ulations.			OH CONGERNALENCE DWINGSON						
		1	0			OIL CONSERVATION DIVISION						
Signature:	(M	nber	4 1									
			()		Approved by	Environmental S	necialis	t: Jamit	2 Viyer		
Printed Name: Amber Griffin												
Title: NM E	nvironment	al Regulatory	Agent		Approval Date: 04/11/2016 Expiration Date: ///							
E-mail Addr	ess: agriffir	@yatespetrol	eum.com			Conditions o	f Approval:			Attached	ı 🗆	
Date: April (6. 2016		Phone	575-748-4111	1RP-3568 Attached							
		ets If Necess		0.0 110 1111		111 3300						

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

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

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

THE SHARE SWINGLED INCOME THE STREET				Sai	nta Fe	, NM 875	05					
			Rele	ase Notific	ation	and Co	rrective A	ction				
						OPERAT	ΓOR		☐ Initis	ıl Report	\boxtimes	Final Report
Name of Co	mpany			OGRID Num	her	Contact	OK			ii Report		rmai Report
Yates Petrol		oration		25575	- 1	Amber Grift	fin					
Address				20070		Telephone N		-1.1				
104 S. 4 th St	treet					575-748-14°						
Facility Nar						Facility Typ						
Union Feder		[‡] 1			10.00	Battery	•					
Surface Ow	ner			Mineral O	wner				API No			
Federal				Federal					30-025-	31412		
				LOCA	TIOI	OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/W	est Line	County		
J	8	21S	32E	1980		South	1980		East	Lea		
				Latitude 32.4	0136	Longitude	103 60418					
				NAT	URE	OF REL	Carter Control					
Type of Rele						Volume of	Release		Volume I			
Produced Wa Source of Re		10				300 B/PW	ICO		300 B/PV			
Water transfe	D/D/02/2015					3/10/2015;	Iour of Occurrenc	e	3/10/2015	Hour of Dis	covery	
Was Immedia		Given?	Yes 🗌	No Not Re	quired		Who? Tomas C	herding				
		N	500000	223-23-22	quired			-				
Was a Water		ner/Yates Petro					Iour 3/10/2015;					
was a water	course Read	sned!	i es 🔼	140		11 1ES, VC	olume Impacting t	ne wate	ercourse.			
	If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.*											
									52 2 2 53	22		
The water tra	inster pump	could not kee	ep up with	the amount of was s sent to another S	ter com	ing to the loc	ation, causing the	storage	tanks to o	verflow and	release	produced
		and Cleanup			bail wai	er Disposar i	acmity. Vacuum ti	ruck(s) (vere caned	to recover t	ne spiii	
				ned bermed tank b	atterv.	Vacuum trucl	cs were called and	l recove	red all of th	ne produced	water r	released
Impacted soi	ls will be ex	xcavated /haul	ed to a NN	AOCD approved f	acility.	Vertical and	horizontal deline	ation sar	nples will	be taken and	analys	sis ran for
TPH & BTE	X (chloride	s for documen	tation). If	initial analytical	results f	for TPH & B	ΓEX are under RF	RAL's (s	ite ranking	is 0) a Fina	Repor	t, C-141 will
be submitted	to the OCI	requesting c	losure. If	the analytical resu	lts are a	bove the RR.	AL a work plan w	ill be su	bmitted to	the OCD. I	epth t	o Ground
Water: >100)' (approxi	mately 100',	per Chevi	onTexaco Trend	Map),	Wellhead Pi	otection Area: N	lo, Dista	ince to Su	rface Water	Body:	: >1000',
contaminate	AING 15 U.	rates retroi	rom the r	ests closure base elease area, a 20	a on an mil line	i work being er was install	ed in the bottom	of the	CD appro	ved work pl	an. 4'	of was
				R360 Environme				of the t	Acavation	, and the ca	cavati	on was
I hereby certi	ify that the	information g	iven above	is true and comp	lete to t	he best of my	knowledge and u	ınderstaı	nd that pur	suant to NM	OCD r	ules and
regulations a	ll operators	are required t	o report ar	nd/or file certain re	elease n	otifications a	nd perform correct	ctive act	ions for rel	eases which	may er	ndanger
public health	or the envi	ironment. The	e acceptant	ce of a C-141 repo	rt by th	e NMOCD m	arked as "Final R	eport" d	loes not rel	ieve the ope	rator of	fliability
should their	operations l	nave failed to	adequately	investigate and re	emediat	e contaminat	ion that pose a thr	reat to gr	ound wate	r, surface wa	iter, hu	man health
				otance of a C-141	report d	oes not reliev	e the operator of	responsi	ibility for c	ompliance v	vith any	y other
federal, state	, or local la	ws and/or reg	ulations.			The second secon	OH GOV	CEDY	A MICON	DIVION	N T	
			-				OIL CON	SERV	ATION	DIVISIO	<u>)N</u>	
Signature:	(Umb	res Gra	Ittin									
			W			Approved by	Environmental S	necialis	.			
Printed Nam	e: Amber C	riffin					Environmental 5	pecians				
T241 ND 4 T		al Da1	A ===+			A 15				D.		
Title: NM Ei	nvironment	al Regulatory	Agent			Approval Da	te:		Expiration	Date:		
E-mail Addr	ess: agriffir	a@yatespetrol	eum.com			Conditions o	f Approval:			25 3/20 10		
2 mail riddi	-co. ugiiiiii	- Jacopou of				Conditions	. Approvai.			Attached		
Date: April 6	5, 2016		Phone:	575-748-4111		1RP-3568						

Appendix C

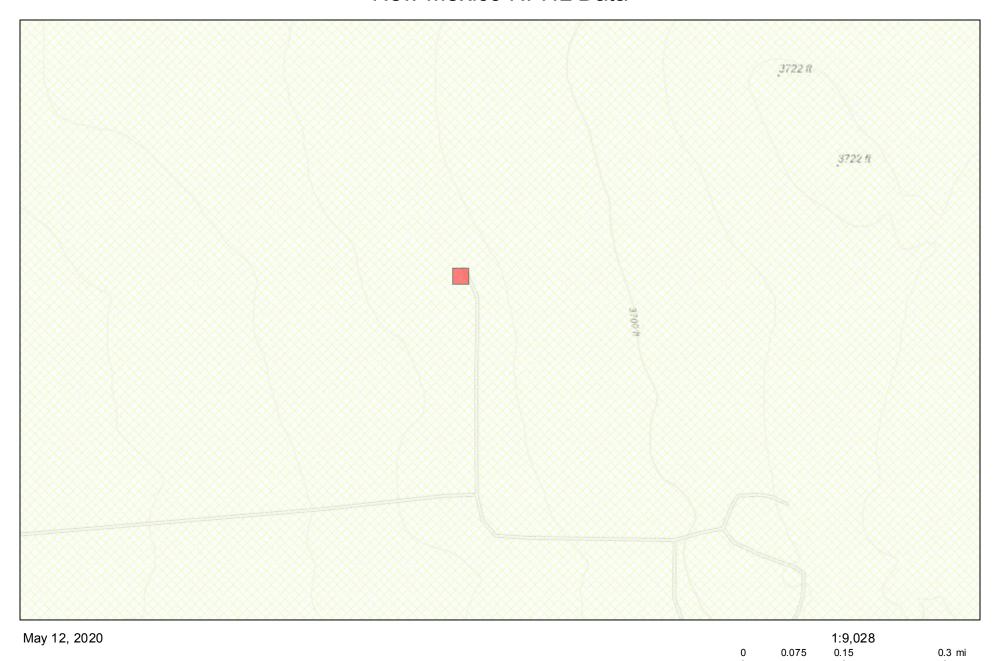


National Water Information System: Mapper



Site Information

New Mexico NFHL Data



0.4 km

Page 89 of 130

0.1



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:		Geographic Area:		
Groundwater	▼	New Mexico	▼	GO

Click to hideNews Bulletins

- **Notice** The USGS Water Resources Mission Area's priority is to maintain the safety and well-being of our communities, including providing critical situational awareness in times of flooding in all 50 U.S. states and additional territories. Our hydrologic monitoring stations continue to send data in near real-time to NWISWeb, and we are continuing critical water monitoring activities to protect life and property on a case-by-case basis. The health and safety of the public and our employees are our highest priorities, and we continue to follow guidance from the White House, the CDC, and state and local authorities.
- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs site no list =

• 323039103432501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 323039103432501 21S.32E.06.11131

Lea County, New Mexico

Latitude 32°30'39", Longitude 103°43'25" NAD27

Land-surface elevation 3,606 feet above NAVD88

The depth of the well is 55 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data

Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1965-12-01		D	42.50			2		U		U
1968-05-29		D	45.34			2	P	U		U
1971-02-03		D	44.04			2	R	. U		U
1976-02-25		D	43.66			2		U		U
1981-03-10		D	46.21			2		U		U
1986-03-21		D	48.64			2		U		U

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	Р	Site was being pumped.
Status	R	Site had been pumped recently.

USGS Groundwater for New Mexico: Water Levels -- 1 sites

Section	Code	Description
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	Α	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals <u>Help</u> Data Tips **Explanation of terms** Subscribe for system changes **News**

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2020-05-12 14:06:30 EDT

0.25 0.23 nadww01





New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW#### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

	POD Sub-		0 0							Donth	Donth	Weter
POD Number	Code basin	County				Tws	Rng	х	Υ	•	Depth Water	Column
CP 00793 POD1	CP	LE	1 1	2	01	21S	32E	628932	3598270* 🌍	1000		
CP 01701 POD1	СР	LE	1	3	35	21S	32E	626652	3589283 🎒	840	560	280

Average Depth to Water: 560 feet

> Minimum Depth: 560 feet

> 560 feet Maximum Depth:

Record Count: 2

Basin/County Search:

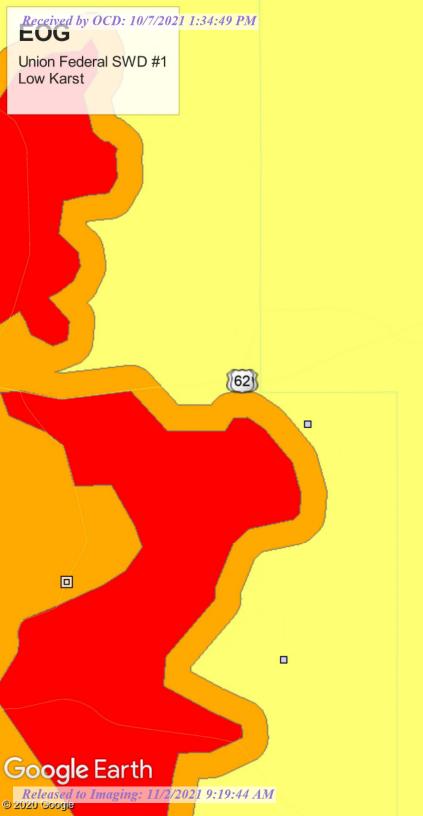
County: Lea

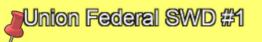
PLSS Search:

Township: 21S Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.







Water Well Data Average Depth to Groundwater (ft) Union Federal SWD #1 Lea County, New Mexico

3		outh		2 East			20 S	outh	33	East			20 Sc	outh	3	4 East
	5	4	3	2	1	6	5 325	4	3	2	1	6	5	4 125	3	2
					21.8		278									
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8	17	16	15	14	13	18	17	16	15	14	13	18	17 1 28	16	15	14
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					46											
		<u>.</u>	1		70		<u> </u>				<u> </u>			_		
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	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2 79
					1 1											107
7	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11 1
			4.5		40	10	4-7	10	1		40	10	4-7	40	4.5	1
8	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14
		630														
9	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23
80	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26
					1 1									179		
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33 180	34	35
		SITE											-			
		JOHL			_			1	ı	1						
	22 S	outh	3	1 East	:		22 S	outh	32	2 East			22 Sc	outh	3	3 Eas
	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2
	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11
					1 1											
8	17	16	15	14	13	18	17	16	15	14 382	13	18	17	16	15	14
		448								350		1				
9	20	21	22	23	24	19 (S)	20	21	22	23	24	19	20	21	22	23
	47					280							1			
80	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26
	413	444														
	413	33 325		35	36	31	32	33	34	35	36	31	32	33	34	35

- 88 New Mexico State Engineers Well Reports
- 105 USGS Well Reports
- 90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6) Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34 NMOCD Groundwater Data
- 123 Tetra Tech installed temporary wells and field water level
- 143 NMOCD Groundwater map well location

Appendix D

Environment Testing

Certificate of Analysis Summary 688169

Tetra Tech- Midland, Midland, TX

Project Name: Union AJS Federal #1

Project Id: Contact:

💸 eurofins

Project Location:

Brittany Long

Lea County, New Mexico

Date Received in Lab: Thu 02.11.2021 15:41

Report Date: 02.18.2021 14:59

Project Manager: Jessica Kramer

	Lab Id:	688169-0	001	688169-0	002	688169-0	003	688169-0	004	688169-0	005	688169-0)06
Analysis Paguastad	Field Id:	SW-1		SW-2		SW-3		SW-4		SW-5		SW-6	
Analysis Requested	Depth:												
	Matrix:	SOIL	,	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	02.11.2021	02.11.2021 00:00		00:00	02.11.2021	00:00	02.11.2021	00:00	02.11.2021 00:00		02.11.2021	00:00
BTEX by EPA 8021B	Extracted:	02.12.2021	02.12.2021 10:00		10:00	02.12.2021	10:00	02.12.2021	10:00	02.12.2021	10:00	02.12.2021	10:00
	Analyzed:	02.13.2021 03:58		02.13.2021	04:24	02.13.2021	04:51	02.13.2021	05:17	02.13.2021	05:44	02.13.2021	06:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198	0.00285	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
Toluene		< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00199	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
Ethylbenzene		< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00199	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
m,p-Xylenes		< 0.00403	0.00403	< 0.00398	0.00398	< 0.00396	0.00396	< 0.00398	0.00398	< 0.00403	0.00403	< 0.00401	0.00401
o-Xylene		< 0.00202	0.00202	0.00264	0.00199	0.00250	0.00198	0.00296	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
Total Xylenes		< 0.00202	0.00202	0.00264	0.00199	0.00250	0.00198	0.00296	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
Total BTEX		< 0.00202	0.00202	0.00264	0.00199	0.00250	0.00198	0.00581	0.00199	< 0.00202	0.00202	< 0.00200	0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	02.11.2021	21:20	02.11.2021 21:20		02.11.2021	21:20	02.11.2021	21:20	02.11.2021	21:20	02.11.2021	21:20
	Analyzed:	02.12.2021	08:45	02.12.2021	09:01	02.12.2021	09:06	02.12.2021	09:22	02.12.2021	09:27	02.12.2021	09:33
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		46.7 HF	5.01	53.4 HF	5.00	60.7 HF	4.99	51.7 HF	5.03	60.9 HF	5.02	53.7 HF	5.03
TPH By SW8015 Mod	Extracted:	02.12.2021	12:00	02.12.2021	12:00	02.12.2021	12:00	02.12.2021	12:00	02.12.2021	12:00	02.12.2021	12:00
	Analyzed:	02.12.2021	02.12.2021 12:27		13:32	02.12.2021	13:53	02.12.2021	14:14	02.12.2021	14:36	02.12.2021	14:57
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	< 50.0	50.0	<49.9	49.9	<49.9	49.9	< 50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	< 50.0	50.0	<49.9	49.9	<49.9	49.9	< 50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	< 50.0	50.0	<49.9	49.9	<49.9	49.9	< 50.0	50.0
Total TPH		<49.9	49.9	<49.9	49.9	< 50.0	50.0	<49.9	49.9	<49.9	49.9	< 50.0	50.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Vramer

Analytical Report 688169

for

Tetra Tech- Midland

Project Manager: Brittany Long

Union AJS Federal #1

02.18.2021

Collected By: Client



1211 W. Florida Ave Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054) Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24) Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21) Xenco-Carlsbad (LELAP): Louisiana (05092) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8) Xenco-Tampa: Florida (E87429), North Carolina (483)



02.18.2021

Project Manager: Brittany Long

Tetra Tech- Midland 901 West Wall ST Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): 688169

Union AJS Federal #1

Project Address: Lea County, New Mexico

Brittany Long:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 688169. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 688169 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id
SW-1	S	02.11.2021 00:00	688169-001
SW-2	S	02.11.2021 00:00	688169-002
SW-3	S	02.11.2021 00:00	688169-003
SW-4	S	02.11.2021 00:00	688169-004
SW-5	S	02.11.2021 00:00	688169-005
SW-6	S	02.11.2021 00:00	688169-006

CASE NARRATIVE

Client Name: Tetra Tech- Midland Project Name: Union AJS Federal #1

Project ID: Report Date: 02.18.2021 Work Order Number(s): 688169 Date Received: 02.11.2021

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3150840 Inorganic Anions by EPA 300/300.1

Chloride recovered above QC limits in the laboratory control sample indicating a potential high bias.

Samples in the analytical batch are: 688169-001, -002, -003, -004, -005, -006.

Chloride RPD was outside laboratory control limits.

Samples in the analytical batch are: 688169-001, -002, -003, -004, -005, -006

Batch: LBA-3150999 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Samples affected are: 7721488-1-BLK. Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 688169-006.

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-1** Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Lab Sample Id: 688169-001 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: CHE

CHE Analyst:

Seq Number: 3150840

02.11.2021 21:20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.7	5.01	mg/kg	02.12.2021 08:45	HF	1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

DVM Tech:

ARM Analyst:

% Moisture: Date Prep: 02.12.2021 12:00 Basis:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	02.12.2021 12:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	02.12.2021 12:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	02.12.2021 12:27	U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	02.12.2021 12:27	U	1
Surrogate	C	as Number	% Recovery	Units	Limits	Analysis Date	Flag	

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	114	%	70-130	02.12.2021 12:27
o-Terphenyl	84-15-1	126	%	70-130	02.12.2021 12:27

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-1 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-001 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1
Toluene	108-88-3	< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403	mg/kg	02.13.2021 03:58	U	1
o-Xylene	95-47-6	< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1
Total BTEX		< 0.00202	0.00202	mg/kg	02.13.2021 03:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.13.2021 03:58	
4-Bromofluorobenzene	460-00-4	78	%	70-130	02.13.2021 03:58	

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-2** Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Lab Sample Id: 688169-002 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: CHE

Analyst:

CHE Seq Number: 3150840

02.11.2021 21:20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Wet Weight

Flag

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.4	5.00	mg/kg	02.12.2021 09:01	HF	1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

DVM Tech:

% Moisture: ARM Analyst: Date Prep: 02.12.2021 12:00 Basis:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.12.2021 13:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.12.2021 13:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.12.2021 13:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.12.2021 13:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	97	%	70-130	02.12.2021 13:32
o-Terphenyl	84-15-1	105	%	70-130	02.12.2021 13:32

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-2 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-002 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199	mg/kg	02.13.2021 04:24	U	1
Toluene	108-88-3	< 0.00199	0.00199	mg/kg	02.13.2021 04:24	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199	mg/kg	02.13.2021 04:24	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398	mg/kg	02.13.2021 04:24	U	1
o-Xylene	95-47-6	0.00264	0.00199	mg/kg	02.13.2021 04:24		1
Total Xylenes	1330-20-7	0.00264	0.00199	mg/kg	02.13.2021 04:24		1
Total BTEX		0.00264	0.00199	mg/kg	02.13.2021 04:24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	70-130	02.13.2021 04:24	
4-Bromofluorobenzene	460-00-4	120	%	70-130	02.13.2021 04:24	

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-3 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-003 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: CHE

Analyst: CHE

Seq Number: 3150840

Date Prep: 02.11.2021 21:20

% Moisture:

Basis: Wet Weight

Prep Method: E300P

Analysis Date Parameter Cas Number Result RL Units Flag Dil Chloride 16887-00-6 02.12.2021 09:06 HF 60.7 4.99 mg/kg 1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 02.12.2021 12:00

Prep: 02.12.2021 12:00 % Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	< 50.0	50.0		mg/kg	02.12.2021 13:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	< 50.0	50.0		mg/kg	02.12.2021 13:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	< 50.0	50.0		mg/kg	02.12.2021 13:53	U	1
Total TPH	PHC635	< 50.0	50.0		mg/kg	02.12.2021 13:53	U	1
Surrogate	C	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	106	%	70-130	02.12.2021 13:53
o-Terphenyl	84-15-1	120	%	70-130	02.12.2021 13:53

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-3 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-003 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
71-43-2	< 0.00198	0.00198	mg/kg	02.13.2021 04:51	U	1
108-88-3	< 0.00198	0.00198	mg/kg	02.13.2021 04:51	U	1
100-41-4	< 0.00198	0.00198	mg/kg	02.13.2021 04:51	U	1
179601-23-1	< 0.00396	0.00396	mg/kg	02.13.2021 04:51	U	1
95-47-6	0.00250	0.00198	mg/kg	02.13.2021 04:51		1
1330-20-7	0.00250	0.00198	mg/kg	02.13.2021 04:51		1
	0.00250	0.00198	mg/kg	02.13.2021 04:51		1
	71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	71-43-2 <0.00198 108-88-3 <0.00198 100-41-4 <0.00198 179601-23-1 <0.00396 95-47-6 0.00250 1330-20-7 0.00250	71-43-2	71-43-2	71-43-2	71-43-2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	02.13.2021 04:51	
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.13.2021 04:51	

Xenco

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-4** Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Lab Sample Id: 688169-004 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: CHE

CHE Analyst:

Seq Number: 3150840

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Prep Method: SW8015P

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.7	5.03	mg/kg	02.12.2021 09:22	HF	1

Analytical Method: TPH By SW8015 Mod

DVM Tech:

Analyst: Seq Number: 3151060

ARM

Date Prep:

02.12.2021 12:00

02.11.2021 21:20

% Moisture:

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	02.12.2021 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	02.12.2021 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	02.12.2021 14:14	U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	02.12.2021 14:14	U	1
Surrogate	(Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-4 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-004 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00285	0.00199		mg/kg	02.13.2021 05:17		1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	02.13.2021 05:17	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	02.13.2021 05:17	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	02.13.2021 05:17	U	1
o-Xylene	95-47-6	0.00296	0.00199		mg/kg	02.13.2021 05:17		1
Total Xylenes	1330-20-7	0.00296	0.00199		mg/kg	02.13.2021 05:17		1
Total BTEX		0.00581	0.00199		mg/kg	02.13.2021 05:17		1
Surrogate	Ca	as Number	% Recovery	Units	Limits	Analysis Date	Flag	

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	79	%	70-130	02.13.2021 05:17	
1,4-Difluorobenzene	540-36-3	72	%	70-130	02.13.2021 05:17	

Xenco

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-5** Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Date Collected: 02.11.2021 00:00 Lab Sample Id: 688169-005

Analytical Method: Inorganic Anions by EPA 300/300.1

CHE Tech:

Analyst: CHE

Seq Number: 3150840

02.11.2021 21:20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	60.9	5.02	mg/kg	02.12.2021 09:27	HF	1

Analytical Method: TPH By SW8015 Mod

Tech: DVM

ARM Analyst: Seq Number: 3151060

Date Prep: 02.12.2021 12:00 % Moisture:

Basis: Wet Weight

Flag

Prep Method: SW8015P

Cas Number Result RL**Parameter** Units **Analysis Date** Flag Dil Gasoline Range Hydrocarbons (GRO) PHC610 U <49.9 49.9 02.12.2021 14:36 mg/kg 1 Diesel Range Organics (DRO) C10C28DRO <49.9 49.9 02.12.2021 14:36 U mg/kg 1 Motor Oil Range Hydrocarbons (MRO) 02.12.2021 14:36 PHCG2835 <49.9 49.9 mg/kg U 1 Total TPH U PHC635 <49.9 49.9 mg/kg 02.12.2021 14:36

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	99	%	70-130	02.12.2021 14:36
o-Terphenyl	84-15-1	110	%	70-130	02.12.2021 14:36

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: SW-5 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-005 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Seq Number: 3150999

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1
Toluene	108-88-3	< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403	mg/kg	02.13.2021 05:44	U	1
o-Xylene	95-47-6	< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1
Total BTEX		< 0.00202	0.00202	mg/kg	02.13.2021 05:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.13.2021 05:44	
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.13.2021 05:44	

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-6** Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Lab Sample Id: 688169-006 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

CHE Tech:

Analyst: CHE

Seq Number: 3150840

02.11.2021 21:20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.7	5.03	mg/kg	02.12.2021 09:33	HF	1

Analytical Method: TPH By SW8015 Mod

Tech:

Total TPH

DVM

ARM Analyst: Seq Number: 3151060 Date Prep:

PHC635

02.12.2021 12:00

mg/kg

% Moisture:

Basis: Wet Weight

02.12.2021 14:57

U

Flag

Prep Method: SW8015P

Cas Number Result RL**Parameter** Units **Analysis Date** Flag Dil Gasoline Range Hydrocarbons (GRO) PHC610 U < 50.0 50.0 02.12.2021 14:57 mg/kg Diesel Range Organics (DRO) C10C28DRO 50.0 02.12.2021 14:57 U < 50.0 mg/kg 1 Motor Oil Range Hydrocarbons (MRO) 02.12.2021 14:57 PHCG2835 < 50.0 50.0 mg/kg U 1

50.0

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	108	%	70-130	02.12.2021 14:57
o-Terphenyl	84-15-1	125	%	70-130	02.12.2021 14:57

< 50.0

Wet Weight

Certificate of Analytical Results 688169

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: **SW-6** Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688169-006 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

% Moisture: KTL Analyst: Date Prep: 02.12.2021 10:00 Basis:

Seq Number: 3150999

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	02.13.2021 06:10	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	02.13.2021 06:10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	91	%	70-130	02.13.2021 06:10		
4-Bromofluorobenzene		460-00-4	140	%	70-130	02.13.2021 06:10	**	



Flagging Criteria

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

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample BLK Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample BKSD/LCSD Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate MS Matrix Spike MSD: Matrix Spike Duplicate

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

E300P

E300P

E300P

SW8015P

Flag

Prep Method:

QC Summary 688169

🍪 eurofins **Environment Testing** Xenco

Tetra Tech- Midland

Union AJS Federal #1

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method:

Seq Number: 3150840 Matrix: Solid Date Prep: 02.11.2021 LCS Sample Id: 7721358-1-BKS LCSD Sample Id: 7721358-1-BSD MB Sample Id: 7721358-1-BLK

LCS RPD MB Spike LCS Limits %RPD Units Analysis LCSD LCSD Flag **Parameter** Result Amount Result %Rec Result %Rec Limit Date

Chloride < 5.00 250 319 128 257 90-110 22 20 02.11.2021 22:54 103 mg/kg HF

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3150840 Matrix: Soil Date Prep: 02.11.2021

688105-044 S 688105-044 MS Sample Id: MSD Sample Id: 688105-044 SD Parent Sample Id:

Parent Spike MS MS MSD MSD Limits %RPD RPD Units Analysis **Parameter** Flag Result Amount Result %Rec %Rec Limit Date Result 02.11.2021 23:10 Chloride 487 252 728 96 738 100 90-110 1 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: 3150840 Seq Number: Matrix: Date Prep: 02.11.2021

MS Sample Id: 688169-001 S MSD Sample Id: 688169-001 SD Parent Sample Id: 688169-001

Spike **RPD Parent** MS MS %RPD Units MSD **MSD** Limits Analysis Flag **Parameter** Result Result Limit Date Amount %Rec Result %Rec Chloride 251 107 20 02.12.2021 08:50 46.7 316 313 106 90-110 1 mg/kg

Analytical Method: TPH By SW8015 Mod

Prep Method: 3151060 Matrix: Solid Seq Number: Date Prep: 02.12.2021

MB Sample Id: 7721492-1-BLK LCS Sample Id: 7721492-1-BKS LCSD Sample Id: 7721492-1-BSD

MB Spike LCS LCS LCSD LCSD Limits %RPD **RPD** Units Analysis **Parameter** Result Limit Date Result Amount %Rec %Rec Result Gasoline Range Hydrocarbons (GRO) 02.12.2021 11:44 70-130 20 < 50.0 1000 996 100 943 94 5 mg/kg 02.12.2021 11:44 Diesel Range Organics (DRO) 971 963 96 70-130 20 < 50.0 1000 97 1 mg/kg

LCS MBMB LCS LCSD Limits Units Analysis LCSD **Surrogate** Flag %Rec %Rec Flag Date Flag %Rec 02.12.2021 11:44 1-Chlorooctane 112 111 110 70-130 % 02.12.2021 11:44 o-Terphenyl 130 126 122 70-130 %

SW8015P Analytical Method: TPH By SW8015 Mod Prep Method:

Seq Number: 3151060 Matrix: Solid Date Prep: 02.12.2021

MB Sample Id: 7721492-1-BLK

MBUnits Analysis Flag **Parameter** Result Date Motor Oil Range Hydrocarbons (MRO) 02.12.2021 11:23 < 50.0 mg/kg

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference

[D] = 100*(C-A) / B $RPD = 200* \mid (C-E) \mid (C+E) \mid$ [D] = 100 * (C) / [B]

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample = Parent Result

= MS/LCS Result = MSD/LCSD Result MS = Matrix Spike B = Spike AddedD = MSD/LCSD % Rec

Flag

Flag

QC Summary 688169

Tetra Tech- Midland

Union AJS Federal #1

Analytical Method: TPH By SW8015 Mod

SW8015P Prep Method: Date Prep: 02.12.2021

Seq Number: 3151060 Parent Sample Id: 688169-001

Matrix: Soil MS Sample Id: 688169-001 S

MSD Sample Id: 688169-001 SD

RPD **Parent** Spike MS MS Limits %RPD Units Analysis MSD MSD **Parameter** Result Amount Result %Rec Result %Rec Limit Date Gasoline Range Hydrocarbons (GRO) < 50.0 999 1050 105 20 02.12.2021 12:48 1040 104 70-130 1 mg/kg 02.12.2021 12:48 Diesel Range Organics (DRO) < 50.0 999 1030 103 1010 70-130 2 20 mg/kg 101

MS MS MSD Limits Units Analysis MSD **Surrogate** Flag Flag Date %Rec %Rec 02.12.2021 12:48 1-Chlorooctane 109 106 70-130 % 02.12.2021 12:48 o-Terphenyl 114 117 70-130 %

Analytical Method: BTEX by EPA 8021B

3150999

Matrix: Solid

SW5035A

Seq Number: MB Sample Id:

Seq Number:

Parent Sample Id:

7721488-1-BLK

LCS Sample Id: 7721488-1-BKS Date Prep: 02.12.2021

LCSD Sample Id: 7721488-1-BSD

Prep Method:

MB Spike LCS LCS LCSD Limits %RPD **RPD** Units Analysis LCSD **Parameter** Result Amount Result %Rec Result %Rec Limit Date 02.12.2021 18:42 < 0.00200 0.100 0.109 109 0.107 35 Benzene 107 70-130 2 mg/kg 02.12.2021 18:42 Toluene < 0.00200 0.100 0.110 110 0.109 109 70-130 1 35 mg/kg 02.12.2021 18:42 0.100 0.113 0.111 70-130 2 35 Ethylbenzene < 0.00200 113 111 mg/kg 02.12.2021 18:42 < 0.00400 0.200 0.222 111 0.218 109 70-130 2 35 m,p-Xylenes mg/kg 02.12.2021 18:42 < 0.00200 0.100 0.112 112 0.111 70-130 35 o-Xylene 111 mg/kg

MB MB LCS LCS LCSD Limits LCSD Units Analysis Surrogate %Rec Flag %Rec Flag Flag Date %Rec 02.12.2021 18:42 1,4-Difluorobenzene 117 96 96 70-130 % % 02.12.2021 18:42 4-Bromofluorobenzene 89 116 115 70-130

Analytical Method: BTEX by EPA 8021B

3150999

SW5035A Prep Method:

Date Prep: 02.12.2021

Matrix: Soil MS Sample Id: 688219-001 S MSD Sample Id: 688219-001 SD 688219-001

RPD Parent Spike MS MS MSD **MSD** Limits %RPD Units Analysis Flag **Parameter** Limit Date Result Amount Result %Rec %Rec Result 02.12.2021 19:35 0.000527 0.0990 0.0935 94 0.0823 70-130 13 35 Benzene 81 mg/kg 02.12.2021 19:35 70-130 35 Toluene 0.00510 0.0990 0.0956 91 0.0855 80 11 mg/kg Ethylbenzene 0.00442 0.0990 0.0969 93 0.0874 82 70-130 10 35 02.12.2021 19:35 mg/kg 52 35 02.12.2021 19:35 m,p-Xylenes 0.0879 0.198 0.191 0.171 41 70-130 11 mg/kg X 0.0282 0.0990 0.0971 70 0.0874 70-130 35 mg/kg 02.12.2021 19:35 X o-Xylene 59 11

MS MS **MSD MSD** Limits Units Analysis Surrogate Flag Flag %Rec %Rec Date 02.12.2021 19:35 1,4-Difluorobenzene 94 83 70-130 % 02.12.2021 19:35 4-Bromofluorobenzene 119 110 70-130 %

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference

[D] = 100*(C-A) / B $RPD = 200* \mid (C-E) \mid (C+E) \mid$ [D] = 100 * (C) / [B]

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample = Parent Result = MS/LCS Result

= MSD/LCSD Result

MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

James Kennedy Sample Sampler Signature: Samp	Analysis Request of Client Name: Project Name: Project Location: (county, state)	Client Name: EOG Project Location: (county, state) Chain of Custody Record Tetra Tech, Inc. Inc. Record Client Name: EOG Project Location: Lea County, New Mexico	Site Manager: Project #:	Br		900 West Wa Midland, Tel (43: Fax (43: ittany Lo	900 West Wall Street, Midland, Texas 79: Tel (432) 682-45: Fax (432) 682-39 Brittany Long	900 West Wall Street, Ste 100 Midland,Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946 rittany Long	treet, Ste as 79701 82-4559 82-3946	R2-4559	treet, Ste as 79701 82-4559 82-3946	treet, Ste as 79701 82-4559 82-3946	treet, Ste 100 as 79701 82-4559 82-3946	treet, Ste 100 82-79701 82-4569 82-3946	treet, Ste 100 as 79701 82-4559 82-3946	rucet, Sie 100 28 79701 28 79701 28 79701 28 79701 28 79701 29 79701 20 797	rteet, Ste 100 as 79701 as 79701 cas	(Circle or Specify Method No	Treet, Sie 100 ANALYSIS REQUEST (Circle or Specify Method No	(Circle or Specify Method No.)	(Circle or Specify Method No	### ##################################	(Circle or Specify Method No								
Sampler Signature: Devin Dominguez	Project Location: (county, state)	Lea County, New Mexico	Project #:							1															t)	t)	t)	t)	t)	t)	t)
Sample identification Sample Signature Devin Dominguez	Invoice to:	James Kennedy			'					L	RO)														ned list	hed list	hed list	ned list	hed list	ned list	ned list
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SAMPLE IDENTIFICATION SAMPLING MATRIX PRESENTATIVE MATRIX PRESENTATIVE MATRIX PRESENTATIVE MATRIX PRESENTATIVE MATRIX PRESENTATIVE MATRIX	Comments:																	J/625													
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SW-1 2/1/2021 TIME: Received by: Date: Time: Received by: Date: Time: Sample Temperature ONLY Swapperstands Time: Sample Temperature Ticl.P. Sk. Ticl.P.	LAB#	SAMPLE IDENTIFICATION	YEAR: 2021	R				TAINE	ED (Y/						emi Vo				002/0		L .			Su	Su	Sul Water	e Sul Water ation E	e Sul Water ation E	e Sul Water ation E	e Sul Water ation E	e Sul Water ation E
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SW-3 2/11/2021 X X 1 N X X SW-4 SW-5 2/11/2021 X X X 1 N X X SW-5 SW-6 2/11/2021 X X X 1 N X X X SW-6 SW-6 Z/11/2021 X X X X X X X X X		SW-2	2/11/2021		×		$\stackrel{\times}{-}$			×	$\frac{1}{x}$	\Box	\dashv	寸		_	\dashv	\dashv	-+			_	×	×	×	×	×	×	×	×	×
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SW-6 2/11/2021 X X 1 N X X Date: Time: Received by: Date: Time: LAB USE ONLY Date: Time: Received by: Date: Time: Sample Temperature Date: Time: Received by: Date: Time: Sample Temperature Date: Time: Received by: Date: Time: Sample Temperature		SW-5	2/11/2021		×		×			×	$\frac{1}{x}$			寸		_	_	\dashv	\dashv			_	×	×	×	×	×	×	×	×	×
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of 130

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 02.11.2021 03.41.00 PM Air and Metal samples Acceptable Range: Ambient

Work Order #: 688169 Temperature Measuring device used : IR8

S	Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		7.3	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	Cooling in progress
#4 *Custody Seals intact on shipping containe	r/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?		N/A	
#6*Custody Seals Signed and dated?		N/A	
#7 *Chain of Custody present?		Yes	
#8 Any missing/extra samples?		No	
#9 Chain of Custody signed when relinquished	d/ received?	Yes	
#10 Chain of Custody agrees with sample labe	els/matrix?	Yes	
#11 Container label(s) legible and intact?		Yes	
#12 Samples in proper container/ bottle?		Yes	
#13 Samples properly preserved?		Yes	
#14 Sample container(s) intact?		Yes	
#15 Sufficient sample amount for indicated tes	st(s)?	Yes	
#16 All samples received within hold time?		Yes	
#17 Subcontract of sample(s)?		N/A	
#18 Water VOC samples have zero headspace	e?	N/A	

^{*} Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Checklist completed by:	1-0	Date: <u>02.11.2021</u>
	Brianna Teel	
Checklist reviewed by:	Jessica Vramer	Date: <u>02.12.2021</u>
	Jessica Kramer	

PH Device/Lot#:

Analyst:

eurofins Environment Testing

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Certificate of Analysis Summary 688170

Tetra Tech- Midland, Midland, TX

Project Name: Union AJS Federal #1

Project Id: Contact:

Project Location:

Brittany Long

Lea County, New Mexico

Date Received in Lab: Thu 02.11.2021 15:41

Report Date: 02.18.2021 15:00

Project Manager: Jessica Kramer

	Lab Id:	688170-001			
Analusia Daguastad	Field Id:	H-1			
Analysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	02.11.2021 00:00			
BTEX by EPA 8021B	Extracted:	02.12.2021 10:00			
	Analyzed:	02.13.2021 06:36			
	Units/RL:	mg/kg RL			
Benzene		< 0.00199 0.00199			
Toluene		<0.00199 0.00199			
Ethylbenzene		< 0.00199 0.00199			
m,p-Xylenes		< 0.00398 0.00398			
o-Xylene		<0.00199 0.00199			
Total Xylenes		< 0.00199 0.00199			
Total BTEX		<0.00199 0.00199			
Inorganic Anions by EPA 300/300.1	Extracted:	02.11.2021 21:20			
	Analyzed:	02.12.2021 09:38			
	Units/RL:	mg/kg RL			
Chloride		59.2 HF 5.03			
TPH By SW8015 Mod	Extracted:	02.12.2021 12:00			
	Analyzed:	02.12.2021 18:34			
	Units/RL:	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0			
Diesel Range Organics (DRO)		<50.0 50.0			
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0			
Total TPH		<50.0 50.0			

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Vramer

Analytical Report 688170

for

Tetra Tech- Midland

Project Manager: Brittany Long

Union AJS Federal #1

02.18.2021

Collected By: Client



1211 W. Florida Ave Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054) Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24) Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21) Xenco-Carlsbad (LELAP): Louisiana (05092) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8) Xenco-Tampa: Florida (E87429), North Carolina (483)



02.18.2021

Project Manager: Brittany Long

Tetra Tech- Midland 901 West Wall ST Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): 688170

Union AJS Federal #1

Project Address: Lea County, New Mexico

Brittany Long:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 688170. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 688170 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 688170

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
H-1	S	02.11.2021 00:00		688170-001

CASE NARRATIVE

Client Name: Tetra Tech- Midland Project Name: Union AJS Federal #1

Project ID: Report Date: 02.18.2021 Work Order Number(s): 688170 Date Received: 02.11.2021

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3150840 Inorganic Anions by EPA 300/300.1

Chloride RPD was outside laboratory control limits. Samples in the analytical batch are: 688170-001

Chloride recovered above QC limits in the laboratory control sample indicating a potential high bias.

Samples in the analytical batch are: 688170-001.

Batch: LBA-3150999 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered below QC limits. Samples affected are: 7721488-1-BLK. Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 688170-001.

Certificate of Analytical Results 688170

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: H-1 Matrix: Soil Date Received:02.11.2021 15:41

Date Prep:

Lab Sample Id: 688170-001 Date Collected: 02.11.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: CHE

CHE Analyst:

Seq Number: 3150840

Prep Method: E300P

02.11.2021 21:20

% Moisture:

Basis: Wet Weight

Prep Method: SW8015P

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.2	5.03	mg/kg	02.12.2021 09:38	HF	1

Analytical Method: TPH By SW8015 Mod

DVM Tech:

Analyst: Seq Number: 3151062

ARM

Date Prep: 02.12.2021 12:00 % Moisture:

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	< 50.0	50.0		mg/kg	02.12.2021 18:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	< 50.0	50.0		mg/kg	02.12.2021 18:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	< 50.0	50.0		mg/kg	02.12.2021 18:34	U	1
Total TPH	PHC635	< 50.0	50.0		mg/kg	02.12.2021 18:34	U	1
Surrogate	(Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	113	%	70-130	02.12.2021 18:34
o-Terphenyl	84-15-1	117	%	70-130	02.12.2021 18:34

Wet Weight

Certificate of Analytical Results 688170

Tetra Tech- Midland, Midland, TX

Union AJS Federal #1

Sample Id: H-1 Matrix: Soil Date Received:02.11.2021 15:41

Lab Sample Id: 688170-001 Date Collected: 02.11.2021 00:00

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 02.12.2021 10:00 % Moisture: Basis:

Seq Number: 3150999

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	02.13.2021 06:36	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	02.13.2021 06:36	U	1
Surrogate	Ca	s Number	% Recovery	Units	Limits	Analysis Date	Flag	

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	136	%	70-130	02.13.2021 06:36	**
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.13.2021 06:36	



Flagging Criteria

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

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample BLK Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample BKSD/LCSD Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate MS Matrix Spike MSD: Matrix Spike Duplicate

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

Environment Testing

Xenco

🍪 eurofins

Seq Number:

QC Summary 688170

Tetra Tech- Midland

Union AJS Federal #1

Analytical Method: Inorganic Anions by EPA 300/300.1

3150840 Matrix: Solid Date Prep: 02.11.2021

Prep Method:

Prep Method:

LCS Sample Id: 7721358-1-BKS MB Sample Id: 7721358-1-BLK

LCSD Sample Id: 7721358-1-BSD

mg/kg

E300P

Flag

E300P

LCS RPD MB Spike LCS Limits %RPD Units Analysis LCSD LCSD Flag **Parameter** Result Amount Result %Rec Result %Rec Limit Date Chloride < 5.00 250 319 128 257 90-110 20 02.11.2021 22:54 103 22 HF

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P Seq Number: 3150840 Matrix: Soil Date Prep: 02.11.2021

688105-044 S 688105-044 MS Sample Id: MSD Sample Id: 688105-044 SD Parent Sample Id:

Parent Spike MS MS MSD MSD Limits %RPD RPD Units Analysis **Parameter** Flag Result Amount Result %Rec %Rec Limit Date Result

02.11.2021 23:10 Chloride 487 252 728 96 738 100 90-110 1 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300/300.1

3150840 Seq Number: Matrix: Date Prep: 02.11.2021

MS Sample Id: 688169-001 S MSD Sample Id: 688169-001 SD Parent Sample Id: 688169-001

Spike **RPD Parent** MS MS %RPD Units MSD **MSD** Limits Analysis Flag **Parameter** Result Result Limit Date Amount %Rec Result %Rec Chloride 251 107 20 02.12.2021 08:50 46.7 316 313 106 90-110 1 mg/kg

Analytical Method: TPH By SW8015 Mod

SW8015P Prep Method: 3151062 Matrix: Solid Seq Number: Date Prep: 02.12.2021

MB Sample Id: 7721494-1-BLK LCS Sample Id: 7721494-1-BKS LCSD Sample Id: 7721494-1-BSD

MB Spike LCS LCS LCSD LCSD Limits %RPD **RPD** Units Analysis **Parameter** Result Limit Date Result Amount %Rec %Rec Result Gasoline Range Hydrocarbons (GRO) 02.12.2021 11:44 997 20 < 50.0 1000 100 1030 103 70-130 3 mg/kg 02.12.2021 11:44 Diesel Range Organics (DRO) 1100 70-130 20 < 50.0 1000 110 1110 111 1 mg/kg

LCS MBMB LCS LCSD Limits Units Analysis LCSD **Surrogate** %Rec %Rec Flag Date Flag %Rec Flag 02.12.2021 11:44 1-Chlorooctane 71 71 72 70-130 % 02.12.2021 11:44 o-Terphenyl 77 72 73 70-130 %

SW8015P Analytical Method: TPH By SW8015 Mod Prep Method:

Seq Number: 3151062 Matrix: Solid Date Prep: 02.12.2021

MB Sample Id: 7721494-1-BLK

MBUnits Analysis Flag **Parameter** Result Date 02.12.2021 11:23 Motor Oil Range Hydrocarbons (MRO) < 50.0 mg/kg

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference

[D] = 100*(C-A) / B $RPD = 200* \mid (C-E) \mid (C+E) \mid$ [D] = 100 * (C) / [B]

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample = Parent Result = MS/LCS Result = MSD/LCSD Result

MS = Matrix Spike B = Spike AddedD = MSD/LCSD % Rec

Flag

Seq Number:

Seq Number:

MB Sample Id:

Parent Sample Id:

QC Summary 688170

Tetra Tech- Midland

Union AJS Federal #1

Analytical Method: TPH By SW8015 Mod

3151062

688218-001

Matrix: Soil

Prep Method: SW8015P

Tiep Meillou. 5 W 60151

Date Prep: 02.12.2021

MSD Sample Id: 688218-001 SD

Parameter	Parent	Spike	MS	MS	MSD	MSD	Limits	%RPD	RPD	Units	Analysis
1 at affecter	Result	Amount	Result	%Rec	Result	%Rec			Limit		Date
Gasoline Range Hydrocarbons (GRO)	<49.9	998	1020	102	991	99	70-130	3	20	mg/kg	02.12.2021 12:48
Diesel Range Organics (DRO)	17.1	998	1170	116	1120	111	70-130	4	20	mg/kg	02.12.2021 12:48

MS Sample Id: 688218-001 S

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		128		70-130	%	02.12.2021 12:48
o-Terphenyl	130		126		70-130	%	02.12.2021 12:48

Analytical Method: BTEX by EPA 8021B

3150999

7721488-1-BLK

Matrix: Solid

LCS Sample Id: 7721488-1-BKS

Prep Method: SW5035A

Date Prep: 02.12.2021 LCSD Sample Id: 7721488-1-BSD

MB Spike LCS LCS LCSD Limits %RPD **RPD** Units Analysis LCSD Flag **Parameter** Result Amount Result %Rec Result %Rec Limit Date 02.12.2021 18:42 < 0.00200 0.100 0.109 109 0.107 35 Benzene 107 70-130 2 mg/kg 02.12.2021 18:42 Toluene < 0.00200 0.100 0.110 110 0.109 109 70-130 1 35 mg/kg 02.12.2021 18:42 Ethylbenzene 0.100 0.113 113 0.111 70-130 2 35 < 0.00200 111 mg/kg

02.12.2021 18:42 m,p-Xylenes < 0.00400 0.200 0.222 111 0.218 109 70-130 2 35 mg/kg 02.12.2021 18:42 < 0.00200 0.100 0.112 112 0.111 70-130 35 o-Xylene 111 mg/kg MB MB LCS LCS LCSD Limits Units LCSD Analysis Surrogate

%Rec Flag %Rec Flag %Rec Flag Date 02.12.2021 18:42 1,4-Difluorobenzene 117 96 96 70-130 % 70-130 % 02.12.2021 18:42 4-Bromofluorobenzene 89 116 115

Analytical Method:BTEX by EPA 8021BPrep Method:SW5035ASeq Number:3150999Matrix: SoilDate Prep:02.12.2021

Parent Sample Id: 688219-001 MS Sample Id: 688219-001 S MSD Sample Id: 688219-001 SD

RPD **Parent** Spike MS MS MSD MSD Limits %RPD Units Analysis Flag **Parameter** Limit Date Result Amount Result %Rec %Rec Result 02.12.2021 19:35 0.000527 0.0990 0.0935 94 0.0823 70-130 13 35 Benzene 81 mg/kg 02.12.2021 19:35 70-130 35 Toluene 0.00510 0.0990 0.0956 91 0.0855 80 11 mg/kg Ethylbenzene 0.00442 0.0990 0.0969 93 0.0874 82 70-130 10 35 02.12.2021 19:35 mg/kg 0.0879 52 35 02.12.2021 19:35 m,p-Xylenes 0.198 0.191 0.171 41 70-130 11 mg/kg X 0.0282 0.0990 0.0971 70 0.0874 70-130 35 mg/kg 02.12.2021 19:35 X o-Xylene 59 11

MS MS **MSD MSD** Limits Units Analysis Surrogate Flag Flag %Rec %Rec Date 02.12.2021 19:35 1,4-Difluorobenzene 94 83 70-130 % 02.12.2021 19:35 4-Bromofluorobenzene 119 110 70-130 %

E = MSD/LCSD Result

ed by O	Relinquished by:	7/2021 Helinquisnec	1.34.	ARelinguished						LAB USE ONLY		Comments:	Receiving Laboratory:	Invoice to:	Project Location: (county, state)	Project Name:	Client Name:	Page	72711617010
	Date:	Date	જાાાજ	Date:				-		SAMPLE IDENTIFICATION			boratory: Xenco	James Kennedy	ion: Lea County, New Mexico	" Union AJS Federal #1	EOG	Tetra Tech, Inc.	Chimital inchases of chain of chaical income
0	Time: Re	lime:	1541	Time:				N. C.		Į			Sar		Pro		Site		
ORIGINAL COPY	Received by:	Haceived by:	A service of the serv	Received by:				2/11/2021		DATE &	SAMPLING		Sampler Signature:		Project #:		Site Manager:		
	Date: Tir	*Dafe: / Tir	\ \ !					×	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	WATER SOIL HCL HNO ₃	MATRIX PRESERVATIVE METHOD		Devin Dominguez				Brittany Long	900 West Wall Street, Ste 1 Midland, Texas 79701 Tel (432) 682-4559 Fax (432) 682-3946	
	Time:	me:	1754/						#	None # CONTAIN FILTERED	ERS		ez .					100	
(Gircle) HAND DELIVERED	7.3	Sample Temperature	LAB USE					×	T T T	BTEX 8021 FPH TX100 FPH 8015M PAH 8270C Total Metals FCLP Metals	5 (Ext to (GRO Ag As E s Ag As	- DRO - C	DRO - M Pb Se H	łg			(C::)		
FEDEX UPS	Hush Charges Authorized Special Report Limits or T	X RUSH: Same Day	STANDARD						F G	CCLP Volatil CCLP Semi ' RCI BC/MS Vol. BC/MS Sem PCB's 8082	Volatiles 8260B i. Vol. 8	/ 624	5				ANALYSIS ŘEQUEST	188170	
Tracking #:	Rush Charges Authorized Special Report Limits or TRRP Report	24 hr 48 hr						×	F C	PLM (Asbesi Chloride	Sulfate ter Che		e attac	ched lis	st)		EST		rage
		1/2/2		10.1					Ī	loid							·		1 of1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 02.11.2021 03.41.00 PM Air and Metal samples Acceptable Range: Ambient

Work Order #: 688170 Temperature Measuring device used : IR8

Sam	ple Receipt Checklist	Co	mments
#1 *Temperature of cooler(s)?	7	.3	
#2 *Shipping container in good condition?	Y	es	
#3 *Samples received on ice?	Y	es Co	oling in progress
#4 *Custody Seals intact on shipping container/ co	ooler?	/A	
#5 Custody Seals intact on sample bottles?	N	/A	
#6*Custody Seals Signed and dated?	N	/A	
#7 *Chain of Custody present?	Y	es	
#8 Any missing/extra samples?	N	lo	
#9 Chain of Custody signed when relinquished/ re	eceived?	es	
#10 Chain of Custody agrees with sample labels/	matrix? Y	es	
#11 Container label(s) legible and intact?	Υ	es	
#12 Samples in proper container/ bottle?	Υ	es	
#13 Samples properly preserved?	Υ	es	
#14 Sample container(s) intact?	Υ	es	
#15 Sufficient sample amount for indicated test(s)	? Y	es	
#16 All samples received within hold time?	Υ	es	
#17 Subcontract of sample(s)?	N	/A	
#18 Water VOC samples have zero headspace?	N	/A	

^{*} Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Checklist completed by:	Brianna Teel	Date: 02.11.2021
Checklist reviewed by:	Jessica Vramer	Date: <u>02.12.2021</u>
	Jessica Kramer	

PH Device/Lot#:

Analyst:

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 54736

CONDITIONS

Operator:	OGRID:
EOG RESOURCES INC	7377
P.O. Box 2267	Action Number:
Midland, TX 79702	54736
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	11/2/2021