		SIT	E INFORM	MATION						
	Re	port Type:	<b>Closure</b> F	Report	1RP-474	14				
General Site Inf	ormation:			•						
Site:		Speedy 16 Sta								
Company:		EOG Resourc								
Section, Towns	hip and Range	В	Sec. 16	T 22S	R 33E					
Lease Number:		API No. 30-02	5-435860000							
County:		Lea County								
GPS:			32.3990° N			103.5	769º W			
Surface Owner:		NM State Land								
Mineral Owner: Directions:		NM State Land From the Inerse				400				
			Deleware Basin Rd. Go 6m North turn West and go 2.4M Turn North and go approx 8M down the lease road until arrive on location							
Delas a Defe										
Release Data: Date Released:		6/07/0047	6/27/2017							
Type Released.		Produced Water								
Source of Contai	mination:	Water Truck								
Fluid Released:		240bbls								
Fluids Recovered	d:	Obbls								
<b>Official Commu</b>	nication:	-								
Name:	Jamon Hohensee				Ike Tavarez	<u>,</u>				
Company:	EOG Resources				Tetra Tech					
Address:					4000 N. Big	J Spring				
						-				
City: Midland Texas, 79706					Midland, Te	exas				
Phone number:					(432) 687-8					
Fax:					,	-				
Email:	jamon hohensee	e@eogresources	.com		Ike.Tavare	z@tetratec	h.com			

# Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data	
<50 ft	20		
50-99 ft	10		
>100 ft.	0	400'	
WellHead Protection:	Ranking Score	Site Data	
Water Source <1,000 ft., Private <200 ft.	20		
Water Source >1,000 ft., Private >200 ft.	0	0	
Surface Body of Water:	Ranking Score	Site Data	
<200 ft.	20		
200 ft - 1,000 ft.	10		
>1,000 ft.	0	0	
Total Ranking Score:	0		
		_	
	ceptable Soil RRAL (mg/kg)		
Benze			
10	50 5,000		



September 27, 2017

NMOCD grants approval to 1RP-4744.

Ms. Olivia Yu Environmental Engineer Specialist Oil Conservation Division, District 1 1625 North French Drive Hobbs, New Mexico 88240

#### Re: Closure Report for the EOG Resources, Speedy 16 State Com 501H, Unit B, Section 16, Township 22 South, Range 33 East, Lea County, New Mexico. 1RP-4744

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to assess and remediate a spill that occurred at the Speedy 16 State Com 501H, Unit B, Section 16, Township 22 South, Range 33 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.3990°, W 103.5769°. 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 July 27, 2017. Approximately two hundred and forty (240) barrels of produced water was released from an illegal dump by a water haul truck. None of the fluids were recovered. The release impacted an area measuring approximately 50' x 200' in the pasture and migrated onto the adjacent two-track road impacting an area measuring approximately 10' x 1,400'. The initial C-141 form is included in Appendix A. The release areas are shown on Figure 3.

#### Groundwater

No water wells were listed within Section 16 on the New Mexico Office of the State Engineer database. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is approximately 425' below surface. The groundwater data is shown in Appendix B.

#### 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, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene,



ethylbenzene and xylene (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 depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

#### **Soil Assessment and Analytical Results**

On July 13 and 14, 2017, Tetra Tech personnel were onsite to sample the release area and supervise the remediation of the impacted soils. Based on the visual observation, the spill foot print was well defined at the surface. A total of ten (10) trenches (T-1 through T-10) were installed to depths ranging from 1.0' to 9.0' below surface using backhoe and trackhoe. Trenches (T-1, T-2, and T-3) were installed in the pasture area and trenches (T-4 through T-10) were installed along the two-track area.

Tetra Tech personnel field screened selected samples for salinity using an ExStick II EC400 meter. Selected 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 C. The sampling results are summarized in Table 1. The trench locations are shown on Figure 3.

Referring to Table 1, none of the samples collected exceeded the RRALs for TPH, benzene or total BTEX. All of the samples showed benzene and BTEX concentrations below the laboratory reporting limit. The TPH concentrations ranged from <14.9 to 18.5 mg/kg.

However, elevated chloride concentrations were detected in the shallow soils. In the pasture, the areas of trenches (T-1, T-2 and T-3) showed chloride highs of 6,550 mg/kg at 1.0', 2,170 mg/kg at 0'-1', and 8,730 mg/kg at 1.0' below surface respectively. The chloride concentrations significantly declined with depth between 2.0' and 4.0' below surface.

In the area of trench (T-3), elevated chlorides were detected in the shallow soils from surface to 2.0', which then declined with depth at 4.0' below surface. The samples collected at 4.0' and 7.0' below surface did not show significant chlorides to the soils with concentrations of 180 mg/kg and 66.5 mg/kg, respectively. However, a chloride spike of 822 mg/kg was detected at 9.0' below surface. The sample was re-analyzed to confirm and showed a chloride concentration of 748 mg/kg. Based on the sample detected at 4.0' and 7.0', the chloride spike at 9.0' appears to have been cross-contaminated with the upper impacted soils due to sloughing of material to the trench bottom during sampling.

The areas of trenches (T-4, T-5, T-6, T-7, T-8, T-9 and T-10) installed along the two-track area also showed a shallow impact to the soils. The areas of trenches (T-6 and T-10) did not any significant chlorides to the soil. However, the remaining trenches (T-4, T-5, T-7, T-8 and T-9) detected elevated chlorides at 0-1' ranging from 2,550 mg/kg (T-4) to 6,300 mg/kg (T-8) and significantly declined at 2.0' below surface.



#### **Soil Remediation and Confirmation Samples**

Based on the shallow impact and weather events at that time, EOG requested the impacted area be excavated immediately to prevent further leaching of the impact due to time and forecasted rain. On August 10 and 11, 2017, Tetra Tech personnel were onsite to supervise the excavation and remediation activities and collect confirmation samples. The excavation areas and depths are highlighted (green) in Table 1 and shown on Figure 4. The pasture area was excavated to a depth of 2.5'-3.0' below surface and 1.5'-2.0' in the area of the two track.

One excavated to the appropriate depths, Tetra Tech collected confirmation samples from the areas which were analyzed for chlorides by EPA method 300.0. Copies of the chain-of-custody are included in Appendix C. The confirmation sample results are shown in Table 2. The confirmation sample areas are shown on Figure 4.

Referring to Table 2, none of the bottom hole or sidewall samples collected showed elevated chloride concentrations to the soils, with chlorides ranging from <4.93 mg/kg to 409 mg/kg. Approximately 1,890 cubic yards were removed from the area and stockpiled onsite pending disposal. The excavated areas were backfield with clean material to surface grade.

#### **Conclusion and Recommendations**

Based on the remediation work performed and the confirmation sampling laboratory results, EOG Resources requests closure of this spill issue. The final C-141 is shown in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted, TETRA TECH

Clair Gonzales, Geologist I

Ike Tavarez, Senior Project Manager, P.G.

EOG – Jamon Hohensee EOG – Zane Kurtz SLO – Amber Groves

# Figures



Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo





		Sample	BEB	Soil S	Status		TPH	(mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total	Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	GRO	DRO	ORO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
sture Area															
Trench #1	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1,960
	"	1	-		Х	<14.9	<14.9	<14.9	<14.9	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	6,550
	"	2	-	Х		-	-	-	-	-	-	-	-	-	69.0
	"	4	-	Х		-	-	-	-	-	-	-	-	-	5.48
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	57.2
Trench #2	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	2,170
	"	1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	1,030
	"	2	-	Х		-	-	-	-	-	-	-	-	-	54.9
	"	4	-	Х		-	-	-	-	-	-	-	-	-	36.6
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	30.7
Trench #3	7/13/2017	0-1	-		Х	<15.0	18.5	<15.0	18.5	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	7,880
	"	1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	8,730
	"	2	-		Х	-	-	-	-	-	-	-	-	-	6,760
	"	4	-	Х		-	-	-	-	-	-	-	-	-	180
	"	7	-	Х		-	-	-	-	-	-	-	-	-	66.5
	"	9	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	822
													La	b Re-Run	748
vo Track Road								•	r				-		
Trench #4	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	
	"	4	-	Х		-	-	-	-	-	-	-	-	-	25.1
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	20.7
Trench #5	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	3,350
	"	2	-	Х		-	-	-	-	-	-	-	-	-	24.9
	"	4	-	Х		-	-	-	-	-	-	-	-	-	81.3
	"	7	-	Х		<14.9	<14.9	<14.9	<14.9	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	122

		Sample	BEB	Soil	Status		TPH	(mg/kg)		Benzene	Toluene	Ethlybenzene	Xylene	Total	Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	GRO	DRO	ORO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
Trench #6	7/13/2017	0-1	-	Х		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	395
	"	2	-	Х		-	-	-	-	-	-	-	-	-	8.44
	"	4	-	Х		-	-	-	-	-	-	-	-	-	<49.6
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	33.0
Trench #7	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	0.0185	<0.00198	0.0185	3,230
	"	2	-	Х		-	-	-	-	-	-	-	-	-	30.7
	"	4	-	Х		-	-	-	-	-	-	-	-	-	40.7
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	87.1
Trench #8	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	6,300
	"	2	-	Х		-	-	-	-	-	-	-	-	-	8.12
	"	4	-	Х		-	-	-	-	-	-	-	-	-	25.2
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	110
Trench #9	7/13/2017	0-1	-		Х	<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	6,170
	"	2	-	Х		-	-	-	-	-	-	-	-	-	508
	"	4	-	Х		-	-	-	-	-	-	-	-	-	32.7
	"	7	-	Х		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	55.8
Trench #10	7/13/2017	0-1	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	5.40
	"	2	-	Х		-	-	-	-	-	-	-	-	-	7.73
	"	4	-	Х		-	-	-	-	-	-	-	-	-	<4.99
	"	7	-	Х		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	5.22

(-) (BEB) Not Analyzed

Below Excavation Bottom

Areas Excavated and Removed

212C-MD-00901 Xenco Labs

# EOG Resources Speedy 16 State Commingle 501H Confirmation Sampling Lea County, New Mexico

Comple ID	Comula Data	Excavation	BEB	Soil	Status	Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	(mg/kg)
Two Track Road - Confi	rmation Sam	ples				
Bottom #1	8/8/2017	1.5-2	0-0.5	Х		24.9
South Sidewall #1	"	-	-	Х		37.2
North Sidewall #1	"	-	-	Х		23.1
Bottom #2	8/8/2017	1.5-2	0-0.5	Х		22.8
South Sidewall #2	"	-	-	Х		38.9
North Sidewall #2	"	-	-	Х		23.7
Bottom #3	8/8/2017	1.5-2	0-0.5	Х		23.3
South Sidewall #3	"	-	-	Х		26.2
North Sidewall #3	"	-	-	Х		26.2
Bottom #4	8/8/2017	1.5-2	0-0.5	Х		34.3
South Sidewall #4	"	-	-	Х		31.4
North Sidewall #4	"	-	-	Х		43.7
Bottom #5	8/8/2017	1.5-2	0-0.5	Х		54.2
South Sidewall #5	"	-	-	Х		29.1
North Sidewall #5	"	-	-	Х		22.5
Bottom #6	8/8/2017	1.5-2	0-0.5	Х		65.8
South Sidewall #6	"	-	-	Х		45.7
North Sidewall #6	"	-	-	Х		36.0
Bottom #7	8/8/2017	1.5-2	0-0.5	Х		152
South Sidewall #7	"	-	-	Х		47.4
North Sidewall #7	"	-	-	Х		42.4
Bottom #8	8/8/2017	1.5-2	0-0.5	Х		139
South Sidewall #8	"	-	-	Х		245
North Sidewall #8	"	-	-	Х		47.4

# EOG Resources Speedy 16 State Commingle 501H Confirmation Sampling Lea County, New Mexico

Commits ID	Comula Data	Excavation	BEB	Soil	Status	Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	(mg/kg)
Bottom #9	8/10/2017	1.5-2	0-0.5	Х		188
South Sidewall #9	"	-	-	Х		47.7
North Sidewall #9	"	-	-	Х		237
Bottom #10	8/10/2017	1.5-2	0-0.5	Х		83.0
South Sidewall #10	"	-	-	Х		55.7
North Sidewall #10	"	-	-	Х		31.8
Bottom #11	8/10/2017	1.5-2	0-0.5	Х		57.0
South Sidewall #11	"	-	-	Х		120
North Sidewall #11	"	-	-	Х		281
Bottom #12	8/10/2017	1.5-2	0-0.5	Х		65.9
South Sidewall #12	"	-	-	Х		119
North Sidewall #12	"	-	-	Х		37.0
Bottom #13	8/11/2017	1.5-2	0-0.5	Х		80.6
South Sidewall #13	"	-	-	Х		22.6
North Sidewall #13	"	-	-	Х		76.9
Bottom #14	8/11/2017	1.5-2	0-0.5	Х		129
South Sidewall #14	"	-	-	Х		<4.95
North Sidewall #14	"	-	-	Х		148
Bottom #15	8/11/2017	1.5-2	0-0.5	Х		105
South Sidewall #15	"	-	-	Х		<4.95
North Sidewall #15	"	-	-	Х		<4.90

# EOG Resources Speedy 16 State Commingle 501H Confirmation Sampling Lea County, New Mexico

		Excavation	BEB	Soil Status		Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	(mg/kg)
Bottom #16	8/11/2017	1.5-2	0-0.5	Х		61.1
South Sidewall #16	"	-	-	Х		14.5
North Sidewall #16	"	-	-	Х		34.7
Bottom #17	8/11/2017	1.5-2	0-0.5	Х		102
South Sidewall #17	"	-	-	Х		6.08
North Sidewall #17	"	-	-	Х		<4.96
Bottom #18	8/11/2017	1.5-2	0-0.5	Х		<4.93
South Sidewall #18	"	-	-	Х		6.10
North Sidewall #18	"	-	-	Х		25.9

# EOG Resources Speedy 16 State Commingle 501H Confirmation Sampling Lea County, New Mexico

Comula ID	Comple Date	Excavation	BEB	Soil	Status	Chloride
Sample ID	Sample Date	Depth (ft)	Sample Depth (ft)	In-Situ	Removed	(mg/kg)
Pasture Area - Confirma	ation Samples	6				
Bottom #19	8/15/2017	2.5-3.0	0-0.5	Х		<4.97
East Sidewall #19	"	-	-	Х		34.8
West Sidewall #19	"	-	-	Х		116
Bottom #20	8/15/2017	2.5-3.0	0-0.5	Х		35.7
East Sidewall #20	"	-	-	Х		85.9
West Sidewall #20	"	-	-	Х		<4.96
Bottom #21	8/15/2017	2.5-3.0	0-0.5	Х		81.4
East Sidewall #21	"	-	-	Х		150
West Sidewall #21	"	-	-	Х		63.4
Bottom #22	8/15/2017	2.5-3.0	0-0.5	Х		409
East Sidewall #22	"	-	-	Х		79.6
West Sidewall #22	"	-	-	Х		70.3
Bottom #23	8/15/2017	2.5-3.0	0-0.5	Х		30.7
East Sidewall #23	"	-	-	Х		43.3
West Sidewall #23	"	-	-	Х		141
South Sidewall #24	8/15/2017					418
AH-1 Step Out	8/15/2017	0-1	-	Х		127
AH-2 Step Out	"	0-1	-	Х		69.7

(-) Not Analyzed

(BEB) Below Excavation Bottom

# Photos



View North- Area T-1, T-2 and T-3



View South, Trench#1



View North East, Trench #2



View North, Trench #3



View West, Area of T-4



View South East, Trench #4



View West, Trench #5



View East, Trench#5



View West, Trench#6



View West, Trench#6



View West, Trench#7



View West, Trench#7



View West, Trench #8



View South West, Trench#8



View West, Trench #9



View North, Trench#9



View West, Trench#10



View West, Trench#10



View West- Excavated Area T-1,T-2 and T-3



View North, Excavated Area Trench#4



View East, Excavated Area Trench #5



View East, Excavated Area Trench #6



View West, Excavated Area Trench #7



View West, Excavated Area Trench #8



View West, Excavated Area Trench #9



View West, Excavated Area Trench #10

Appendix A

Form C-141 Revised April 3, 2017

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

pOY1718453685

1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa	Fe, NM 87505							
Release Notificati	ion and Corrective Action							
	OPERATOR Initial Report Final Report							
Name of Company: EOG Resources	Contact: Jamon Hohensee							
Address: 5509 Champions Drive, Midland, TX 79706	Telephone No. 432-556-8074							
Facility Name: Speedy 16 State Com 501H	Facility Type: Production Facility							
Surface Owner: NM State Lands Mineral Owner	er: NM State Lands API No. 30025435860000							
	ON OF RELEASE							
Unit LetterSectionTownshipRangeFeet from theNoB1622S33E	orth/South Line Feet from the East/West Line County							
Latitude32.3990	Longitude103.5769 NAD83							
	RE OF RELEASE							
Type of Release: PW	Volume of Release: 240bbls Volume Recovered: 0							
Source of Release: Water Truck	Date and Hour of Occurrence: Date and Hour of Discovery: 6/28/17 6/27/17, time unknown							
Was Immediate Notice Given?	If YES, To Whom?							
🗌 Yes 🖾 No 🔲 Not Requir								
By Whom?	Date and Hour							
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.							
If a Watercourse was Impacted, Describe Fully.*	DECEIVED							
	RECEIVED							
	By Olivia Yu at 2:45 pm, Jul 03, 2017							
Describe Cause of Problem and Remedial Action Taken.* Produced water was released from a water hauler truck on the side of the discovered release and called EOG.	he lease road twice resulting in approx 240bbls spilled 0bbls recovered. Rancher							
Describe Area Affected and Cleanup Action Taken.*								
Area is ranchland east of the tank battery. No visible surface waters we steps properly remediate the affected area.	ere impacted. 3 <sup>rd</sup> party environmental firm will investigate site and take necessary							
regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by should their operations have failed to adequately investigate and remed	I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal state or local laws and/or regulations.							
111	OIL CONSERVATION DIVISION							
Signature: Som fl. h								
Printed Name: Jamon Hohensee Approved by Environmental Specialist:								
Title: Environmental Representative	Approval Date: 7/3/2017 Expiration Date:							
E-mail Address: jamon hohensee@eogresources.com	Conditions of Approval:							
Date: 6/30/17 Phone: 432-556-8074	See attached directive							
* Attach Additional Sheets If Necessary								
	1RP-4744 nOY1718453425							

1RP-4744

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

### **Release Notification and Corrective Action**

	OPERATOR	Initial Report	Final Report
Name of Company EOG Resources	Contact Jamon Hohensee		
Address 5509 Champions Drive, Midland, Tx 79706	Telephone No. (432)556-8074		
Facility Name Speedy 16 State Com 501H	Facility Type <b>Production Facili</b>	ty	

Surface Owner: NM State LandsMineral Owner: NM State LandsAPI No. 30025435860000

#### LOCATION OF RELEASE

Unit Letter Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N & O 9	228	33E					Lea

#### Latitude N 32.3990° Longitude W 103.5769° NAD83

#### NATURE OF RELEASE

6/27/17 time unknown       6/28/17         Was Immediate Notice Given?       If YES, To Whom?         By Whom? Josh Russo       Date and Hour 3/15/10         Was a Watercourse Reached?       If YES, Volume Impacting the Watercourse.         N/A       If a Watercourse was Impacted, Describe Fully.*         N/A       APPPROVED         By Whom? Josh Russo       If YES, Volume Impacting the Watercourse.         N/A       If a Watercourse was Impacted, Describe Fully.*         N/A       APPPROVED         By Olivia Yu at 5:59 pm, Oct 02, 2018         Describe Cause of Problem and Remedial Action Taken.*         Produced water was released from a water hauler truck on the side of the lease road twice resulting in approximately 240bbls spilled and 0bbls recovered.         Rancher discovered release and called EOC. The soils that impacted were removed; material was transported offsite for proper disposal. The excavated areas were then backfilled with clean material to surface grade.         Describe Area Affected and Cleanup Action Taken.*         Tetra Tech inspected site and collected sumples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.         Thereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to repor	Type of Release: PW	Volume of Release 240bbls Volume Recovered 0 bbls							
Was Immediate Notice Given?       Yes       No       Not Required       If YES, To Whom?         By Whom? Josh Russo       Date and Hour 3/15/10       4:59 p.m.         Was a Watercourse Reached?       If YES, Volume Impacting the Watercourse.         N/A       If a Watercourse was Impacted, Describe Fully.*         N/A       APPROVED         By Olivia Yu at 5:59 pm, Oct 02, 2018         Describe Cause of Problem and Remedial Action Taken.*         Produced water was released from a water hauler truck on the side of the lease road twice resulting in approximately 240bbls spilled and 0bbls recovered.         Rancher discovered release and called EOG. The soils that impacted were removed; material was transported offsite for proper disposal. The excavated areas were then backfilled with clean material to surface grade.         Describe Area Affected and Cleanup Action Taken.*         Terra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.         I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. Th accerptance of a C-141 report by the NMOCD marked as "final Report" does not relieve the operator of responsibility for	Source of Release: Water Truck	Date and Hour of Occurrence Date and Hour of Discovery							
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.         Signature:       OIL CONSERVATION DIVISION         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:         10/2/2018       Expiration Date:         E-mail Address: Ike. Tavarez@TetraTech.com       Conditions of Approval:         Date:       Phone: (432) 682-4559									
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regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. <u>OIL CONSERVATION DIVISION</u> Signature: <u>Printed Name: Ike Tavarez (Agent for EOG)</u> <u>Title: Project Manager</u> <u>E-mail Address: Ike.Tavarez@TetraTech.com</u> Date: <u>Phone: (432) 682-4559</u> <u>Printed Namproval.</u>	I have be and for the table information action above is true and a smallet to the	he here's four here and dealer and understand that an answer to NMOCD miles and							
public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.         Signature:       OIL CONSERVATION DIVISION         Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approval Date:         Title: Project Manager       Approval Date:         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:         Date:       Phone: (432) 682-4559									
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or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.         OIL CONSERVATION DIVISION         Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:         Date:       Phone: (432) 682-4559									
federal, state, or local laws and/or regulations.         OIL CONSERVATION DIVISION         Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:       10/2/2018       Expiration Date:       XX/XX/XXXX         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached       Attached       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached       If									
Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:       10/2/2018         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached	federal, state, or local laws and/or regulations.								
Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:       10/2/2018         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached	20	OIL CONSERVATION DIVISION							
Signature:       Approved by District Supervisor:         Printed Name: Ike Tavarez (Agent for EOG)       Approved by District Supervisor:         Title: Project Manager       Approval Date:       10/2/2018         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached	14 DS	Q 1							
Printed Name: Ike Tavarez (Agent for EOG)       Image: 10/2/2018       Expiration Date: 10/2/2018         Title: Project Manager       Approval Date: 10/2/2018       Expiration Date: XX/XX/XXXX         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached	Signature:	8-							
Title: Project Manager       Approval Date:       10/2/2018       xx/xx/xxxx         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached	Printed Name: Ike Tayaraz (A gent for EOG)	Approved by District Supervisor:							
Title: Project Manager       Approval Date:       Expiration Date:         E-mail Address: Ike.Tavarez@TetraTech.com       Conditions of Approval:       Attached         Date:       Phone: (432) 682-4559       If applicable, BLM approval.       Attached	Timed Name. IKe Tavarez (Agent for EOO)								
E-mail Address: Ike.Tavarez@TetraTech.com     Conditions of Approval:     Attached       Date:     Phone: (432) 682-4559     If applicable, BLM approval.	Title: Project Manager	Approval Date: 10/2/2018 Expiration Date: XX/XX/XXXX							
Date: Phone: (432) 682-4559 If applicable, BLM approval.									
Date: Phone: (432) 682-4559 If applicable, BLM approval.	E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:							
Date. 1 Holle. (452) 062-4537	D-ta:								
	Date: Phone: (432) 682-4559 * Attach Additional Sheets If Necessary								

1RP-4744

Appendix B

### Water Well Data Average Depth to Groundwater (ft) EOG- Speedy 16 State Com 501H Lea County, New Mexico

21 South			32		
6	5	4	3	2	1
<sup>7</sup> Arte	<sup>8</sup> sia	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	22 Sc	outh	32	East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 382 350	13
19 (S) <b>280</b>	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	23 Sc	outh	32	East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 <b>400</b>	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

_	21 So	outh	33		
6	5	4	3	2 <b>79</b> 107	1
7	8	9	10	11 <b>150</b>	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 1 <b>79</b>	27	26	25
31	32	33 <mark>180</mark>	34	35	36

-	21 Sc	outh	34	East	
6	5	4 <b>95</b>	3	2	1
7	8 <b>120</b>	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 <b>140</b>	27	26	25
31	32	33	34	35	36

	22 S	outh		33 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16 Site	15	14	13 <mark>391</mark>
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	23	South	;	33 East			
6	5	4	3	2	1		
7	8	9	10	11	12		
18	17	16	15	14	13		
19	20	21	22	23	24		
30	29	28	27	26	25		
31	32	33	34	35	36		

	22 So	outh	34	East	
6	5	4	3	2	1
7	8	9	10	11 <b>30</b>	12 <b>50</b>
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	23 So	South 34 East			
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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



# 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			,	3 UTM in meters)		(In feet)	
	POD								
	Sub-	QQ	Q				Depth	Depth	Water
POD Number	Code basin C	County 64 16	4 Sec T	ws Rng	Х	Y	Well	Water 0	Column
CP 00592 POD1	CP	ED 3 2	2 13 2	2S 33E	638834	3585015* 🌍	427		
						Average Depth to	Water:		
						Minimum	n Depth:		
						Maximum	Depth:		
Record Count: 1									

### PLSS Search:

Township: 22S

Range: 33E

#### \*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.
Appendix C

# Analytical Report 557681

for Tetra Tech- Midland

Project Manager: Ike Tavarez EOG- Speedy 16 State Com 501H

#### 212C-MD-00901

#### 18-JUL-17

Collected By: Client





#### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



18-JUL-17



Project Manager: **Ike Tavarez Tetra Tech- Midland** 4000 N. Big Spring Suite 401 Midland, TX 79705

Reference: XENCO Report No(s): **557681 EOG- Speedy 16 State Com 501H** Project Address: Lea County, New Mexico

#### Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 557681. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 557681 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



#### Sample Id

Trench #1	(0-1')
Trench #1	(1')
Trench #1	(2')
Trench #1	(4')
Trench #1	(7')
Trench #2	(0-1')
Trench #2	(1')
Trench #2	
Trench #2	(4')
Trench #2	(7')
Trench #3	(0-1')
Trench #3	(1')
Trench #3	
Trench #3	
Trench #3	(7')
Trench #3	
Trench #4	
Trench #4	(2')
Trench #4	
Trench #4	
Trench #5	(0-1')
Trench #5	(2')
Trench #5	(4')
Trench #5	(7')
Trench #6	
Trench #6	
Trench #6	(4')
Trench #6	(7')
Trench #7	(0-1')
Trench #7	
Trench #7	
Trench #7	(7')
Trench #8	
Trench #8	(2')
Trench #8	
Trench #8	(7')
Trench #9	
Trench #1	
Trench #1	
Trench #1	

## Sample Cross Reference 557681



EOG- Speedy 16 State Com 501H

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	07-13-17 00:00		557681-001
S	07-13-17 00:00		557681-002
S	07-14-17 00:00		557681-003
S	07-14-17 00:00		557681-004
S	07-14-17 00:00		557681-005
S	07-13-17 00:00		557681-006
S	07-13-17 00:00		557681-007
S	07-13-17 00:00		557681-008
S	07-13-17 00:00		557681-009
S	07-14-17 00:00		557681-010
S	07-13-17 00:00		557681-011
S	07-13-17 00:00		557681-012
S	07-13-17 00:00		557681-013
S	07-13-17 00:00		557681-014
S	07-13-17 00:00		557681-015
S	07-13-17 00:00		557681-016
S	07-13-17 00:00		557681-017
S	07-13-17 00:00		557681-018
S	07-13-17 00:00		557681-019
S	07-13-17 00:00		557681-020
S	07-13-17 00:00		557681-021
S	07-13-17 00:00		557681-022
S	07-13-17 00:00		557681-023
S	07-13-17 00:00		557681-024
S	07-13-17 00:00		557681-025
S	07-13-17 00:00		557681-026
S	07-13-17 00:00		557681-027
S	07-13-17 00:00		557681-028
S	07-14-17 00:00		557681-029
S	07-14-17 00:00		557681-030
S	07-14-17 00:00		557681-031
S	07-14-17 00:00		557681-032
S	07-14-17 00:00		557681-033
S	07-14-17 00:00		557681-034
S	07-14-17 00:00		557681-035
S	07-14-17 00:00		557681-036
S	07-14-17 00:00		557681-037
S	07-14-17 00:00		557681-038
S	07-14-17 00:00		557681-039
S	07-14-17 00:00		557681-040
S	07-14-17 00:00		557681-041
S	07-14-17 00:00		557681-042
S	07-14-17 00:00		557681-043



Sample Cross Reference 557681

### Tetra Tech- Midland, Midland, TX

EOG- Speedy 16 State Com 501H

Trench #10 (7')

S 07-14-17 00:00

557681-044



### CASE NARRATIVE

Client Name: Tetra Tech- Midland Project Name: EOG- Speedy 16 State Com 501H

Project ID: 212C-MD-00901 Work Order Number(s): 557681 
 Report Date:
 18-JUL-17

 Date Received:
 07/17/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3022485 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030. Outlier/s are due to possible matrix interference.

Lab Sample ID 557681-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 557681-001, -002, -005, -006, -007, -010, -011, -012, -016, -017, -020, -021, -024, -025, -028, -029, -032, -033, -036, -037

Batch: LBA-3022488 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Ike Tavarez

Lea County, New Mexico

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	Lab Id:	557681-0	001	557681-0	002	557681-0	003	557681-0	04	557681-0	005	557681-0	006
Analysis Requested	Field Id:	Trench #1 (	(0-1')	Trench #1	(1')	Trench #1	(2')	Trench #1	(4')	Trench #1	(7')	Trench #2	(0-1')
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	,
	Sampled:	Jul-13-17 (	00:00	Jul-13-17 (	00:00	Jul-14-17 0	00:00	Jul-14-17 0	0:00	Jul-14-17 (	00:00	Jul-13-17 (	00:00
BTEX by EPA 8021B	Extracted:	Jul-17-17	12:00	Jul-17-17 1	2:00					Jul-17-17 1	2:00	Jul-17-17 1	12:00
	Analyzed:	Jul-17-17	14:02	Jul-17-17 1	4:18					Jul-17-17 1	4:34	Jul-17-17 1	14:51
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Benzene		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
Toluene		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
Ethylbenzene		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
m,p-Xylenes		< 0.00399	0.00399	< 0.00394	0.00394					<0.00399	0.00399	< 0.00397	0.00397
o-Xylene		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
Total Xylenes		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
Total BTEX		< 0.00200	0.00200	< 0.00197	0.00197					< 0.00200	0.00200	< 0.00198	0.00198
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17	12:30	Jul-17-17 1	2:30	Jul-17-17 1	2:30	Jul-17-17 1	2:30	Jul-17-17 1	2:30	Jul-17-17 1	12:30
	Analyzed:	Jul-17-17	6:47	Jul-17-17 1	6:54	Jul-17-17 1	7:02	Jul-17-17 1	7:10	Jul-17-17 1	7:17	Jul-17-17 1	17:25
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1960	49.9	6550	49.8	69.0	4.97	5.48	4.97	57.2	4.99	2170	25.0
TPH By SW8015 Mod	Extracted:	Jul-17-17	15:30	Jul-17-17 1	5:30					Jul-17-17 1	5:30	Jul-17-17 1	15:30
	Analyzed:	Jul-17-17	19:12	Jul-17-17 2	20:35					Jul-17-17 2	:1:02	Jul-17-17 2	21:29
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0

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

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

Huns Boah

Kelsey Brooks Project Manager

Page 6 of 41



Ike Tavarez

Lea County, New Mexico

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	1 1												
	Lab Id:	557681-0	07	557681-0	08	557681-0	)09	557681-	010	557681-	011	557681-	012
Analysis Requested	Field Id:	Trench #2	(1')	Trench #2	(2')	Trench #2	(4')	Trench #2	2 (7')	Trench #3	(0-1')	Trench #3	3 (1')
Analysis Kequesieu	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Jul-13-17 0	00:00	Jul-13-17 0	0:00	Jul-13-17 (	00:00	Jul-14-17	00:00	Jul-13-17	00:00	Jul-13-17	00:00
BTEX by EPA 8021B	Extracted:	Jul-17-17 1	2:00					Jul-17-17	12:00	Jul-17-17	12:00	Jul-17-17	12:00
	Analyzed:	Jul-17-17 1	5:07					Jul-17-17	15:23	Jul-17-17	15:40	Jul-17-17	15:56
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
Toluene		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
Ethylbenzene		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
m,p-Xylenes		< 0.00395	0.00395					< 0.00393	0.00393	< 0.00399	0.00399	< 0.00396	0.00396
o-Xylene		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
Total Xylenes		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
Total BTEX		< 0.00198	0.00198					< 0.00196	0.00196	< 0.00200	0.00200	< 0.00198	0.00198
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17 1	2:30	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17	16:00	Jul-17-17	16:00	Jul-17-17	16:00
	Analyzed:	Jul-17-17 1	7:33	Jul-17-17 1	8:36	Jul-17-17 1	8:59	Jul-17-17	19:06	Jul-17-17	19:28	Jul-17-17	19:51
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1030	4.97	54.9	5.00	36.6	4.99	30.7	4.99	7880	50.0	8730	49.8
TPH By SW8015 Mod	Extracted:	Jul-17-17 1	.5:30					Jul-17-17	15:30	Jul-17-17	15:30	Jul-17-17	15:30
	Analyzed:	Jul-17-17 2	21:56					Jul-17-17	22:22	Jul-17-17	22:48	Jul-18-17	00:07
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0					<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0					<15.0	15.0	18.5	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0					<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0					<15.0	15.0	18.5	15.0	<15.0	15.0

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Kelsey Brooks Project Manager

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Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Project Id:212C-MD-00901Contact:Ike TavarezProject Location:Lea County, New Mexico

Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	Lab Id:	557681-0	)13	557681-0	14	557681-0	15	557681-	016	557681-0	)17	557681-0	)18
	Field Id:	Trench #3	-	Trench #3		Trench #3		Trench #3	-	Trench #4 (		Trench #4	
Analysis Requested		Trench #5	(2)	Trench #5	(4)	Trench #5	(/)	Trench #3	(9)	french #4 (	0-1)	Trench #4	(2)
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Jul-13-17 (	00:00	Jul-13-17 0	00:00	Jul-13-17 (	00:00	Jul-13-17	00:00	Jul-13-17 (	00:00	Jul-13-17 (	00:00
BTEX by EPA 8021B	Extracted:		ľ					Jul-17-17	12:00	Jul-17-17 1	2:00		
	Analyzed:							Jul-17-17	16:39	Jul-17-17 1	7:19		
	Units/RL:							mg/kg	RL	mg/kg	RL		
Benzene								< 0.00197	0.00197	<0.00198	0.00198		
Toluene								< 0.00197	0.00197	<0.00198	0.00198		
Ethylbenzene								< 0.00197	0.00197	<0.00198	0.00198		
m,p-Xylenes								< 0.00394	0.00394	< 0.00395	0.00395		
o-Xylene								< 0.00197	0.00197	< 0.00198	0.00198		
Total Xylenes								< 0.00197	0.00197	< 0.00198	0.00198		
Total BTEX								< 0.00197	0.00197	< 0.00198	0.00198		
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17	16:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17	16:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00
	Analyzed:	Jul-17-17	19:59	Jul-17-17 2	0:06	Jul-17-17 2	0:14	Jul-17-17	20:22	Jul-17-17 2	20:29	Jul-17-17 2	20:37
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6760	49.9	180	24.6	66.5	4.93	822	4.97	2550	24.8	135	4.92
TPH By SW8015 Mod	Extracted:							Jul-17-17	15:30	Jul-17-17 1	5:30		
	Analyzed:							Jul-18-17	00:33	Jul-18-17 (	0:59		
	Units/RL:							mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)								<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)	sel Range Organics (DRO)							<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)								<15.0	15.0	<15.0	15.0		
Total TPH								<15.0	15.0	<15.0	15.0		

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Kelsey Brooks Project Manager

Final 1.000



Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Project Id:212C-MD-00901Contact:Ike TavarezProject Location:Lea County, New Mexico

Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	I I												
	Lab Id:	557681-0	)19	557681-0	20	557681-0	021	557681-0	)22	557681-0	23	557681-0	024
Analysis Requested	Field Id:	Trench #4	(4')	Trench #4	(7')	Trench #5 (	0-1')	Trench #5	(2')	Trench #5	(4')	Trench #5	5 (7')
Anutysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-13-17 0	00:00	Jul-13-17 0	0:00	Jul-13-17 0	00:00	Jul-13-17 (	00:00	Jul-13-17 0	0:00	Jul-13-17 (	00:00
BTEX by EPA 8021B	Extracted:			Jul-17-17 1	2:00	Jul-17-17 1	2:00					Jul-17-17	12:00
	Analyzed:			Jul-17-17 1	8:08	Jul-17-17 1	8:24					Jul-17-17	18:40
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Benzene				< 0.00196	0.00196	< 0.00198	0.00198					< 0.00197	0.00197
Toluene				< 0.00196	0.00196	< 0.00198	0.00198					< 0.00197	0.00197
Ethylbenzene				< 0.00196	0.00196	< 0.00198	0.00198					< 0.00197	0.00197
m,p-Xylenes				< 0.00393	0.00393	< 0.00396	0.00396					< 0.00394	0.00394
o-Xylene				< 0.00196	0.00196	< 0.00198	0.00198					< 0.00197	0.00197
Total Xylenes				< 0.00196	0.00196		0.00198					< 0.00197	0.00197
Total BTEX				< 0.00196	0.00196	< 0.00198	0.00198					< 0.00197	0.00197
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17 1	16:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17	16:00
	Analyzed:	Jul-17-17 2	21:00	Jul-17-17 2	1:23	Jul-17-17 2	1:31	Jul-17-17 2	21:39	Jul-17-17 2	1:46	Jul-17-17 2	21:54
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		25.1	5.00	20.7	5.00	3350	25.0	24.9	5.00	81.3	5.00	122	4.99
TPH By SW8015 Mod	Extracted:			Jul-17-17 1	5:30	Jul-17-17 1	5:30					Jul-17-17	15:30
	Analyzed:			Jul-18-17 0	1:26	Jul-18-17 0	1:52					Jul-18-17 (	02:18
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Gasoline Range Hydrocarbons (GRO)					15.0	<15.0	15.0					<14.9	14.9
Diesel Range Organics (DRO)				<15.0	15.0	<15.0	15.0					<14.9	14.9
Oil Range Hydrocarbons (ORO)					15.0	<15.0	15.0					<14.9	14.9
Total TPH				<15.0	15.0	<15.0	15.0					<14.9	14.9

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Kelsey Brooks Project Manager

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Ike Tavarez

Lea County, New Mexico

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	Lab Id:	557681-0	25	557681-0	26	557681-0	27	557681-	028	557681-0	029	557681-0	30
A surface Descreted	Field Id:	Trench #6 (	(0-1)	Trench #6	(2')	Trench #6	(4')	Trench #6	5 (7')	Trench #7 (	(0-1')	Trench #7	(2')
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-13-17 0	00:00	Jul-13-17 0	0:00	Jul-13-17 0	0:00	Jul-13-17	00:00	Jul-14-17 (	00:00	Jul-14-17 0	0:00
BTEX by EPA 8021B	Extracted:	Jul-17-17 1	2:00					Jul-17-17	12:00	Jul-17-17 1	2:00		
	Analyzed:	Jul-17-17 1	8:56					Jul-17-17	19:12	Jul-17-17 1	9:29		
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
Benzene		< 0.00200	0.00200					< 0.00196	0.00196	<0.00198	0.00198		
Toluene		< 0.00200	0.00200					< 0.00196	0.00196	< 0.00198	0.00198		
Ethylbenzene		< 0.00200	0.00200					< 0.00196	0.00196	0.0185	0.00198		
m,p-Xylenes		< 0.00399	0.00399					< 0.00393	0.00393	< 0.00395	0.00395		
o-Xylene		< 0.00200	0.00200					< 0.00196	0.00196	< 0.00198	0.00198		
Total Xylenes		< 0.00200	0.00200					< 0.00196	0.00196	< 0.00198	0.00198		
Total BTEX		< 0.00200	0.00200					< 0.00196	0.00196	0.0185	0.00198		
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17 1	6:00	Jul-17-17	17:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00
	Analyzed:	Jul-17-17 2	2:02	Jul-17-17 22	2:09	Jul-17-17 2	2:17	Jul-17-17	23:03	Jul-17-17 2	23:26	Jul-17-17 2	3:34
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		395	4.98	8.44	4.95	<49.6	49.6	33.0	4.95	3230	25.0	30.7	4.96
TPH By SW8015 Mod	Extracted:	Jul-17-17 1	5:30					Jul-17-17	15:30	Jul-17-17 1	5:30		
	Analyzed:	Jul-18-17 0	2:44					Jul-18-17	03:11	Jul-18-17 0	3:37		
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)	'	<14.9	14.9					<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		<14.9	<14.9 14.9					<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		<14.9	<14.9 14.9					<15.0	15.0	<15.0	15.0		
Total TPH		<14.9						<15.0	15.0	<15.0	15.0		

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Kelsey Brooks Project Manager



**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



212C-MD-00901 Ike Tavarez Lea County, New Mexico Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	Lab Id:	557681-0	)31	557681-0	32	557681-0	)33	557681-0	34	557681-0	)35	557681-0	036
	Field Id:	Trench #7	(4')	Trench #7	(7')	Trench #8 (0-1')		Trench #8 (2')		Trench #8 (4')		Trench #8	3 (7')
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-14-17 (	00:00	Jul-14-17 0	0:00	Jul-14-17 0	00:00	Jul-14-17 0	0:00	Jul-14-17 0	00:00	Jul-14-17 (	00:00
BTEX by EPA 8021B	Extracted:			Jul-17-17 12	2:00	Jul-17-17 1	2:00					Jul-17-17	12:00
	Analyzed:			Jul-17-17 1	9:46	Jul-17-17 2	0:02					Jul-17-17	20:18
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Benzene				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
Toluene				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
Ethylbenzene				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
m,p-Xylenes				< 0.00397	0.00397	< 0.00394	0.00394					< 0.00399	0.00399
o-Xylene				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
Total Xylenes				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
Total BTEX				< 0.00198	0.00198	< 0.00197	0.00197					< 0.00200	0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17	7:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00	Jul-17-17	17:00
	Analyzed:	Jul-17-17 2	23:41	Jul-18-17 0	0:04	Jul-18-17 0	0:12	Jul-18-17 0	0:20	Jul-18-17 0	00:27	Jul-18-17 (	00:35
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		40.7	4.97	87.1	4.99	6300	49.3	8.12	4.97	25.2	4.98	110	4.99
TPH By SW8015 Mod	Extracted:			Jul-17-17 1	5:30	Jul-17-17 1	5:30					Jul-17-17	15:30
	Analyzed:			Jul-18-17 04	4:03	Jul-18-17 0	2:33					Jul-18-17 (	03:36
	Units/RL:			mg/kg	RL	mg/kg	RL					mg/kg	RL
Gasoline Range Hydrocarbons (GRO)					15.0	<15.0	15.0					<15.0	15.0
Diesel Range Organics (DRO)				<15.0	15.0	<15.0	15.0					<15.0	15.0
Oil Range Hydrocarbons (ORO)				<15.0	15.0	<15.0	15.0					<15.0	15.0
Total TPH				<15.0	15.0	<15.0	15.0					<15.0	15.0

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Kelsey Brooks Project Manager



Ike Tavarez

Lea County, New Mexico

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

	Lab Id:	557681-0	37	557681-0	38	557681-0	)39	557681-	040	557681-0	041	557681-0	042
Analysis Requested	Field Id:	Trench #9 (	0-1')	Trench #9	(2')	Trench #9	(4')	Trench #9	9 (7')	Trench #10	(0-1')	Trench #10	) (2')
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-14-17 0	00:00	Jul-14-17 0	0:00	Jul-14-17 0	00:00	Jul-14-17	00:00	Jul-14-17 0	00:00	Jul-14-17 (	00:00
BTEX by EPA 8021B	Extracted:	Jul-17-17 1	2:00					Jul-17-17	12:00	Jul-17-17 1	2:00		
	Analyzed:	Jul-17-17 2	20:34					Jul-17-17	22:43	Jul-17-17 2	2:59		
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
Benzene		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
Toluene		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
Ethylbenzene		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
m,p-Xylenes		< 0.00397	0.00397					< 0.00399	0.00399	< 0.00394	0.00394		
o-Xylene		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
Total Xylenes		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
Total BTEX		< 0.00198	0.00198					< 0.00200	0.00200	< 0.00197	0.00197		
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17 1	7:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00	Jul-17-17	17:00	Jul-17-17 1	7:00	Jul-17-17 1	7:00
	Analyzed:	Jul-18-17 (	0:43	Jul-18-17 0	0:51	Jul-18-17 0	1:14	Jul-18-17 (	01:37	Jul-18-17 0	01:44	Jul-18-17 0	1:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6170	50.0	508	4.97	32.7	4.98	55.8	4.95	5.40	4.97	7.73	4.98
TPH By SW8015 Mod	Extracted:	Jul-17-17 1	5:30					Jul-17-17	15:30	Jul-17-17 1	5:30		
	Analyzed:	Jul-18-17 (	3:58					Jul-18-17	04:20	Jul-18-17 0	4:41		
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)	·	<15.0	15.0					<14.9	14.9	<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	<15.0 15.0					<14.9	14.9	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		<15.0 15.0						<14.9	14.9	<15.0	15.0		
Total TPH		<15.0	<15.0 15.0					<14.9	14.9	<15.0	15.0		

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Huns Boah

Kelsey Brooks Project Manager



Ike Tavarez

Lea County, New Mexico

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 557681

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Speedy 16 State Com 501H



Date Received in Lab:Mon Jul-17-17 09:51 amReport Date:18-JUL-17Project Manager:Kelsey Brooks

						 	1		
	Lab Id:	557681-043		557681-044					ſ
Analysis Requested	Field Id:	Trench #10 (4)	)	Trench #10 (7	')				
Analysis Requesieu	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jul-14-17 00:00	0	Jul-14-17 00:0	0				
BTEX by EPA 8021B	Extracted:			Jul-17-17 12:0	0				
	Analyzed:			Jul-17-17 23:1	5				
	Units/RL:			mg/kg	RL				
Benzene				<0.00200 0.0	0200				
Toluene				<0.00200 0.0	00200				
Ethylbenzene				<0.00200 0.0	00200				
m,p-Xylenes				<0.00399 0.0	0399				
o-Xylene					00200				
Total Xylenes				<0.00200 0.0	00200				
Total BTEX				<0.00200 0.0	00200				
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-17-17 17:00	0	Jul-17-17 17:0	0				
	Analyzed:	Jul-18-17 02:00	0	Jul-18-17 02:0	7				
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<4.99	4.99	5.22	4.96				
TPH By SW8015 Mod	Extracted:			Jul-17-17 15:3	0				
	Analyzed:			Jul-18-17 05:0	2				
	Units/RL:			mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)	·			<15.0	15.0				
Diesel Range Organics (DRO)				<15.0	15.0				
Oil Range Hydrocarbons (ORO)				<15.0	15.0				
Total TPH				<15.0	15.0				

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

Huns Boah

Kelsey Brooks Project Manager



# **Flagging Criteria**



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

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



	<b>ders :</b> 55768 #: 3022485	Sample: 557681-001 / SMP	Batc		: 212C-MD-0 : Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 14:02	SU	RROGATE R	ECOVERY	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	henzene	Anarytes	0.0323	0.0300	108	80-120	
4-Bromofluo			0.0323	0.0300	97	80-120	
	#: 3022485	Sample: 557681-002 / SMP	Batc			00-120	
Units:	mg/kg	Date Analyzed: 07/17/17 14:18		RROGATE R		STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene	Analytes	0.0305	0.0300	102	80-120	
4-Bromoflue			0.0338	0.0300	113	80-120	
Lab Batch	#: 3022485	Sample: 557681-005 / SMP	Batc			00 120	
Units:	mg/kg	Date Analyzed: 07/17/17 14:34	SU	RROGATE R		STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	benzene		0.0301	0.0300	100	80-120	
4-Bromoflue			0.0318	0.0300	106	80-120	
Lab Batch	#: 3022485	Sample: 557681-006 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 14:51	SU	RROGATE R	ECOVERY	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0302	0.0300	101	80-120	
4-Bromoflue	orobenzene		0.0313	0.0300	104	80-120	
Lab Batch	#: 3022485	Sample: 557681-007 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 15:07	SU	RROGATE R	ECOVERYS	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluoro	benzene	·	0.0304	0.0300	101	80-120	
1, <del>4</del> -Dinuoio							

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



	<b>ders :</b> 55768 #: 3022485	Sample: 557681-010 / SMP	Batc		: 212C-MD-0		
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 15:23	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.4-Difluoro		Anaryus	0.0300	0.0300	100	80-120	
4-Bromoflu			0.0316	0.0300	105	80-120	
	#: 3022485	Sample: 557681-011 / SMP	Batc			00 120	
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 15:40		RROGATE R		STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro		Analytes	0.0302	0.0300	101	80-120	
4-Bromoflu			0.0318	0.0300	101	80-120	
Lab Batch	#: 3022485	Sample: 557681-012 / SMP	Batc			00 120	
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 15:56	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluoro	obenzene		0.0295	0.0300	98	80-120	
4-Bromoflu			0.0324	0.0300	108	80-120	
Lab Batch	#: 3022485	Sample: 557681-016 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 16:39	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	obenzene		0.0301	0.0300	100	80-120	
4-Bromoflu	orobenzene		0.0315	0.0300	105	80-120	
Lab Batch	#: 3022485	Sample: 557681-017 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 17:19	SU	RROGATE R	ECOVERY	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
		<i>ب</i>					
1,4-Difluoro	obenzene		0.0309	0.0300	103	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



	<b>ders :</b> 55768 #: 3022485	Sample: 557681-020 / SMP	Batel	-	: 212C-MD-0 : Soil				
Units:	mg/kg	Date Analyzed: 07/17/17 18:08	SU	RROGATE R	ECOVERY S	STUDY			
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluoro			0.0303	0.0300	101	80-120			
4-Bromoflue	#: 3022485	Sample: 557681-021 / SMP	0.0330	0.0300	110 	80-120			
		•	Batcl						
Units:	mg/kg	Date Analyzed: 07/17/17 18:24	SU	RROGATE R	ECOVERY S	STUDY			
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluoro	benzene		0.0301	0.0300	100	80-120			
4-Bromoflue	orobenzene		0.0289	0.0300	96	80-120			
Lab Batch	#: 3022485	Sample: 557681-024 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 07/17/17 18:40	SU	RROGATE R	ECOVERY	STUDY			
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes		[10]	[D]	/ <b>U</b> K			
1,4-Difluoro	obenzene		0.0299	0.0300	100	80-120			
4-Bromoflue	orobenzene		0.0315	0.0300	105	80-120			
Lab Batch	#: 3022485	Sample: 557681-025 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 07/17/17 18:56	SU	SURROGATE RECOVERY STUDY					
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluoro	benzene	-	0.0297	0.0300	99	80-120			
4-Bromoflue	orobenzene		0.0317	0.0300	106	80-120			
Lab Batch	#: 3022504	Sample: 557681-001 / SMP	Batcl	h: 1 Matrix	Soil	1			
Units:	mg/kg	Date Analyzed: 07/17/17 19:12	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
		1 11111 Y UUD		1	1				
1-Chlorooct	ane		91.8	99.7	92	70-135			

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



	<b>ders :</b> 55768 #: 3022485	Sample: 557681-028 / SMP	Batcl		: 212C-MD-0 : Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 19:12	SU	RROGATE R	ECOVERY	STUDY	
	ВТЕХ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluoro	hanzana	Analytes	0.0303	0.0200		80.120	
4-Bromofluo			0.0303	0.0300	101	80-120 80-120	
	#: 3022485	Sample: 557681-029 / SMP	Batcl			80-120	
Units:	mg/kg	Date Analyzed: 07/17/17 19:29		RROGATE R		STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0302	0.0300	101	80-120	
4-Bromofluo			0.0320	0.0300	107	80-120	
	#: 3022485	Sample: 557681-032 / SMP	Batcl			00-120	
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 19:46		RROGATE R		STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[1]	[10]	[D]		
1,4-Difluoro	benzene		0.0300	0.0300	100	80-120	
4-Bromoflue	orobenzene		0.0314	0.0300	105	80-120	
Lab Batch	#: 3022485	Sample: 557681-033 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 20:02	SU	RROGATE R	ECOVERY S	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0302	0.0300	101	80-120	
4-Bromoflue	orobenzene		0.0311	0.0300	104	80-120	
Lab Batch	#: 3022485	Sample: 557681-036 / SMP	Batcl	h: 1 Matrix	: Soil	· · · · · · · · · · · · · · · · · · ·	
Units:	mg/kg	Date Analyzed: 07/17/17 20:18	SU	RROGATE R	ECOVERY S	STUDY	
	ВТЕХ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluoro	benzene		0.0301	0.0300	100	80-120	
	orobenzene		0.0310	1	1		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Work Orde Lab Batch #:		Sample: 557681-037 / SMP	Batch		: 212C-MD-0 : Soil	,0,01	
J <b>nits:</b>	mg/kg	<b>Date Analyzed:</b> 07/17/17 20:34	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobe	nzene		0.0300	0.0300	100	80-120	
4-Bromofluoro	benzene		0.0306	0.0300	102	80-120	
Lab Batch #:	3022504	Sample: 557681-002 / SMP	Batch	n: 1 Matrix	: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 07/17/17 20:35	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		Analytes	98.7	99.6	99	70-135	
o-Terphenyl			52.7	49.8	106	70-135	
Lab Batch #:	3022504	Sample: 557681-005 / SMP	Batch			10 100	
Units:	mg/kg	Date Analyzed: 07/17/17 21:02		RROGATE R		STUDY	
	TPH F	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane	e		99.2	99.9	99	70-135	
o-Terphenyl			53.6	50.0	107	70-135	
Lab Batch #:	3022504	Sample: 557681-006 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 21:29	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	e		98.5	100	99	70-135	
o-Terphenyl			51.9	50.0	104	70-135	
Lab Batch #:	3022504	Sample: 557681-007 / SMP	Batch	n: 1 Matrix	: Soil	1	1
U <b>nits:</b>	mg/kg	Date Analyzed: 07/17/17 21:56	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane	e		97.6	99.8	98	70-135	
o-Terphenyl			52.0	49.9	104	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



	<b>ders :</b> 55768 #: 3022504	Sample: 557681-010 / SMP	Batc		: 212C-MD-0 : Soil			
Units:	mg/kg	Date Analyzed: 07/17/17 22:22	SU	JRROGATE R	ECOVERY S	STUDY		
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
		Analytes			[D]			
1-Chlorooct	ane		100	99.7	100	70-135		
o-Terpheny	1		53.8	49.9	108	70-135		
Lab Batch	#: 3022488	Sample: 557681-040 / SMP	Batc	h: 1 Matrix	: Soil			
Units:	mg/kg	Date Analyzed: 07/17/17 22:43	SU	<b>RROGATE R</b>	ECOVERY S	STUDY		
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1,4-Difluoro		Analytes	0.0300	0.0300	100	80-120		
4-Bromoflu	orobenzene		0.0301	0.0300	100	80-120		
Lab Batch	#: 3022504	Sample: 557681-011 / SMP	Batc		: Soil			
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 22:48	su	JRROGATE R	ECOVERY S	STUDY		
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
		Analytes			[D]			
1-Chlorooct	ane		112	99.7	112	70-135		
o-Terpheny	1		60.2	49.9	121	70-135		
Lab Batch	#: 3022488	Sample: 557681-041 / SMP	Batc	h: 1 Matrix	: Soil			
Units:	mg/kg	Date Analyzed: 07/17/17 22:59	SURROGATE RECOVERY STUDY					
	ВТЕХ	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1,4-Difluoro	obenzene		0.0301	0.0300	100	80-120		
4-Bromoflu	orobenzene		0.0302	0.0300	101	80-120		
Lab Batch	#: 3022488	Sample: 557681-044 / SMP	Batc					
Units:	mg/kg	Date Analyzed: 07/17/17 23:15	SU	JRROGATE R	ECOVERY S	STUDY		
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
1,4-Difluoro		Anarytes	0.0297	0.0300	99	80-120		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Lab Batch #: 30	022504	Sample: 557681-012 / SMP	Batch		: 212C-MD-0 : Soil		
Units: m	ıg/kg	Date Analyzed: 07/18/17 00:07	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooctane			100	99.9	100	70-135	
o-Terphenyl			53.6	50.0	107	70-135	
Lab Batch #: 30		Sample: 557681-016 / SMP	Batch	n: 1 Matrix	: Soil		
Units: m	ıg/kg	Date Analyzed: 07/18/17 00:33	SU	RROGATE R	ECOVERY S	STUDY	
		Sy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			96.9	99.9	97	70-135	
o-Terphenyl			51.7	50.0	103	70-135	
Lab Batch #: 30	022504	Sample: 557681-017 / SMP	Batch	n: 1 Matrix	: Soil		
Units: m	g/kg	Date Analyzed: 07/18/17 00:59	SU	RROGATE R	ECOVERYS	STUDY	
	TPH E	Sy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctane			95.7	99.8	96	70-135	
o-Terphenyl			50.8	49.9	102	70-135	
Lab Batch #: 30	022504	Sample: 557681-020 / SMP	Batch	n: 1 Matrix	: Soil		
Units: m	ig/kg	Date Analyzed: 07/18/17 01:26	SU	RROGATE R	ECOVERY S	STUDY	
		Sy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane			96.6	99.7	97	70-135	
o-Terphenyl			51.5	49.9	103	70-135	
Lab Batch #: 30	022504	Sample: 557681-021 / SMP	Batch	n: 1 Matrix		1	
Units: m	ig/kg	Date Analyzed: 07/18/17 01:52	SU	RROGATE R	ECOVERY S	STUDY	
		Sy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
		Analytes					
1-Chlorooctane			94.4	99.8	95	70-135	
o-Terphenyl			50.2	49.9	101	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Work Orders Lab Batch #: 30		sample: 557681-024 / SMP	Batch		: 212C-MD-0 : Soil	0701	
	g/kg	Date Analyzed: 07/18/17 02:18		RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.011		Analytes	105	0.0.6		50.105	
1-Chlorooctane			105	99.6	105	70-135	
o-Terphenyl Lab Batch #: 30	22505	Sample: 557681-033 / SMP	55.9 Batch	49.8 n: 1 Matrix	112	70-135	
		-					
Units: m	g/kg	Date Analyzed: 07/18/17 02:33	SU	RROGATE R	ECOVERY	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			103	99.9	103	70-135	
o-Terphenyl			52.3	50.0	105	70-135	
Lab Batch #: 30	022504	Sample: 557681-025 / SMP	Batch				
Units: m	g/kg	Date Analyzed: 07/18/17 02:44	SU	RROGATE R		STUDY	
	TPH F	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes		լոյ	[D]	70K	
1-Chlorooctane			98.8	99.6	99	70-135	
o-Terphenyl			52.5	49.8	105	70-135	
Lab Batch #: 30	022504	Sample: 557681-028 / SMP	Batch	n: 1 Matrix	: Soil		
Units: mg	g/kg	Date Analyzed: 07/18/17 03:11	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			98.3	99.9	98	70-135	
o-Terphenyl			51.2	50.0	102	70-135	
Lab Batch #: 30	022505	Sample: 557681-036 / SMP	Batch	n: 1 Matrix	: Soil	<u>ı                                    </u>	
Units: mg	g/kg	Date Analyzed: 07/18/17 03:36	SU	RROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.011		Analytes	4.0-				
1-Chlorooctane			103	99.8	103	70-135	
o-Terphenyl			51.6	49.9	103	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Lab Batch #:	ers: 55768 : 3022504	Sample: 557681-029 / SMP	Batch		: 212C-MD-0		
Units:	mg/kg	Date Analyzed: 07/18/17 03:37	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctan	ie		98.9	100	99	70-135	
o-Terphenyl	2022505		52.9	50.0	106	70-135	
Lab Batch #		Sample: 557681-037 / SMP	Batch				
Units:	mg/kg	Date Analyzed: 07/18/17 03:58	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctar	ie		102	99.8	102	70-135	
o-Terphenyl			51.1	49.9	102	70-135	
Lab Batch #:	3022504	Sample: 557681-032 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/18/17 04:03	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[]	[2]	[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1-Chlorooctan	ie		100	99.9	100	70-135	
o-Terphenyl			52.8	50.0	106	70-135	
Lab Batch #	: 3022505	Sample: 557681-040 / SMP	Batch	n: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/18/17 04:20	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctar	ie		100	99.6	100	70-135	
o-Terphenyl			50.2	49.8	101	70-135	
Lab Batch #	: 3022505	Sample: 557681-041 / SMP	Batch	n: 1 Matrix	: Soil	1	
Units:	mg/kg	Date Analyzed: 07/18/17 04:41	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctar	10	Analytes	101	00.0		70.125	
			101	99.9 50.0	101	70-135	
o-Terphenyl			50.7	50.0	101	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Lab Batch #	lers: 55768 : 3022505	Sample: 557681-044 / SMP	Batc		: 212C-MD-0 : Soil		
Units:	mg/kg	<b>Date Analyzed:</b> 07/18/17 05:02	su	JRROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta		Analytes	100	100		70.105	
o-Terphenyl	lie		100	50.0	100	70-135	
Lab Batch #	• 3022485	Sample: 727789-1-BLK / BI			_	70-155	
Lab Batch # Units:		-					
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 13:46	st	JRROGATE R	ECOVERYS	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorot			0.0299	0.0300	100	80-120	
4-Bromofluor			0.0303	0.0300	100	80-120	
Lab Batch #	: 3022504	<b>Sample:</b> 727798-1-BLK / BI					
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 15:30	su	JRROGATE R	ECOVERY S	STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		115	100	115	70-135	
o-Terphenyl			64.7	50.0	129	70-135	
Lab Batch #	: 3022488	Sample: 727793-1-BLK / BI	.K Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/17/17 22:27	SU	<b>RROGATE R</b>	ECOVERY S	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorob			0.0295	0.0300	98	80-120	
4-Bromofluor			0.0284	0.0300	95	80-120	
Lab Batch #	: 3022505	Sample: 727801-1-BLK / BI					
Units:	mg/kg	<b>Date Analyzed:</b> 07/18/17 01:28	su	JRROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		109	100	109	70-135	
o-Terphenyl			56.3	50.0	113	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Lab Batch #	<b>:</b> 3022485	Sample: 727789-1-BKS / B	KS Batch	Project ID a: 1 Matrix			
Units:	mg/kg	Date Analyzed: 07/17/17 12:04	SU	RROGATE R	ECOVERY	STUDY	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorol		Analytes	0.0202	0.0200		00.120	
4-Bromofluor			0.0302	0.0300	101	80-120	
Lab Batch #		Sample: 727798-1-BKS / B	0.0307 KS Batch	0.0300 1: 1 Matrix	102	80-120	
		•					
Units:	mg/kg	Date Analyzed: 07/17/17 16:01	SU	RROGATE R	ECOVERYS	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		112	100	112	70-135	
o-Terphenyl			61.1	50.0	122	70-135	
Lab Batch #	: 3022488	<b>Sample:</b> 727793-1-BKS / B				10 100	
Units:	mg/kg	Date Analyzed: 07/17/17 21:06		RROGATE R		STUDY	
		-					
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
r		Analytes			[D]		
1,4-Difluorob			0.0295	0.0300	98	80-120	
4-Bromofluo			0.0279	0.0300	93	80-120	
Lab Batch #		Sample: 727801-1-BKS / B	KS Batch	a: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/18/17 01:49	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		115	100	115	70-135	
o-Terphenyl			55.1	50.0	110	70-135	
Lab Batch #	: 3022485	Sample: 727789-1-BSD / B	SD Batch	1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/17/17 12:20	SU	RROGATE R	ECOVERY	STUDY	
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorol	enzene	·	0.0305	0.0300	102	80-120	
1, <del>4</del> -Dilluoiot							

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



	#: 3022504	Sample: 727798-1-BSD / BS	D Bate	ch: 1 Matrix			
Units:	mg/kg	Date Analyzed: 07/17/17 16:33	SU	URROGATE R	ECOVERY S	STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		116	100	116	70-135	
o-Terpheny			61.7	50.0	123	70-135	
Lab Batch	#: 3022488	Sample: 727793-1-BSD / BSI	D Bate	ch: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 07/17/17 21:22	SU	URROGATE R	ECOVERY S	STUDY	
		A by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor		Anarytes	0.0302	0.0300	101	80-120	
4-Bromoflu			0.0291	0.0300	97	80-120	
	#: 3022505	Sample: 727801-1-BSD / BS				00 120	
Units:	mg/kg	Date Analyzed: 07/18/17 02:11		URROGATE R		STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		110	100	110	70-135	
o-Terpheny	1		56.7	50.0	113	70-135	
Lab Batch	#: 3022485	Sample: 557681-001 S / MS	Bate	ch: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 07/17/17 12:37	SU	URROGATE R	ECOVERY	STUDY	
		L by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluor		Analytes	0.0298	0.0200	99	80-120	
4-Bromoflu			0.0298	0.0300	101	80-120	
	#: 3022504	Sample: 557681-001 S / MS	Bate			00-120	
Units:	mg/kg	Date Analyzed: 07/17/17 19:41		URROGATE R		STUDY	
		By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1.011		Analytes					
1-Chlorooc			114	99.8	114	70-135	
o-Terpheny	1		59.0	49.9	118	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



		Sample: 557681-040 S / MS			-			
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 21:38	SU	RROGATE R	ECOVERY S	Control Limits %R           80-120           80-120           STUDY           Control Limits %R           70-135           70-135           STUDY           Control Limits %R           80-120           STUDY           STUDY           STUDY           STUDY           Control Limits %R           80-120           STUDY           Control Limits %R           70-135           70-135           70-135		
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flag	
		Analytes			[D]			
1,4-Difluorob			0.0302	0.0300	101	80-120		
4-Bromofluor			0.0311	0.0300	104	80-120		
Lab Batch #		Sample: 557681-033 S / MS	Batch	n: 1 Matrix	: Soil			
Units:	mg/kg	Date Analyzed: 07/18/17 02:54	SU	RROGATE R	ECOVERY S	STUDY		
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flags	
1-Chlorooctar	ne	Anaryus	102	99.9	102	70-135		
o-Terphenyl			50.3	50.0	102			
Lab Batch #	: 3022485	Sample: 557681-001 SD / M			-	10 155		
Units:	mg/kg	<b>Date Analyzed:</b> 07/17/17 12:53		RROGATE R		STUDY		
			Amount	True				
	BTEX	X by EPA 8021B	Found [A]	Amount [B]	Recovery %R [D]	Limits	Flags	
		Analytes						
1,4-Difluorob			0.0287	0.0300	96			
4-Bromofluor			0.0314	0.0300	105	80-120		
Lab Batch #		Sample: 557681-001 SD / M						
Units:	mg/kg	Date Analyzed: 07/17/17 20:08	SU	RROGATE R	ECOVERY S	STUDY		
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flags	
1-Chlorooctar	ne		119	99.8	119	70-135		
o-Terphenyl			62.6	49.9	125	70-135		
Lab Batch #	: 3022488	Sample: 557681-040 SD / M	SD Batch	n: 1 Matrix	Soil	ı		
Units:	mg/kg	Date Analyzed: 07/17/17 21:54	SU	RROGATE R	ECOVERY	STUDY		
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flag	
1,4-Difluorob	enzene		0.0328	0.0300	109	80-120		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



Lab Batch	rders : 55768	Sample: 557681-033 SD / N			Soil		
Units:	mg/kg	Date Analyzed: 07/18/17 03:15	SU	RROGATE RI	ECOVERY S	STUDY	
		By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooc	tane		101	99.7	101	70-135	
o-Terpheny	/1		48.2	49.9	97	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



### **BS / BSD Recoveries**



#### Project Name: EOG- Speedy 16 State Com 501H

Work Order #: 557681							Proj	ject ID:	212C-MD-(	00901	
Analyst: JUM	D	ate Prepar	red: 07/17/202	17			Date A	nalyzed: (	07/17/2017		
Lab Batch ID: 3022485 Sample: 727789-1	-BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00198	0.0992	0.0941	95	0.0988	0.0941	95	0	70-130	35	
Toluene	< 0.00198	0.0992	0.0881	89	0.0988	0.0881	89	0	70-130	35	
Ethylbenzene	< 0.00198	0.0992	0.0959	97	0.0988	0.0962	97	0	71-129	35	
m,p-Xylenes	< 0.00397	0.198	0.167	84	0.198	0.167	84	0	70-135	35	
o-Xylene	< 0.00198	0.0992	0.0908	92	0.0988	0.0908	92	0	71-133	35	
Analyst: ALJ	D	ate Prepar	red: 07/17/202	17			Date A	nalyzed: (	07/17/2017		
Lab Batch ID: 3022488 Sample: 727793-1	-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00198	0.0988	0.0964	98	0.0990	0.0920	93	5	70-130	35	
Toluene	< 0.00198	0.0988	0.0887	90	0.0990	0.0852	86	4	70-130	35	
Ethylbenzene	< 0.00198	0.0988	0.0948	96	0.0990	0.0911	92	4	71-129	35	
m,p-Xylenes	< 0.00395	0.198	0.165	83	0.198	0.159	80	4	70-135	35	
o-Xylene	<0.00198	0.0988	0.0908	92	0.0990	0.0870	88	4	71-133	35	

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



### **BS / BSD Recoveries**



#### Project Name: EOG- Speedy 16 State Com 501H

Work Order	<b>#:</b> 557681							Pro	ject ID:	212C-MD-	00901	
Analyst:	MGO	D	ate Prepar	ed: 07/17/20	17			Date A	nalyzed: (	07/17/2017		
Lab Batch ID	<b>:</b> 3022477 <b>Sample:</b> 727779-1	-BKS	Batch	<b>n #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 2	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Inorga	anic Anions by EPA 300/300.1 /tes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride		<5.00	250	268	107	250	269	108	0	90-110	20	
Analyst:	MGO	D	ate Prepar	ed: 07/17/20	17			Date A	nalyzed: (	07/17/2017		
Lab Batch ID	<b>:</b> 3022494 <b>Sample:</b> 727788-1	-BKS	Batch	n#: 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 2	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Inorga	anic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride		<5.00	250	271	108	250	272	109	0	90-110	20	
Analyst:	MGO			ed: 07/17/20						07/17/2017		
Lab Batch ID			Batch		1,			Duten	Matrix:			
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 2	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Inorga	anic Anions by EPA 300/300.1 /tes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride		<5.00	250	268	107	250	269	108	0	90-110	20	

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



### **BS / BSD Recoveries**



#### Project Name: EOG- Speedy 16 State Com 501H

Work Order	<b>r #:</b> 557681								Proj	ject ID:	212C-MD-0	)0901	
Analyst:	ARM		D	ate Prepar	red: 07/17/202	17			Date A	nalyzed: (	07/17/2017		
Lab Batch ID	<b>):</b> 3022504	Sample: 727798-1-1	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg			BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY	
	TPH By SW8015	Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analy	ytes			[B]	[C]	[D]	[E]	Result [F]	[G]				
Gasoline	Range Hydrocarbons (GR	C)	<15.0	1000	904	90	1000	888	89	2	70-135	35	
Diesel Ra	ange Organics (DRO)		<15.0	1000	947	95	1000	889	89	6	70-135	35	
Analyst:	ARM		D	ate Prepar	red: 07/17/20	17			Date A	nalyzed: (	07/18/2017		
Lab Batch ID	<b>):</b> 3022505	Sample: 727801-1-1	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg			BLAN	K /BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY	
Anal	TPH By SW8015	Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analy		2)	.15.0							1	70.125	25	
	Range Hydrocarbons (GR	J)	<15.0	1000	1030	103	1000	1020	102	1	70-135	35	
Diesel Ra	ange Organics (DRO)		<15.0	1000	1010	101	1000	1040	104	3	70-135	35	

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



#### Project Name: EOG- Speedy 16 State Com 501H



<b>Work Order # :</b> 557681						Project II	<b>):</b> 212C-1	MD-0090	1		
Lab Batch ID: 3022485	QC- Sample ID:	557681	-001 S	Ba	tch #:	1 Matrix	: Soil				
<b>Date Analyzed:</b> 07/17/2017	Date Prepared:	07/17/2	017	An	alyst: J	UM					
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[-]	[D]	[E]	[-]	[G]				
Benzene	<0.00197	0.0984	0.0800	81	0.0988	0.116	117	37	70-130	35	F
Toluene	<0.00197	0.0984	0.0795	81	0.0988	0.101	102	24	70-130	35	
Ethylbenzene	<0.00197	0.0984	0.0903	92	0.0988	0.106	107	16	71-129	35	
m,p-Xylenes	<0.00394	0.197	0.162	82	0.198	0.184	93	13	70-135	35	
o-Xylene	<0.00197	0.0984	0.0843	86	0.0988	0.106	107	23	71-133	35	
Lab Batch ID: 3022488	QC- Sample ID:	557681	-040 S	Ba	tch #:	1 Matrix	: Soil				
<b>Date Analyzed:</b> 07/17/2017	Date Prepared:	07/17/2	017	An	alyst: A	ALJ					
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00197	0.0984	0.105	107	0.0998	0.0920	92	13	70-130	35	
Toluene	<0.00197	0.0984	0.0938	95	0.0998	0.0843	84	11	70-130	35	
Ethylbenzene	<0.00197	0.0984	0.0953	97	0.0998	0.0820	82	15	71-129	35	
m,p-Xylenes	< 0.00394	0.197	0.168	85	0.200	0.208	104	21	70-135	35	
o-Xylene	< 0.00197	0.0984	0.0906	92	0.0998	0.0785	79	14	71-133	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



#### Project Name: EOG- Speedy 16 State Com 501H



Work Order # :	557681						Project II	<b>):</b> 212C-1	MD-0090	1		
Lab Batch ID:	3022477	QC- Sample ID:	557682	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	07/17/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]		[D]	[E]	Kesun [F]	[G]	/0	70K	70KI D	
Chloride		<4.96	248	263	106	248	266	107	1	90-110	20	
Lab Batch ID:	3022477	QC- Sample ID:	557682	-011 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	07/17/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]		[D]	[E]	Kesun [F]	[G]	/0	70K	70KI D	
Chloride		10.7	250	274	105	250	276	106	1	90-110	20	
Lab Batch ID:	3022494	QC- Sample ID:	557681	-008 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	07/17/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[0]	[D]	[E]	result [r]	[G]				
Chloride		54.9	250	313	103	250	314	104	0	90-110	20	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



#### Project Name: EOG- Speedy 16 State Com 501H



Work Order # :	557681						Project II	<b>):</b> 212C-	MD-0090	1		
Lab Batch ID:	3022494	QC- Sample ID:	557681	-018 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	07/17/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
	Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chloride		135	246	388	103	246	389	103	0	90-110	20	
Lab Batch ID:	3022495	QC- Sample ID:	557681	-028 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	07/17/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[C]	[D]	[E]	Kesun [F]	[G]	70	/0 <b>K</b>	70KI D	
Chloride		33.0	248	291	104	248	293	105	1	90-110	20	
Lab Batch ID:	3022495	QC- Sample ID:	557681	-038 S	Ba	tch #:	1 Matrix	c: Soil		·	·	
Date Analyzed:	07/18/2017	Date Prepared:	07/17/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride		508	249	731	90	249	744	95	2	90-110	20	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



#### Project Name: EOG- Speedy 16 State Com 501H



<b>Work Order # :</b> 557681						Project II	<b>):</b> 212C-N	MD-0090	1		
Lab Batch ID: 3022504	QC- Sample ID:	557681	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
<b>Date Analyzed:</b> 07/17/2017	Date Prepared:	07/17/2	017	An	nalyst: A	ARM					
<b>Reporting Units:</b> mg/kg		Μ	ATRIX SPIK	E / MAT	'RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample		Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range Hydrocarbons (GRO)	<15.0	998	950	95	998	991	99	4	70-135	35	
Diesel Range Organics (DRO)	<15.0	998	962	96	998	1010	101	5	70-135	35	
Lab Batch ID: 3022505	QC- Sample ID:	557681	-033 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 07/18/2017	Date Prepared:	07/17/2	017	An	nalyst: A	ARM					
<b>Reporting Units:</b> mg/kg		Μ	ATRIX SPIK	E / MAT	'RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R		Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[ <b>B</b> ]		[D]	[E]		[G]				
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1030	103	997	1010	101	2	70-135	35	
Diesel Range Organics (DRO)	<15.0	999	1060	106	997	1050	105	1	70-135	35	

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E
Tetra Tech, Inc.         on Numeric Presentation         on Numeric Presentation         STUDIE           EGG         Immunor         Instrumeric Presentation         Immunor         STUDIE         STUDIE           Immunor         Instrumeric Presentation         Immunor         Instrumeric Presentation         STUDIE         Studienton         STUDIE         Studienton		Relinquished by:	Relinquished by:	mile	Relinquished by:										( LAB USE )	LAB #		Comments:	neceiving Laboratory.	Invoice to:	Project Location: state)	Project Name:	Client Name:	5
Non-Nitig Series Start St		Date:	Date:	Comence 7-17-17	Trench #2 (7') Date:	Trench #2 (4')	Trench #2 (2')	Trench #2 (1')	Trench #2 (0-1')	Trench #1 (7')	Trench #1 (4')	Trench #1 (2')	Trench #1 (1')	Trench #1 (0-1')		SAMPLE IDENTIFICATION						Speedy 16 State	EOG	
and spring street. Sie Teil (kdig) direct-sas 7970s Fak (kd2) direct-sas	ORIGINAL C	Received by:	Received by:	1 Mau	7/14/2017 Received by:	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/14/2017	7/14/2017	7/14/2017	7/13/2017	7/13/2017	DATE	YEAR: 2017	SAMPLI		Sampler Signatu		Project #:		Site Manager:	nc.
presservories     presservories     presservories     STUD       presservories     presservories     presservories     presservories       presservories     presservories     prestriction     prestriction		D	D	nohah 7		×	×	×	×	×	×	×	×	×	WATER SOIL	2			2 - C	)	212C-I		lke Tavar	4000 N. Bi 401 Mic Tel ( Fax (
IPU:R-8	. 0 .			1H		×	×	×	×	×	×	×	×	×	HNO <sub>3</sub> ICE		PRESERVATIVE METHOD			)	MD-00901		'ez	iig Spring Street, Ste dland,Texas 79705 (432) 682-4559 (432) 682-3946
Visit of the second	-			-		1 N					1 N		z	Z	FILTERE	D (Y	(/N)							
TCLP Volatiles			Sample Temperature	LAB USE ONLY										×	TPH TX1 TPH 801 PAH 827 Total Meta	005 5M ( 0C als A	(Ext to ) GRO -	C35) DRO - C	PRO - I	Hg		(Circ		557
Tracking #:	FEDEX	Rush Char		неманка			_								TCLP Vola TCLP Ser RCI GC/MS Vo GC/MS Se	atiles mi Vo ol. 8 emi.	s platiles 260B / 6 Vol. 82	624				- 9	Z	180
	Tracking #:	ges Authorized port Limits or TRRP		DARD	×	×	×	×	×	××	×	×	×	×	NORM PLM (Asb Chloride Chloride	esto: St	s) ulfate			abod "	intl			

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	Relinquished by:		Relinquished by:	Relinquished by:										( LAB USE )	LAB #		Comments:	Receiving Laboratory:	Invoice to:	Project Location: state)	Project Name:	Client Name:	<b>,</b>
	v: Date: Time:	- Miles	Camere 717-17 dis1	V: Date: Time:	Trench #4 (7')	Trench #4 (2') Trench #4 (4')	Trench #4 (0-1')	Trench #3 (9')	Trench #3 (7')	Trench #3 (4')	Trench #3 (2')	Trench #3 (1')	Trench #3 (0-1')		SAMPLE IDENTIFICATION			atory: Xenco Midland Tx	Tetra Tech	r: (county, Lea County, New Mexico		EOG	Tetra Tech, Inc.
ORIGINAL COPY	Received by:	heverved by.	Maunellin	Received by: 0	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	DATE	YEAR: 2017	SAMPLING		Sampler Signatore:		Project #:		Site Manager:	
Temp: ۲۵ CF:(0-6: -0.2°C ) (6-23: +0.2°C)	Date: Time:	Date: Time:	D	Date: Tim				×			×	×	×	WATER SOIL HCL HNO <sub>3</sub> ICE		MATRIX PRESERVATIV		SA		212C-MD-00901		lke Tavarez	4000 N. Big Spring Street, Ste 401 Midland,Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946
ק וה ום:ה-8 ט.2°C ) +0.2°C	le:		15	Time:		1 N	1 N	1 N	_	_	X 1 N		1 N	None # CONTA FILTERE	D (Y	RS //N)		N	)	_			05
		Sample Temperature	LAB USE ONLY		•			×					X	BTEX 803 TPH TX1 TPH 8013 PAH 8270 Total Meta TCLP Met	005 5M ( DC als A	(Ext to C GRO - D g As Ba	35) RO - O Cd Cr F	DRO - N Pb Se H	Нg		(Circle		22
ERED FEDEX UPS Tracking #:	Rush Charges Authorized	X HUSH:	STANDARD	REMARKS:										TCLP Vola TCLP Sen RCI GC/MS Vo GC/MS Se PCB's 800 NORM	ni Vo ol. 82 emi. <sup>1</sup> 82 / 6	olatiles 260B / 62 Vol. 8270 608					e or Specify Method	A	1681
iù #:	Rush Charges Authorized Special Report Limits or TRRP Report	(24 h) 48 hr /2 hr			×	×	×	×	× ;	×	×	×	×	PLM (Asbe Chloride Chloride General V Anion/Cat	Su Vate	Ifate	TDS stry (se	ee atta	ched lis	st)	10d No.)	-1	
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Image: Speedy 19 State Con 501H         Image: Speedy 19 State Con 501H         State		Relinquished by:	neiinquistied by:	Mit	Relinguished t										( LAB USE	LAB #			Comments:	invoice to:	Project Location: state)	Project Name:			
and N, Big Spring Streads The (KdB) Reservoirs Fac (KdB		Date:	Uate:	Jan 7-17-1	Trench #7 (2')	Trench #7 (0-1')	Trench #6 (7')	Trench #6 (4')	Trench #6 (2')	Trench #6 (0-1)	Trench #5 (7')	Trench #5 (4')	Trench #5 (2')	Trench #5 (0-1')		SAMPLE IDENTIFICATION					(county,	Speedy 16			
and on Reging Street. Starting Street. Starti	ORIGINAL COP	Received by:	Received by:	M M M M M	7/14/2017	7/14/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017	7/13/2017		YEAR: 2017	SAMPLING		Sampler Signatere:	)	Project #:		Site Manager:		
IRID:R-8 IRI		Date:	Date:	Mith 7-174		×	×	×	×	×	×	×	×	X	WATEF SOIL HCL	R	$\square$		26		212C-MD-0		lke Tavarez	4000 N. Big Sprin 401 Midland,Tt Tel (432) 68 Fax (432) 68	
AB     Chi		Time:	Time:	1 9:51	_	-1	_	_	_	-	_	_	-	1	ICE None	AINE	4			2	00901			g Street, Ste xxas 79705 2-4559 2-3946	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg			Sample Temperature	USE				z		X	×	z		x X	BTEX 80 TPH TX TPH 801 PAH 827	021B 1005 15M ( 70C	) BTE (Ext to GRO -	C35) DRO -	ORO - 1					SS	
Tracking #:	FEDEX UPS	Rush Charg	X RUSH:	REMARKS: ST					_						TCLP Vo TCLP Se RCI GC/MS V GC/MS S	latiles mi Vo Vol. 8 Semi.	s platiles 260B / 0 Vol. 82	624		Hg		cle or Specify I	ANALYSIS RE	1681	
	Tracking #:	es Authorized ort Limits or TRRP Rep	(24 h)		×	×	×	×	×	×	×	×	×	×	NORM PLM (Ast Chloride Chloride General <sup>1</sup>	Su Wate	s) ulfate er Cherr	nistry (s	see atta	iched li	ist)				

	Relinquished by:		Relinquished by:	unite	Relinguished by:										( LAB USE )	LAB #		Comments:	neceiving Laboratory:	Deceiving Labo	state) Invoice to:	Project Maille.		Client Name:
	r Date: Time:		C Comment [7]17[7]777	2	Trench #9 (7')	Trench #9 (4')	Trench #9 (2')	Trench #9 (0-1')	Trench #8 (7')	Trench #8 (4')	Trench #8 (2')	Trench #8 (0-1')	Trench #7(7')	I rench #7 (4')		SAMPLE IDENTIFICATION			Xenco Midland Tx	Tetra Tech	Lea County, New Mexico		EOG	Tetra Tech, Inc.
ORIGINAL COPY	Received by:		Received by:	Meceived by:	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	7/14/2017	DATE	YEAR: 2017	SAMPLING		Sampler Signature:		Project #:		Site Manager:	
	Date:		YUTA /-//. Date:	Date:	×	×	×	×	×	×	X	×	×	×	WATER SOIL HCL		MATRIX		11	25	212C-MD-00901		Ike Tavarez	4000 N. Big Spring Street, Ste 401 Midland,Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946
Temp: 5 9 CF:(0-6: -0.2°C)	Time:		1/ 7-5 Time:	Time:	×	×	×	×	×	×	×	×	×	×	HNO <sub>3</sub> ICE None		PRESERVATIVE METHOD		0		-00901			N. Big Spring Street, Ste Midland,Texas 79705 Tel (432) 682-459 Fax (432) 682-3946
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-8		Sample Te		LAB USE	X X	_			X	+			×		TPH TX10	05	BTEX 82 (Ext to C35) GRO - DRO	1	0.1	1001				
IVENED		Sample Temperature		ONIV					~			× :	~		PAH 8270 Total Metal TCLP Meta	C s Ag Is A	g As Ba Cd ( Ag As Ba Cd	Cr Pt	o Se H	łg		(Circle		S
D FEDEX UPS	Special		X RUSH: Same Dav	REMARKS:								-			TCLP Volat TCLP Semi RCI GC/MS Vol.	Vo	latiles		_			- 9	Ą	576
S Tracking #:	Rush Charges Authorized  Special Report Limits or T		SH: Same Dav									-			PCB's 808: NORM	2/6		625		_		Specify Method	REQUE	10
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	vy: Date: Time:	y; C Date: Time:	be and 7-17-17 9:5-1				Trench #10 (4')	Trench #10 (21)	Trench #10 (0-1')		SAMPLE IDENTIFICATION			ratory: Xenco Midland Tx	Tetra Tech	n: (county, Lea County, New Mexico		EOG	Tetra Tech, Inc.
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	Date:	Date:	Mith 7-17-1		×	×	< >	< ;	×	WATEF SOIL HCL HNO <sub>3</sub>		MATRIX PRE		0	2	212C-MD-00901		lke Tavarez	4000 N. Big Spring Street, Ste 401 Midland,Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946
Temp: 5.9 IR CF:(0-6: -0.2°C) (6-23: +0.2°C)	Time:	Time:	Time: 1 P:SI		X	× 1 N			X IN	ICE None # CONT	-	-		O		9901			Street, Ste 15 79705 1559 3946
IR ID:R-8		Sample Temperature	LAB USE C		×			7 ×	X	FILTERE BTEX 80 TPH TX1 TPH 801 PAH 827	21B 1005 5M (	BTE)	C35)		MRO)				
VERED FEDEX UPS	Rush Cha	ature X RUSH: Same Day	ONLY REMARKS:							Total Met TCLP Me TCLP Vol TCLP Ser RCI GC/MS V GC/MS S	tals A latiles mi Vc ol. 8	Ag As B platiles 260B / 6	a Cd Cr	Pb Se	-		Circle or Specity	A	55768
Tracking #:	Rush Charges Authorized Special Report Limits or TRRP Report	Ahr) 48 hr	STANDARD		×	×	×		X	PCB's 80 NORM PLM (Asb Chloride Chloride General N Anion/Ca	estos Su Wate	s) Ilfate r Cherr		ee atta	ached li	ist)	Specify Method No.)		18
		72 hr							-	Hold of 41					Fina		_		



### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 07/17/2017 09:51:00 AM Temperature Measuring device used : R8 Work Order #: 557681 Comments Sample Receipt Checklist 5.7 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? No #21 VOC samples have zero headspace? N/A

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst: ss

PH Device/Lot#:

Date: 07/17/2017

Checklist completed by: Shawnee Smith Checklist reviewed by: M. Morah Kelsey Brooks

Date: 07/17/2017

# **Analytical Report 560117**

for Tetra Tech- Midland

**Project Manager: Ike Tavarez** 

D&T Speedy 16 State Commingle 501H

212C-MD-00901

17-AUG-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



17-AUG-17



Project Manager: **Ike Tavarez Tetra Tech- Midland** 4000 N. Big Spring Suite 401 Midland, TX 79705

#### Reference: XENCO Report No(s): 560117 D&T Speedy 16 State Commingle 501H Project Address: Lea County NM

#### Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 560117. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 560117 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



### Sample Id

-
Bottomhole #1
South Sidewall #1
North Sidewall #1
Bottomhole #2
South sidewall #2
North Sidewall #2
Bottomhole #3
South sidewall #3
North sidewall #3
Bottomhole #4
South Sidewall #4
North Sidewall #4
Bottomhole #5
South Sidewall #5
North Sidewall #5
Bottomhole #6
South Sidewall #6
North Sidewall #6
Bottomhole #7
South Sidewall #7
North Sidewall #7
Bottomhole #8
South Sidewall #8
North Sidewall #8
Bottomhole #9
South Sidewall #9
North Sidewall #9
Bottomhole #10
South Sidewall #10
North Sidewall #10
Bottomhole #11
North Sidewall #11
South Sidewall #11
Bottomhole #12
North Sidewall #12
South Sidewall #12
Bottomhole #13
North Sidewall #13
South Sidewall #13
Bottomhole #14
South Sidewall #14
North Sidewall #14
Bottomhole #15

## Sample Cross Reference 560117

### Tetra Tech- Midland, Midland, TX

D&T Speedy 16 State Commingle 501H

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	08-08-17 00:00		560117-001
S	08-08-17 00:00		560117-002
S	08-08-17 00:00		560117-003
S	08-08-17 00:00		560117-004
S	08-08-17 00:00		560117-005
S	08-08-17 00:00		560117-006
S	08-08-17 00:00		560117-007
S	08-08-17 00:00		560117-008
S	08-08-17 00:00		560117-009
S	08-08-17 00:00		560117-010
S	08-08-17 00:00		560117-011
S	08-08-17 00:00		560117-012
S	08-08-17 00:00		560117-013
S	08-08-17 00:00		560117-014
S	08-08-17 00:00		560117-015
S	08-08-17 00:00		560117-016
S	08-08-17 00:00		560117-017
S	08-08-17 00:00		560117-018
S	08-08-17 00:00		560117-019
S	08-08-17 00:00		560117-020
S	08-08-17 00:00		560117-021
S	08-08-17 00:00		560117-022
S	08-08-17 00:00		560117-023
S	08-08-17 00:00		560117-024
S	08-10-17 00:00		560117-025
S	08-10-17 00:00		560117-026
S	08-10-17 00:00		560117-027
S	08-10-17 00:00		560117-028
S	08-10-17 00:00		560117-029
S	08-10-17 00:00		560117-030
S	08-10-17 00:00		560117-031
S	08-10-17 00:00		560117-032
S	08-10-17 00:00		560117-033
S	08-10-17 00:00		560117-034
S	08-10-17 00:00		560117-035
S	08-11-17 00:00		560117-036
S	08-11-17 00:00		560117-037
S	08-11-17 00:00		560117-038
S	08-11-17 00:00		560117-039
S	08-11-17 00:00		560117-040
S	08-11-17 00:00		560117-041
S	08-11-17 00:00		560117-042
S	08-11-17 00:00		560117-043





South Sidewall #15
North Sidewall #15
Bottomhole #16
South Sidewall #16
North Sidewall #16
Bottomhole #17
South Sidewall #17
North Sidewall #17
Bottomhole #18
North Sidewall #18
South Sidewall #18

## Sample Cross Reference 560117



### Tetra Tech- Midland, Midland, TX

D&T Speedy 16 State Commingle 501H

S	08-11-17 00:00	560117-044
S	08-11-17 00:00	560117-045
S	08-11-17 00:00	560117-046
S	08-11-17 00:00	560117-047
S	08-11-17 00:00	560117-048
S	08-11-17 00:00	560117-049
S	08-11-17 00:00	560117-050
S	08-11-17 00:00	560117-051
S	08-11-17 00:00	560117-052
S	08-11-17 00:00	560117-053
S	08-11-17 00:00	560117-054



## CASE NARRATIVE

Client Name: Tetra Tech- Midland Project Name: D&T Speedy 16 State Commingle 501H

Project ID: 212C-MD-00901 Work Order Number(s): 560117 
 Report Date:
 17-AUG-17

 Date Received:
 08/14/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Lea County NM

**Contact:** 

**Project Location:** 

	Certificate	of A	Analysis	Summary	560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	01	560117-0	02	560117-0	03	560117-0	04	560117-0	05	560117-0	06
Analysis Requested	Field Id:	Bottomhole	e #1	South Sidew	all #1	North Sidewa	all #1	Bottomhole	e #2	South sidewa	all #2	North Sidewa	all #2
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	11:24	Aug-15-17	1:24	Aug-15-17 1	1:24	Aug-15-17 1	1:24	Aug-15-17	11:24	Aug-15-17 1	1:24
	Analyzed:	Aug-15-17	18:39	Aug-15-17	9:09	Aug-15-17 1	9:19	Aug-15-17 1	9:29	Aug-15-17	19:39	Aug-15-17 2	20:09
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		24.9	4.92	37.2	4.96	23.1	4.99	22.8	4.92	38.9	4.99	23.7	4.93

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

	Certificate	of A	Analysis	Summary	560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	07	560117-0	08	560117-0	09	560117-0	10	560117-0	11	560117-0	12
Analysis Requested	Field Id:	Bottomhole	e #3	South sidewa	all #3	North sidewa	all #3	Bottomhole	#4	South Sidewa	all #4	North Sidewa	all #4
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 0	0:00	Aug-08-17 (	00:00	Aug-08-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	1:24	Aug-15-17	1:24	Aug-15-17 1	1:24	Aug-15-17 1	1:24	Aug-15-17 1	1:24	Aug-15-17 1	1:24
	Analyzed:	Aug-15-17 2	20:19	Aug-15-17 2	20:29	Aug-15-17 2	20:39	Aug-15-17 2	0:49	Aug-15-17 2	20:59	Aug-15-17 2	21:29
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.3	4.93	26.2	5.00	26.2	4.94	34.3	4.98	31.4	4.95	43.7	5.00

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

	Certificate	of A	Analysis	Summary	560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	13	560117-0	14	560117-0	15	560117-0	16	560117-0	17	560117-0	18
Analysis Requested	Field Id:	Bottomhole	e #5	South Sidew	all #5	North Sidewa	all #5	Bottomhole	e #6	South Sidew	all #6	North Sidewa	ıll #6
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	1:24	Aug-15-17	1:24	Aug-15-17 1	1:24	Aug-15-17 1	1:24	Aug-15-17	1:24	Aug-15-17 1	1:24
	Analyzed:	Aug-15-17 2	21:39	Aug-15-17 2	22:09	Aug-15-17 2	22:19	Aug-15-17 2	2:29	Aug-15-17 2	22:39	Aug-15-17 2	2:49
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		54.2	4.99	29.1	4.97	22.5	5.00	65.8	4.97	45.7	4.99	36.0	4.93

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

	Certificate	of A	Analysis	Summary	560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	19	560117-0	20	560117-0	21	560117-0	22	560117-0	23	560117-02	24
Analysis Requested	Field Id:	Bottomhol	e #7	South Sidewa	ıll #7	North Sidewa	all #7	Bottomhole	e #8	South Sidew	all #8	North Sidewa	all #8
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 (	00:00	Aug-08-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	11:24	Aug-15-17 1	1:24	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17	1:35	Aug-15-17 1	1:35
	Analyzed:	Aug-15-17	22:59	Aug-15-17 2	3:09	Aug-15-17 2	3:41	Aug-16-17 (	0:12	Aug-16-17 (	00:23	Aug-16-17 0	0:33
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		152	4.91	47.4	4.97	42.4	4.98	139	5.00	245	4.93	47.4	4.97

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	25	560117-0	26	560117-0	27	560117-02	28	560117-0	29	560117-03	30
Analysis Requested	Field Id:	Bottomhole	e #9	South Sidewa	all #9	North Sidewa	all #9	Bottomhole	#10	South Sidewa	ill #10	North Sidewal	11 #10
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-10-17 0	0:00	Aug-10-17 (	00:00	Aug-10-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35
	Analyzed:	Aug-16-17 (	00:43	Aug-16-17 (	)1:14	Aug-16-17 (	1:25	Aug-16-17 0	1:35	Aug-16-17 (	01:45	Aug-16-17 0	01:56
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		188	4.92	47.7	4.92	237	4.99	83.0	4.99	55.7	4.94	31.8	4.94

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 560117
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Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	31	560117-0	32	560117-0	33	560117-0	34	560117-0	35	560117-0	36
Analysis Requested	Field Id:	Bottomhole	#11	North Sidewa	11 #11	South Sidewa	11 #11	Bottomhole	#12	North Sidewa	11 #12	South Sidewa	11 #12
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-10-17 (	00:00	Aug-11-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17	1:35	Aug-15-17 1	1:35
	Analyzed:	Aug-16-17 (	02:06	Aug-16-17 (	02:37	Aug-16-17 (	02:47	Aug-16-17 (	3:19	Aug-16-17 (	)3:29	Aug-16-17 0	3:39
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		57.0	4.97	120	4.93	281	4.97	65.9	4.94	119	4.95	37.0	4.94

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 560117
--

Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	37	560117-0	38	560117-0	39	560117-0	40	560117-0	41	560117-04	42
Analysis Requested	Field Id:	Bottomhole	#13	North Sidewa	11 #13	South Sidewa	11 #13	Bottomhole	#14	South Sidewa	11 #14	North Sidewal	11 #14
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-11-17 (	00:00	Aug-11-17 (	00:00	Aug-11-17 (	00:00	Aug-11-17 (	00:00	Aug-11-17 (	0:00	Aug-11-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-15-17	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-15-17 1	1:35	Aug-16-17 0	9:00	Aug-16-17 0	09:00
	Analyzed:	Aug-16-17 (	03:50	Aug-16-17 (	04:00	Aug-16-17 (	4:10	Aug-16-17 (	4:21	Aug-16-17 1	0:46	Aug-16-17 1	1:09
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		80.6	4.93	22.6	4.95	76.9	4.91	129	4.94	<4.95	4.95	148	4.91

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 560117
--

Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	43	560117-04	44	560117-04	45	560117-0	46	560117-0	47	560117-04	48
Analysis Requested	Field Id:	Bottomhole	#15	South Sidewa	11 #15	North Sidewal	11 #15	Bottomhole	#16	South Sidewa	ill #16	North Sidewal	11 #16
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-11-17 (	00:00	Aug-11-17 0	00:00	Aug-11-17 0	00:00	Aug-11-17 (	00:00	Aug-11-17 (	00:00	Aug-11-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-16-17 (	)9:00	Aug-16-17 0	9:00	Aug-16-17 0	9:00	Aug-16-17 (	9:00	Aug-16-17 (	)9:00	Aug-16-17 0	09:00
	Analyzed:	Aug-16-17	11:16	Aug-16-17 1	1:24	Aug-16-17 1	1:32	Aug-16-17 1	1:55	Aug-16-17	12:02	Aug-16-17 1	2:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		105	4.97	<4.95	4.95	<4.90	4.90	61.1	4.91	14.5	4.96	34.7	4.99

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Huns Boah

Kelsey Brooks Project Manager



Lea County NM

**Contact:** 

**Project Location:** 

Certificate of Analysis Summary 560117
--

Tetra Tech- Midland, Midland, TX

Project Name: D&T Speedy 16 State Commingle 501H



Date Received in Lab:Mon Aug-14-17 02:56 pmReport Date:17-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560117-0	49	560117-0	50	560117-0	51	560117-05	52	560117-0	53	560117-03	54
Analysis Requested	Field Id:	Bottomhole	#17	South Sidewa	ıll #17	North Sidewal	11 #17	Bottomhole	#18	North Sidewa	11#18	South Sidewa	11 #18
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-11-17 (	00:00	Aug-11-17 (	00:00	Aug-11-17 0	00:00	Aug-11-17 0	0:00	Aug-11-17 (	00:00	Aug-11-17 0	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-16-17	09:00	Aug-16-17 (	09:00	Aug-16-17 0	9:00	Aug-16-17 0	9:00	Aug-16-17 (	09:00	Aug-16-17 0	9:00
	Analyzed:	Aug-16-17	12:18	Aug-16-17 1	2:25	Aug-16-17 1	2:33	Aug-16-17 1	2:56	Aug-16-17	13:04	Aug-16-17 1	3:27
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		102	4.97	6.08	4.99	<4.96	4.96	<4.93	4.93	6.10	4.90	25.9	4.98

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

Huns Boah

Kelsey Brooks Project Manager



# **Flagging Criteria**



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

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



### **BS / BSD Recoveries**



### Project Name: D&T Speedy 16 State Commingle 501H

Work Order #: 560117							Proj	ect ID:	212C-MD-(	)0901	
Analyst: MGO	D	ate Prepar	ed: 08/15/201	7			Date A	nalyzed: (	08/15/2017		
Lab Batch ID: 3025176 Sample: 729368-1-	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	)Y	
Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	252	101	250	253	101	0	90-110	20	
Analyst: MGO	D	ate Prepar	red: 08/15/201	7			Date A	nalyzed: (	08/15/2017	•	
Lab Batch ID: 3025201 Sample: 729369-1-	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	)Y	
Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250									
	< 3.00	250	258	103	250	267	107	3	90-110	20	
Analyst: MGO					250	267		-		20	
Analyst:         MGO           Lab Batch ID:         3025131         Sample:         729371-1-	D	ate Prepar	258 red: 08/16/201 h #: 1		250	267	Date A	-	)8/16/2017	20	
	D	ate Prepar Batcl	red: 08/16/201	17		<u> </u>	Date A	nalyzed: ( Matrix: S	08/16/2017 Solid	ļ	
Lab Batch ID: 3025131         Sample: 729371-1-1	D	ate Prepar Batcl	red: 08/16/201	17		<u> </u>	Date A	nalyzed: ( Matrix: S	08/16/2017 Solid	ļ	Flag

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



### Form 3 - MS / MSD Recoveries

### Project Name: D&T Speedy 16 State Commingle 501H



Work Order # :	560117						Project II	<b>D:</b> 212C-1	MD-0090	1		
Lab Batch ID:	3025131	QC- Sample ID:	560117	-041 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	08/16/2017	Date Prepared:	08/16/2	017	Ar	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[0]	[D]	[E]	Result [1]	[G]				
Chloride		<4.95	248	271	109	248	271	109	0	90-110	20	
Lab Batch ID:	3025131	QC- Sample ID:	560117	-051 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	08/16/2017	Date Prepared:	08/16/2	017	Ar	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[0]	[D]	[E]	Kesutt [F]	[G]	/0			
Chloride		<4.96	248	268	108	248	265	107	1	90-110	20	
Lab Batch ID:	3025176	QC- Sample ID:	560117	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	08/15/2017	Date Prepared:	08/15/2	017	Ar	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[U]	5%K [D]	E]	Acsuit [F]	56K [G]	70	70K	70KI D	
Chloride		24.9	246	260	96	246	264	97	2	90-110	20	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



### Form 3 - MS / MSD Recoveries





Work Order # :	560117						Project II	<b>):</b> 212C-1	MD-0090	1		
Lab Batch ID:	3025176	QC- Sample ID:	560117	-011 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	08/15/2017	Date Prepared:	08/15/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[-]	[D]	[E]	[-]	[G]			/	
Chloride		31.4	248	270	96	248	272	97	1	90-110	20	
Lab Batch ID:	3025201	QC- Sample ID:	560117	-021 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	08/15/2017	Date Prepared:	08/15/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorgai	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[0]	[D]	[E]	itesuit [1]	[G]				
Chloride		42.4	249	286	98	249	286	98	0	90-110	20	
Lab Batch ID:	3025201	QC- Sample ID:	560117	-031 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
Date Analyzed:	08/16/2017	Date Prepared:	08/15/2	017	An	alyst: N	MGO					
<b>Reporting Units:</b>	mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorganic Anions by EPA 300/300.1		Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[U]	70K [D]	E]	Acsunt [F]	56K [G]	70	/0K	70 KI D	
Chloride		57.0	249	301	98	249	308	101	2	90-110	20	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Inctra Tech, Inc.         Interview		Relinquished by:		Relinquished by:	Relinquished by:											LAB USE	LAB #		Comments:	Receiving Laboratory:	Invoice to:	State)	Project Name:	D&I / EUG	
Source Services       Mathew McDaniel       Source Services       Mathew McDaniel       Source Services       Mathew McDaniel       Source Services       Mathew McDaniel       Mathew McDaniel       Mathew McDaniel       Circle or Specify Method No.       Mathew McDaniel       Mathew McDaniel       The Wath of Circle Or Specify Method No.       North No.       North No.       Circle or Specify Method No.       North No.       Nore		Date:		102 8-14-17 Date: Time:	Date: Time:	Bottomhole # 4	North sidewall # 3	South sidewall # 3	Bottomhole # 3	North sidewall # 2	South sidewall # 2	Bottomhole # 2	North sidewall # 1	South sidewall # 1	Bottomhole # 1	-	SAMPLE IDENTIFICATION					S	D&T Speed 6 State Commingle		Tetra Tech.
on Number Stress Construction       And Lyster Research         Intervention       Intervention         Intervention       Intervention<	ORIGINAL COP	Received by:	neceived by:	Julian ~	Received by:	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017		YEAR:	SAMPLING		Sampler Signature:		Project #:			
ALL CONTAINERS ANALYSIS RECUEST ANALYSIS RECUEST Circle or Specify Method No. PAH 8270C CF:(0-6: -0.2°C) Temp: 2 2 1 HDSH: Same Day 24 hr (6)r Sumple Temperature CF:(0-6: -0.2°C) TEM: 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	~			0		×	×	×	×	×	×	×	×	×	×			MATRIX		Math		212c		Irez	4000 N. 401 N Fa
ALL SPECIAL CONTAINERS  A CONTAINERS A CONTAINERS  A CONTAINERS					Tim	×	×	×	×	×	×	×	×	×	×	HNO <sub>3</sub>				ew McDaniel		-MD-00901			Big Spring Street, Ste Midland, Texas 79705 II (432) 682-4559 x (432) 682-3946
Temp:       C       C       PAH 8270C         CF:0-6:       O       PAH 8270C       Circle or Specify Method No.         CF:0-6:       O       Total Metals Ag As Ba Cd Cr Pb Se Hg       Crcle or Specify Method No.         CF:0-6:       O       TCLP Metals Ag As Ba Cd Cr Pb Se Hg       Crcle or Specify Method No.         CF:0-6:       O       TCLP Semi Volatiles       Crcle or Specify Method No.         PRMARKS:       C       Crcle Semi Volatiles       Crcle Semi Vol. 8270C/625         PRMARKS:       C       Crcle Semi Vol. 8270C/625       Cole Semi Vol. 8270C/625         Special Report Limits or THRP Re				1:46													-	RS							
ANALYSIS REQUEST ANALYSIS RECUEST ANALYSIS ANALYSIS ANALYSIS ANALYSIS ANALYSIS ANALYSIS ANALYSIS ANALYSIS ANALYSIS AN			Sample Temperatur	USE												TPH TX1 TPH 8015 PAH 8270	005 5M ( 0C	(Ext to 0 GRO - 1	C35) DRO - C	DRO - M				10	
IRID:R-8     IRID:R-8	p: 2 . 2	Specie			-											TCLP Vola TCLP Sen RCI	atiles ni Vo	s olatiles		Pb Se H	Hg				56
Child     Child     Child     Child     Constant       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image: Child     Image: Child     Image: Child     Image: Child       Image: Child     Image	IR ID:R-	al Report Limits o				×	×	×	×	×	×	×	×	×	×	PCB's 800 NORM PLM (Asbe	82/	608	70C/625	5				REQUEST	THC
	8	or TRRP Report	(48))r			×	~	~	*	*	*	*	*	~	~	Chloride General V	Vate	er Chem	nistry (s	ee attac	ched I	ist)			

Filing Source           Filing Source           OPT         Chronoming Source         Annysis Recurser           Control of State Comming Source         Marting Source         Control of Source Source Source Source Source         Control of Source So		Relinquished by:	Helinquisned by:		Relinquished by										( LAB USE ONLY	LAB #		Comments:	Receiving Laboratory:	Invoice to:	Project Location: state)	FTOJECL Maine:	Deniort Namo:	5
In Monage::           Nate Commingle 501H           State Commingle 501H         Frequence         Annotation		y;	ý:	R	South sidewall #	- C	North sidewall # 6	South sidewall # 6	Bottomhole # 6	R	South sidewall # 5	Bottomhole # 5	North sidewall # 4	South sidewall # 4		SAMPL					KAA C	D&T		Tetra
Iter Twoez         Mathew McDaniel         2120-MD-00901         All           2120-MD-00901         2120-MD-00901         2120-MD-00901         Circle on the second				-Ju-17 145						र्त						E IDENTIFICATION					nty an	State		ra Tech, Inc.
Mathew McDaniel     Mathew McDaniel       122,c-MD-00901     212,c-MD-00901       122,c-MD-00901     1212,c-MD-00901       122,c-MD-00901     121,c-MD-00901       122,c-MD-00901	ORIGINAL COP	Received by:	Received by:	Julion t	8/8/2017 Received by:	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017	8/8/2017		YEAR:	SAMPLING		Sampler Signature:		Project #:			
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IR ID:R-8	p: 21, 2 0-6: -0.2°C)	Special R	Rush	Ē	REMARKS			_							TCLP Vol TCLP Ser RCI GC/MS V	atiles mi Vo ol. 82	alatiles 260B / 6	624		.9		<u> </u>	AN	Slool
		arges Authorized leport Limits or TR			×	×	×	×	×	×	×	×	×	×	PCB's 80 NORM PLM (Asb Chloride	estos	608 s)						2	Ē
AP Report 72 br		3RP Report	(48)hr												General \	Wate	r Chem	nistry (s	ee attac	hed li	st)	;		

	Relinquished by:		Relinquished by:	N	Relinquished by:										( LAB USE ONLY	LAB #		Comments:	neceiving Laboratory:		state)	Project Name:	D&I / EUG	
	yy: Date: Time:		Date: Time:	1-1-1- E-14-12	North sidewall # 10 Date: Time:	South sidewall # 10	Bottomhole # 10	North sidewall # 9	South sidesidewall # 9	Bottomhole # 9	North sidewall # 8	South sidewall # 8	Bottomhole # 8	North sidewall # 7		SAMPLE IDENTIFICATION			XENCO		RA COUNTY NM			Tetra Tech, Inc.
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PY				>	×	×	×	×	×	×	×	×	×	×	TIME WATER SOIL		MATRIX		Math		2120		lke Tavarez	4000 N. 401 N Fa
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			-26		1 n	1 n	1 n	1 n	1 n	1 n	1 n	1 n	1 n	1 n	# CONTA FILTERE	-	RS							
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2	Specia	Rush C	RUSH	-Y							_			_	TCLP Met TCLP Vola TCLP Sen RCI GC/MS Vo	atiles ni Vo	atiles		Pb Se	Hg				5(0)
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	TRRP Report		thr 48 hr 72 hr											-	Chloride General V Anion/Cat	Vate			ee atta	ached	list)	NO.)		
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LAB #         SAMPLE IDENTIFICATION         SAMPLE IDENTIFICATION         Table         Table         MATTRIX         PRESENTION Presentation         Matrix bit is an interval and a single interval interval and a single interval interval and a single interval interval and a single interval and and and and and and and and and and	Receiving Laboratory: XENCO			Project Location:		
SAMPLING         MATRIX         PRESERVATIV METHOD           R:         MATRIX         MATRIX         METHOD           DATE         TIME         REIL         Image: Constraint of the second s	0	NCO	t County NM	D&T Speed 16 State Commingle 501H		Tetra Tech, Inc.
MATRIX     PRESERVATIV METHOD       WWATER     MATER       WWATER     METHOD       X     SOIL       X     HCL       X     HENO       X     X       Date:     Time:   Date: Time:	Sampler Signature:	Sampler Signature:		Project #:	Site Manager: Ike Tavarez	
Time:	Mathew McDaniel	Mathew M	212c-MD-00901		rez	4000 N. Big Spring Street, Ste 401 Midland, Texas 79705 Tel (422) 682-4559 Fax (432) 682-3946
# CONTAINERS	cDaniel	lcDaniel	00901			ng Street, Ste Texas /9705 82-4559 82-3946
Corrected Temp:	RO - MRO) b Se Hg	- ORO - M Cr Pb Se H	łg		(Circle	S
PMD: PMD: PMC:		625				Flious
THHP Report 72 hr 12 hr	e attached		ched list)	NO.)		

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double is gama Steel Stee	OPUCINAL COPY       OPUCING       Mathew McDaniel       SAMPLING       Mathew McDaniel       CICLO OF Specify Method No.       CICLO OF Specify Method No.       CICLO OF Specify Method No.       SAMPLING       Mathew McDaniel       ANT YES RECUEST       CICLO OF Specify Method No.       CICLO OF Specify Method No.       SAMPLING       Mathew McDaniel       ATT No.       CICLO OF Specify Method No.       CI
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Temp:       1 <td>Temp:       1</td>	Temp:       1
CF:(0-6: -0.2°C)       I	CF:(0-6: -0.2°C)  IFID:R-8  CF
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	IPID:R-8       IPID:R-8 <th< td=""></th<>
TCLP Volatiles	RID:R-8       Chloride       Special Report Limits or TRRP Report         King #:       Chloride       Sulfate       TDS         King #:       Chloride       Chloride       Sulfate       TDS
REQUEST     Method N       arges Authorized     NORM       **     PLM (Asbestos)       **     **	THRP Report to the second seco
	ABD     Control de Sunate PDS       48 br     General Water Chemistry (see attached list)       72 mr     Anion/Cation Balance

	Relinquished by:	Relinquished by:	Relinquished by						( LAB USE )	LAB #		Comments:	Receiving Laboratory:	involce to:	state)	Project Name:	D&T / EOG	F	Analysis Re
	y: Date: Time:	97: Date: Time:	SF: Date: Time:		South sidewall # 18	North sidewall # 18	Bottomhole # 18	North sidewall # 17		SAMPLE IDENTIFICATION			ratory: XENCO		ef county NM			Tetra Tech, Inc.	Analysis Request of Chain of Custody Record
ORIGINAL COPY	Received by:	Received by:	Received by:		14.8P	11-11-0	1	2-11-17	DATE	YEAR:	SAMPLING		Sampler Signature:		Project #:		Site Manager: Ike Tavarez		
	Date: Time:	Date: Time:	Date: Time:		×	×	×	×	WATEF SOIL HCL HNO <sub>3</sub> ICE	3	MATRIX PRESERVATIVE METHOD		Mathew McDaniel		212c-MD-00901		ez	4000 N. Big Spring Street, Ste 401 Midland, Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946	
Temp: 2 ( 2 IR ID:R-8 CF:(0-6: -0.2°C) (6-23: +0.2°C) Corrected Temp: 2 ( .)		CI:56 LAB USE ONLY Sample Temperature				11 N	1 n	1 n	# CONT FILTERI BTEX 80 TPH TX TPH 80 PAH 82 Total Me TCLP Me	ED (N 021B 1005 15M ( 70C tals A	(/N) BTE (Ext to GRO	- DRO - Ba Cd Cr	ORO - N Pb Se H	Hg			(Disal)	5(1)	
8 UPS Tracking #:	Rush Charges Authorized     Special Report Limits or TRRP Report	ARUSH: Same Day 24 hr (48 hr	REMARKS:			×	x	×	TCLP Vo TCLP Se RCI GC/MS V GC/MS S PCB'S 8 NORM PLM (Asl Chloride General Anion/Ca	vol. 8 Semi. 082 / besto Si Wate	260B / Vol. 8 608 s) ulfate er Che	7 624 270C/62 TDS mistry (s		ched	list)		ANALYSIS REQUEST	LIK L	Page 🕼
	a	72 hr				Pe	ige 2	4 of	Hold 25					Final	1.000				1 of (0



# **XENCO Laboratories** Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 08/14/2017 02:56:00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 560117	Temperature Measuring device used : R8
Sample Recei	pt Checklist Comments
#1 *Temperature of cooler(s)?	21
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	Νο
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	Νο
#21 VOC samples have zero headspace?	N/A

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Date: 08/14/2017

Checklist completed by: Shawnee Smith Checklist reviewed by: Marsh South Kelsey Brooks

Date: 08/14/2017

# Analytical Report 560317

for Tetra Tech- Midland

**Project Manager: Ike Tavarez** 

#### D&T Trucking/E06 Speedy 16 State Comminsle 501 H

### 212C-MD-00901

### 18-AUG-17

Collected By: Client





### 1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



18-AUG-17



#### Reference: XENCO Report No(s): 560317 D&T Trucking/E06 Speedy 16 State Comminsle 501 H Project Address: Lea co,NM

#### Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 560317. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 560317 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

ile Denma

Gale Denman Project Manager

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## Sample Cross Reference 560317



### Tetra Tech- Midland, Midland, TX

D&T Trucking/E06 Speedy 16 State Comminsle 501 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottomhole #19	S	08-15-17 00:00		560317-001
East side wall #19	S	08-15-17 00:00		560317-002
West side wall #19	S	08-15-17 00:00		560317-003
Bottomhole #20	S	08-15-17 00:00		560317-004
East Sidewall #20	S	08-15-17 00:00		560317-005
West Sidewall #20	S	08-15-17 00:00		560317-006
Bottomhole #21	S	08-15-17 00:00		560317-007
East Sidewall #21	S	08-15-17 00:00		560317-008
West Sidewall #21	S	08-15-17 00:00		560317-009
Bottom hole #22	S	08-15-17 00:00		560317-010
East Sidewall #22	S	08-15-17 00:00		560317-011
West Sidewall #22	S	08-15-17 00:00		560317-012
Bottom hole #23	S	08-15-17 00:00		560317-013
East Side wall #23	S	08-15-17 00:00		560317-014
West Sidewall #23	S	08-15-17 00:00		560317-015
South Sidewall #23	S	08-15-17 00:00		560317-016
AH1 Step out (0-1)	S	08-15-17 00:00		560317-017
AH2 Step out (0-1)	S	08-15-17 00:00		560317-018



## CASE NARRATIVE

Client Name: Tetra Tech- Midland Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H

Project ID: 212C-MD-00901 Work Order Number(s): 560317 
 Report Date:
 18-AUG-17

 Date Received:
 08/16/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



## Certificate of Analysis Summary 560317

Tetra Tech- Midland, Midland, TX

Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H



Project Id:212C-MD-00901Contact:Ike TavarezProject Location:Lea co,NM

Date Received in Lab:Wed Aug-16-17 01:06 pmReport Date:18-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560317-0	01	560317-0	02	560317-0	03	560317-0	04	560317-0	005	560317-0	06
Analysis Requested	Field Id:	Bottomhole	#19	East side wa	1 #19	West side wa	11 #19	Bottomhole	#20	East Sidewal	11 #20	West Sidewal	1 #20
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-15-17 00:00		Aug-15-17	00:00	Aug-15-17 (	00:00	Aug-15-17 (	00:00	Aug-15-17	00:00	Aug-15-17 (	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-17-17	15:15	Aug-17-17	15:15	Aug-17-17	15:15	Aug-17-17	15:15	Aug-17-17	15:15	Aug-17-17 1	5:15
	Analyzed:	Aug-18-17 (	02:31	Aug-18-17 (	02:54	Aug-18-17 (	03:02	Aug-18-17 (	03:10	Aug-18-17 (	03:18	Aug-18-17 0	03:41
	Units/RL: mg/kg RL		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		<4.97	4.97	34.8	4.99	116	4.91	35.7	4.93	85.9	4.98	<4.96	4.96

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

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Version: 1.%

Jenman

Gale Denman Project Manager



## Certificate of Analysis Summary 560317

Tetra Tech- Midland, Midland, TX

Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H



Project Id:212C-MD-00901Contact:Ike TavarezProject Location:Lea co,NM

Date Received in Lab:Wed Aug-16-17 01:06 pmReport Date:18-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560317-0	007	560317-0	08	560317-0	09	560317-0	10	560317-0	11	560317-0	12
Analysis Requested	Field Id:	Bottomhole	e #21	East Sidewal	1 #21	West Sidewa	1 #21	Bottom hole	e #22	East Sidewal	1 #22	West Sidewal	1 #22
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-15-17 00:00		Aug-15-17	00:00	Aug-15-17 (	00:00	Aug-15-17 (	00:00	Aug-15-17 (	00:00	Aug-15-17 (	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-17-17 15:15		Aug-17-17	15:15	Aug-17-17	5:15	Aug-17-17	5:15	Aug-17-17	15:15	Aug-17-17 1	5:15
	Analyzed:	Aug-18-17	03:48	Aug-18-17 (	)3:56	Aug-18-17 (	94:04	Aug-18-17 (	04:11	Aug-18-17 (	)4:19	Aug-18-17 (	04:42
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		81.4	4.92	150	4.92	63.4	4.94	409	4.95	79.6	4.98	70.3	4.94

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Version: 1.%

Jenman

Gale Denman Project Manager



## Certificate of Analysis Summary 560317

Tetra Tech- Midland, Midland, TX

Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H



Project Id:212C-MD-00901Contact:Ike TavarezProject Location:Lea co,NM

Date Received in Lab:Wed Aug-16-17 01:06 pmReport Date:18-AUG-17Project Manager:Kelsey Brooks

	Lab Id:	560317-0	013	560317-0	14	560317-0	15	560317-0	16	560317-0	017	560317-0	18
Analysis Requested	Field Id:	Bottom hole	e #23	East Side wa	11 #23	West Sidewa	11 #23	South Sidewa	11 #23	AH1 Step ou	t (0-1)	AH2 Step out	(0-1)
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-15-17 00:00		Aug-15-17 (	00:00	Aug-15-17 (	00:00	Aug-15-17 (	00:00	Aug-15-17	00:00	Aug-15-17 (	00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-17-17	15:15	Aug-17-17	15:15	Aug-17-17	5:15	Aug-17-17 1	5:15	Aug-17-17	15:15	Aug-17-17 1	15:15
	Analyzed:	Aug-18-17	04:50	Aug-18-17 (	)5:13	Aug-18-17 (	)5:20	Aug-18-17 (	5:28	Aug-18-17	05:36	Aug-18-17 (	)5:43
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		30.7	4.97	43.3	4.96	141	4.94	418	4.90	127	4.93	69.7	4.91

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

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Gale Denman Project Manager



# **Flagging Criteria**



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

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection
PQL Practical Quantitation Limit	MQL Method Quantitation Limit	LOQ Limit of Quantitation

- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



### **BS / BSD Recoveries**



## Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H

Work Order #: 560317							Pro	ject ID: 2	212C-MD-0	0901					
Analyst: MGO	D	ate Prepar	red: 08/17/201	7	<b>Date Analyzed:</b> 08/18/2017										
Lab Batch ID: 3025291 Sample: 729497-1-1	BKS	Bate	<b>h #:</b> 1	Matrix: Solid											
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]		Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag				
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]								
Chloride	<4.98	249	259	104	249	255	102	2	90-110	20					

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



### Form 3 - MS / MSD Recoveries



### Project Name: D&T Trucking/E06 Speedy 16 State Comminsle 501 H

Work Order # :	560317						Project II	<b>):</b> 212C-1	MD-0090	1		
Lab Batch ID:	3025291	QC- Sample ID:	560317	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	08/18/2017	Date Prepared:	08/17/2	017	An	alyst: 1	MGO					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]		[D]	[E]	Kesun [F]	[G]	/0	701	70KI D	
Chloride		<4.97	249	267	107	249	265	106	1	90-110	20	
Lab Batch ID:	3025291	QC- Sample ID:	560317	-011 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
Date Analyzed:	08/18/2017	Date Prepared:	08/17/2	017	An	alyst: 1	MGO					
<b>Reporting Units:</b>	mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
Inorga	nic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike	Duplicate Spiked Sample	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes	[A]	[B]	[0]	<sup>7</sup> 0K [D]	Added [E]	Result [F]	%K [G]	70	70K	70KPD	
Chloride		79.6	249	338	104	249	335	103	1	90-110	20	

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

	Relinquished by:	Contraction by	Relinfuished by:	Relinquished by:	6	-	0	6		0	0		6	( LAB USE )	LAB #			Comments:	Receiving Laboratory:	Invoice to:	Project Location: (county. state)	Project Name:	Client Name	
	Date: Time:	Date: Time:	1.9	Date: Time:	hour 1 + a	sel	Bettomhule # 21	west sidewall #20	Est Schewall # 20	Bottimhole # 20	west side wall # 19	Fax Side wall # 19	bottomhole #19		SAMPLE IDENTIFICATION		48 HK Jurnarand	Xanco		Lea Lo, Nm	de la Alte commingle 30/ H	1 11 Octions / Earlo	Terra Terri, IIIC.	Totro Tach Inc
ORIGINAL COPY	Received by:	Received by:	Manne	Received her	6								£	DATE	YEAR:	SAMPLING			Sampler Signature:	alde	Project #:	t t	Site Manager:	
Ye	De	Da	amph S	X	×	×	×	× .	× 7	< :	×7	<>	×	TIME WATER SOIL		MATRIX		nation m		-ml-ongo		le lavore	401 M Tel Fax	4000 N. E
	Date: Time:	Date: Time:	FULTINE:	×	×	×	×>	×	< >	×	< >	( )	ŀ	HCL HNO3 CE		PRESERVATIVE		and		101		er.	401 Midland, Texas 79705 Tel (432) 682-4559 Fax (432) 682-3946	lig Spring Street Ste
		Ŕ	06	1 1	- 2	- 1				- /	- 10	1	F		) (Y/	-								
Temp: CF:(0-6: -0.2°C (6-23: +0.2°		Sample Temperature	LAB USE										TI TI P/ Tc	TEX 802 PH TX10 PH 8015 AH 8270 otal Metal	005 (E M ( C C Is Ag	Ext to 0 GRO - As Ba	DRO - C	DRO - Pb Se	Hg	)		(Cir	Sla	
	Rush Ch Special	RUSH:	REMARKS:										T( T( R( G(	C/MS Vol	tiles i Vola . 826	atiles 60B / 6	324		Hg			ANALYSIS REQUEST	0317	
IR ID:R-8	]Rush Charges Authorized  Special Report Limits or TRRP Report	RUSH: Same Day 24 hr		*	<	~	4	~	+	*	1	×	PC NC PL	C/MS Ser CB's 808 DRM M (Asbes	2 / 60 stos)	8						ANALYSIS REQUEST		Page
	RRP Report	1r (48 hr) 72 hr											Ge	loride eneral Wa ion/Catio		Chemi		e attac	ched	list)	_	No.)		L

Page 11 of 13

Final 1.000



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Final 1.000



### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 08/16/2017 01:06:00 PM Temperature Measuring device used : R8 Work Order #: 560317 Comments Sample Receipt Checklist 8.2 #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? Yes #3 \*Samples received on ice? Yes #4 \*Custody Seal present on shipping container/ cooler? N/A #5 \*Custody Seals intact on shipping container/ cooler? N/A #6 Custody Seals intact on sample bottles? N/A #7 \*Custody Seals Signed and dated? N/A #8 \*Chain of Custody present? Yes #9 Sample instructions complete on Chain of Custody? Yes #10 Any missing/extra samples? No #11 Chain of Custody signed when relinguished/ received? Yes #12 Chain of Custody agrees with sample label(s)? Yes #13 Container label(s) legible and intact? Yes #14 Sample matrix/ properties agree with Chain of Custody? Yes #15 Samples in proper container/ bottle? Yes #16 Samples properly preserved? Yes #17 Sample container(s) intact? Yes #18 Sufficient sample amount for indicated test(s)? Yes #19 All samples received within hold time? Yes #20 Subcontract of sample(s)? No #21 VOC samples have zero headspace? N/A

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Date: 08/16/2017

Checklist completed by: Jane Mato Shawnee Smith Checklist reviewed by: Mark Moah Kelsey Brooks

Date: 08/16/2017