SITE INFORMATION

4

			Type: Clo					
General Site Info	rmation:							
Site:		Brigham H	South Tank Ba	ttery				
Company:	· · · · · · · · · · · · · · · · · · ·	COG Operat		<u>_</u>				
Section, Townsh	ip and Range	Unit C	Sec. 28	T-17-S	R-30-E			
Lease Number:		API-30-015-	50473					
County:		Eddy Count						
GPS:			32.81208° N			103	3.97825° W	
Surface Owner:		Federal	·····					
Mineral Owner:								
Directions:			at intersection of Hagerman Cutoff and Hwy 82, travel south on Hagerman Cutoff					
	0.		.3 miles, turn left east 0.5 miles to location on left.					
				<u> </u>				
the second se		6			Cart Alter a			
Date Released:		5/16/2012				RECE	EIVED	
Type Release:		Oil					····· •···· •··· •···· •····	
Source of Contarr	nination:		ump seal failure)		NOV O	1 2012	
Fluid Released:	· · · · · · · · · · · · · · · · · · ·	13 bbls						
Fluids Recovered		10 bbls				the base of the second s	ARTESIA	and a second
	ication:					NAR WAY		A BRIDE TOTAL
Name:	Pat Ellis			Ike Tavare	ez			
Company:	COG Operating, LL	С			Tetra Tecl	h		
Address:	550 W. Texas Ave.	Ste. 1300			1910 N. B	ig Spring		
P.O. Box	1		1			<u> </u>		
City:	Midland Texas, 797	01			Midland, Texas			
Phone number:	(432) 686-3023	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+					
					(432) 682-4559			
Fax:	(432) 684-7137			······································				
Email:	pellis@conchoreso	urces.com			<u>like. I avar</u>	varez@tetratech.com		
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Ranking Criteria						the more un		
Depth to Groundw	ater:		Ranking Score			Site Da	ita	
<50 ft			20					
50-99 ft			. 10					
>100 ft.			0			0		
Wallland Deterri			Dentrin a Con	<u> </u>		04- P		
WellHead Protection	o n: 00 ft., Private <200 ft		Ranking Score	<u>'</u>		Site Da	lia	
	00 ft., Private >200 ft		0			0		
		<u>.</u>	†					
Surface Body of W	/ater:		Ranking Score	,		Site Da	ita	
<200 ft.			20					
200 ft - 1,000 ft.			10				·····	
>1,000 ft.		<u>.</u>	0		Neg a san Minadhan Agas ay ay a sa dh	0	a and the second se	
		The second second	Carl Contraction of the	298				
Iota	al Ranking Score:	法事物 化合正量合金	1					
					9 Y			
		ومعورته بالمراز التكريد ومتوجد التناكر	able Soil RRAL		<u></u>			2
		Benzene	Total BTEX		4			f.
		10	50	5,000				e
						_		1



October 10, 2012



Mr. Mike Bratcher Environmental Engineer Specialist Oil Conservation Division, District 2 811 S. First Street Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Brigham H South Tank Battery Located in Unit C, Section 28, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Brigham H South Tank Battery Located in Unit C, Section 28, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81208°, W 103.97825°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Oil Conservation Division (NMOCD) Form C-141 Initial Report, the leak was-discovered on May 16, 2012, and released approximately thirteen (13) barrels (bbls) of oil due to a seal failure on a circulating pump. COG personnel replaced the defective seal. Approximately ten (10) bbls of free fluids were recovered from the spill area.

The spill initiated from the circulating pump on the west side of the tank battery. The spill migrated along the berm edges both on the north and south berm edge. The spill measures approximately 95'x4' (south edge), 55'x3' (north edge), and source area 25'x15'. The footprint of the spill is shown on Figure 3. The initial Form C-141 is enclosed in Appendix A.



Groundwater

No wells were located in Section 28. According to the NMOCD groundwater map, depth to groundwater in this area is approximately 275' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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

Prior to sampling, COG removed approximately 3"-6" from the spill area. On July 3, 2012, Tetra Tech personnel inspected and sampled the spill area. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils to a maximum depth of 2.0' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.

Referring to Table 1, auger holes (AH-1, AH-3, and AH-4) were below the RRAL for TPH and BTEX. Auger holes (AH-2, AH-5, and AH-6) exceeded the RRAL for TPH with concentrations ranging from 5,620 mg/kg to 11,120 mg/kg at 0-1' below surface. In additional, auger holes (AH-2, AH-3, and AH-6) exceeded the RRAL for total BTEX with concentrations ranging from 58.4 mg/kg to 131 mg/kg at 0-1' bgs. Due to a dense shallow caliche layer, deeper samples could not be collected with a hand auger.

2



Remediation and Closure Request

From August 27, 2012 through August 30, 2012, Tetra Tech personnel supervised the excavation of the spill area. The spill footprint and final excavation depths of the soil remediation were met as stated in the approved work plan. The impacted areas were excavated to a depth of AH-2 (2.0'), AH-4 (3.0'), AH-5 (1.0') and AH-6 (2.0'). Based on the field data, deeper excavation was not performed in the area of AH-4 due to safety concerns. During inspection, the field chloride data was reviewed with the BLM and only requested confirmation samples from the excavation bottoms and approved the backfilling of the site. Approximately 30 cubic yards were removed and disposed of at R360 facility.

On August 29, 2012, Tetra Tech personnel collected confirmation samples (CS-1, CS-2 and CS-3) to evaluate the excavation bottoms. Referring to Table 1, all confirmation samples were below the RRAL for TPH or BTEX and the chloride concentrations in the area of AH-4 declined with depth.

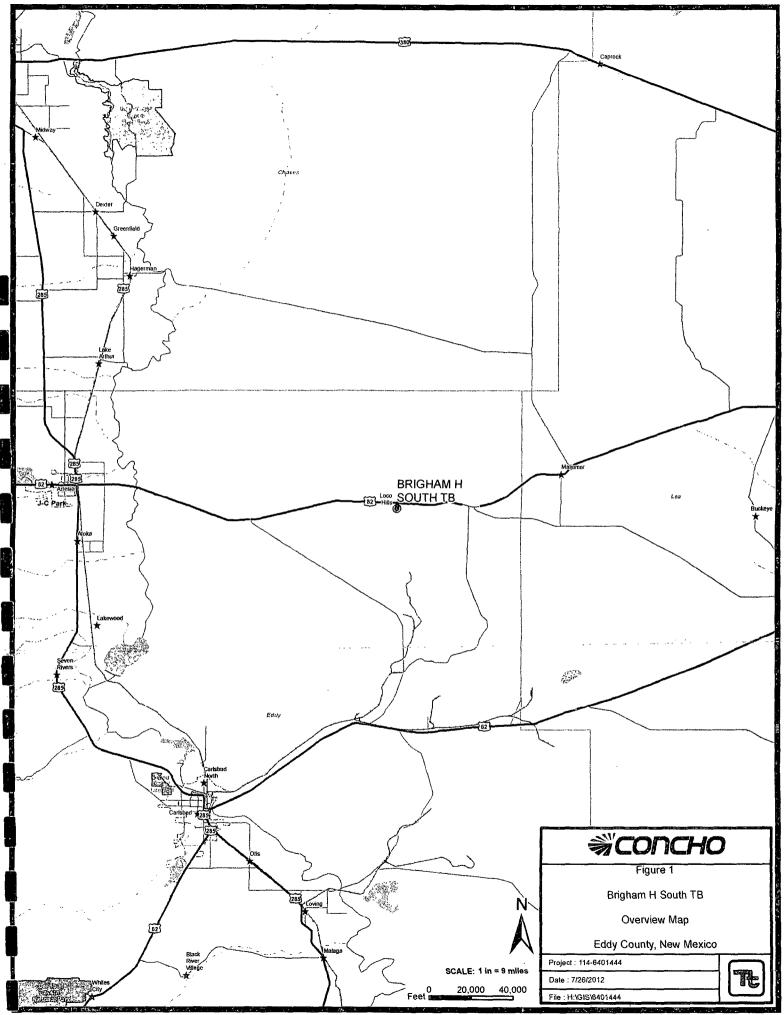
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted, TETRA TECH

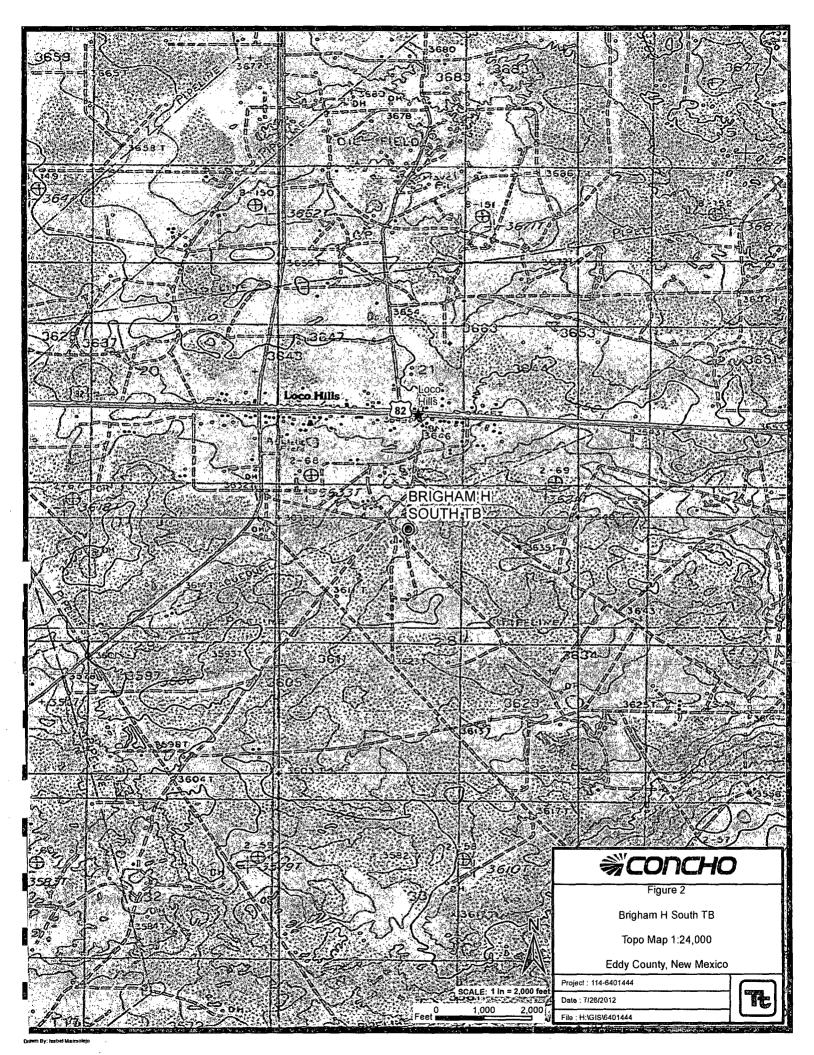
Ike Tavarez Senior Project Manager

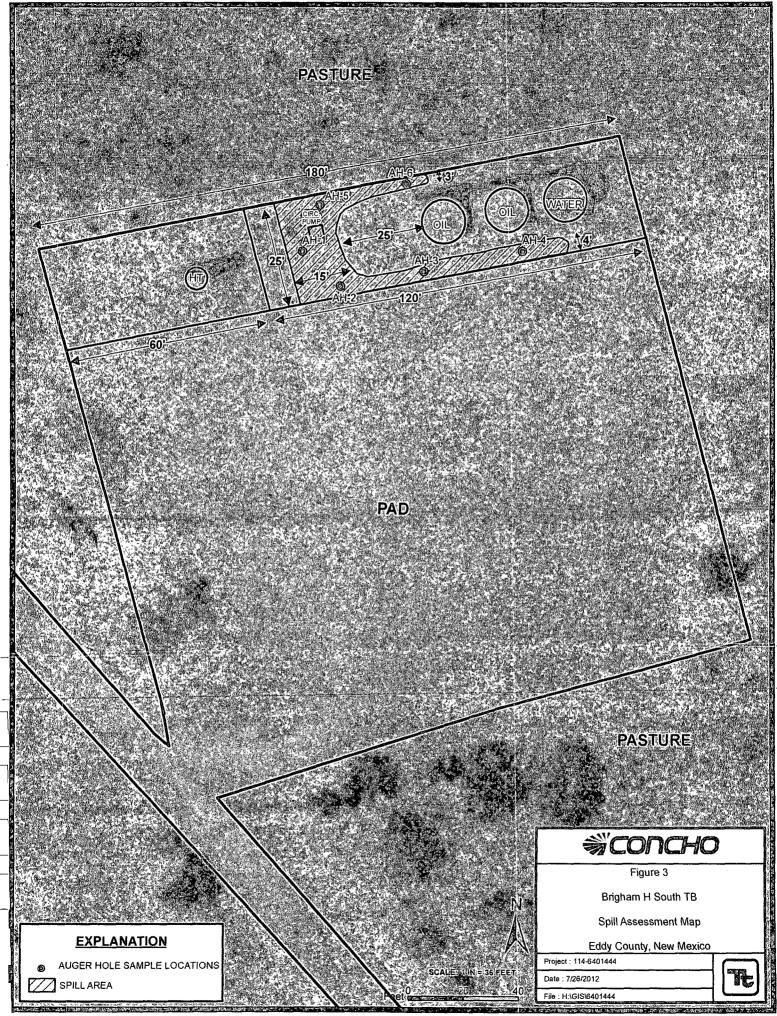
cc: Pat Ellis – COG Terry Gregston - BLM

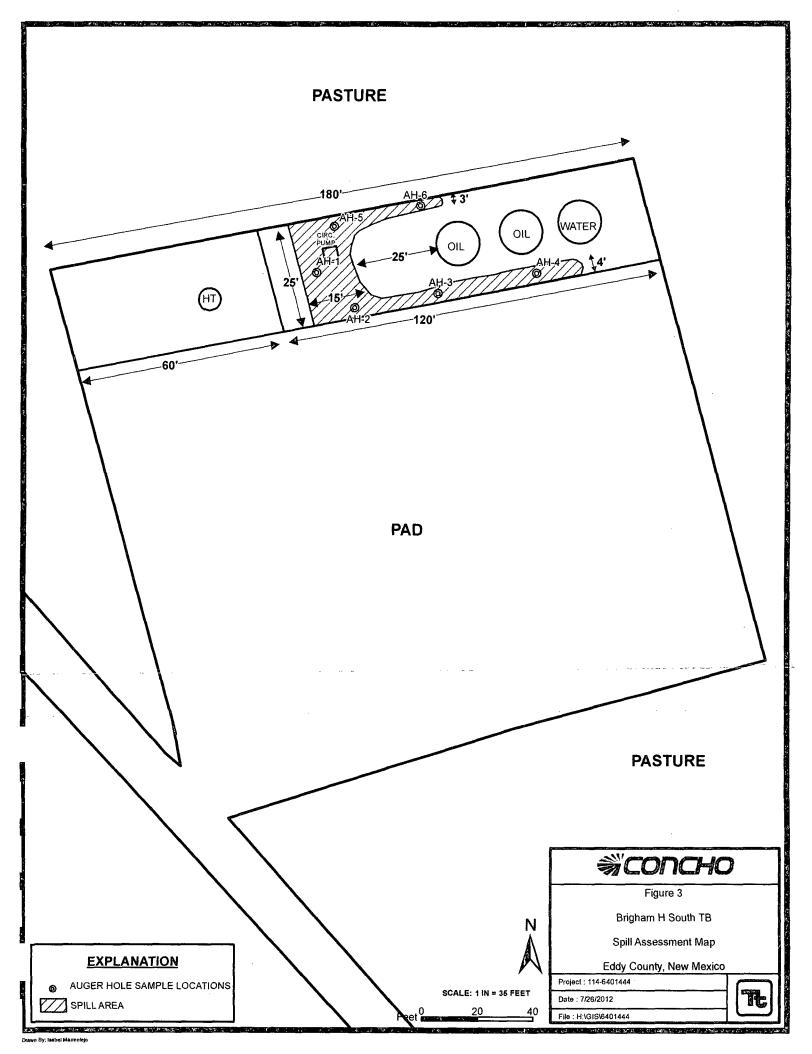
FIGURES

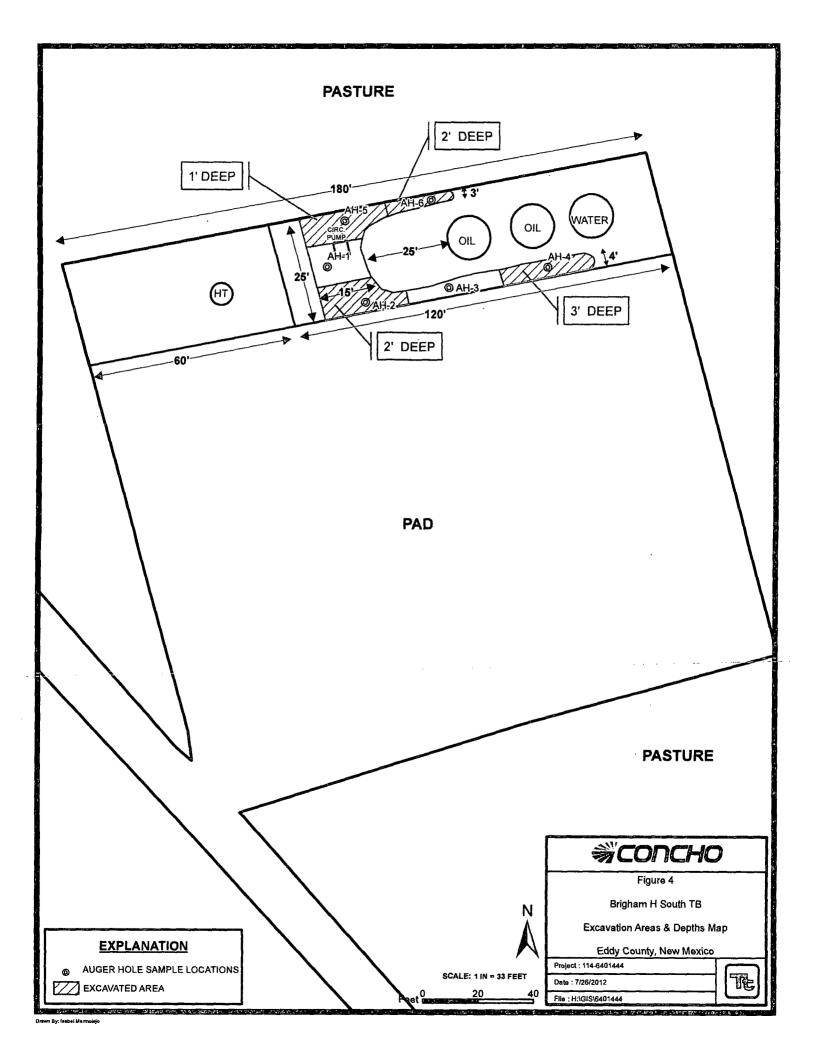


Drawn By: Isabel Marmolojo









TABLES

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Table 1

COG Operating LLC. Brigham H South Tank Battery Eddy County, New Mexico

Sample	Sample	Sample	BEB	Soil	Status	-	TPH (mg/k	g)	Benzene	Toluene	e Ethlybenzene	Xylene	Total	Chloride
ID	Date	Depth (ft)	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
AH-1	7/3/2012	0-1	0.5	Х		21.9	1,590	1,612	0.0231	0.645	0.335	0.507	1.51	99.6
	đi	1-1.5	0.5	Х	, . 1	-	-	-	-	-	-	-	-	<20.0
	11	1.5-2	0.5	X		-	-	-	-	-	-	-	-	<20.0
AH-2	7/3/2012	0-1	0.5		<u>и</u> • Х	1,620	4,000	5,620	0.264	22.4	38.1	69.8	131	<20.0
	11	1-1.5	0.5		X		-							94.6
CS-1	8/29/2012	2' Bottom	-	X		9.32	99.1	108	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-3	7/3/2012	0-1	0.5	X		46.6	711	758	0.0609	0.245	0.411	0.713	1.43	632
AH-4	7/3/2012	0-0.5	0.5		X	6.65	72.9	. 79.6	<0.0200	0.0504	0.0227	0.0236	0.097	4,320
CS-3	8/29/2012	3' Bottom	-	X		-	-	-		-	-	-	-	1,250
AH-5	7/3/2012	0-1	0.5		X	1,120	10,000	11,120	<0.200	7.82	18.3	32.3	58.4	<20.0
	17	1-1.5	0.5	X		763	4,060	4,823	<0.400	4.10	8.63	16.4	29.1	<20.0
AH-6	7/3/2012	0-1	0.5	* 1.s	X	2,750	4,200	6,950	2.05	8.85	, 22.9	24.9	58.7	. 76.0
CS-2	8/29/2012	2' Bottom	-	X		106	86.7	193	<0.0200	<0.0200	0.0983	0.439	0.537	-
		والمحاولة المتحد والمتحد												

(-) Not Analyzed

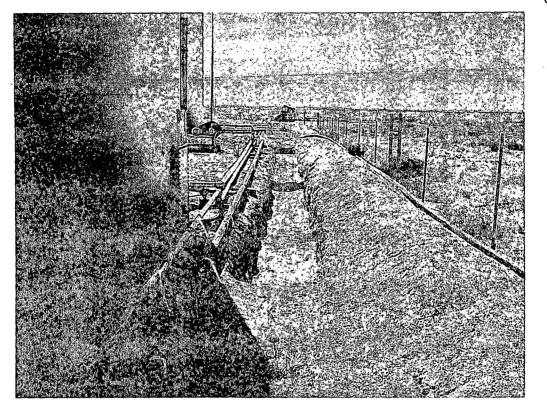
(BEB) Below Excavation Bottom

Excavation Depths

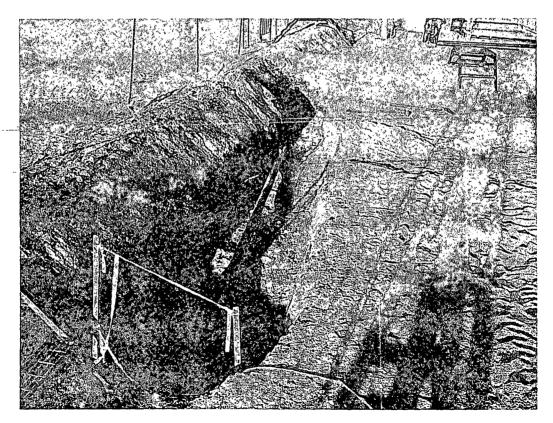
PHOTOGRAPHS

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COG Operating LLC Brigham H South Tank Battery Eddy County, New Mexico



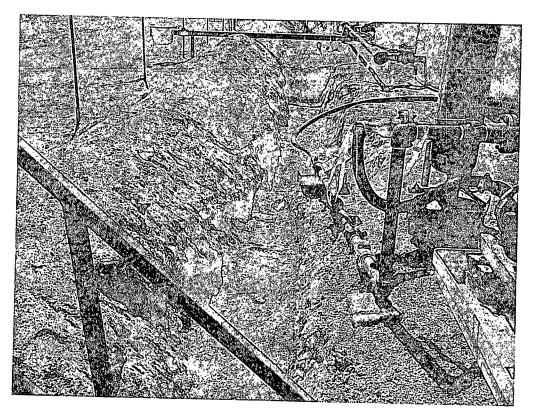
View West - Excavation of AH-6 and AH-5



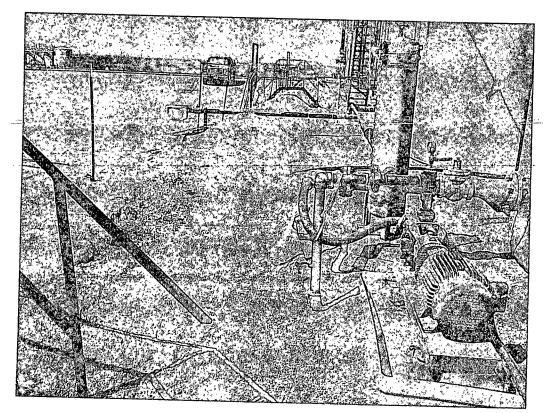
View West - Excavation of AH-2

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COG Operating LLC Brigham H South Tank Battery Eddy County, New Mexico



View West - Excavation of AH-4



View west – Backfill



Appendix A

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301 11 0	N. French Dr., Hobbs, NM 88240 ict II Energy Mine W. Grand Avenue, Artesia, NM 88210						ico I Resources	RECEIV	ED Form C-14 Revised October 10, 200		
<u>District III</u>	-			Oil C	Conse	rvation Div	vision	NOV 012	012Submi 2 Copies to appropriat District Office in accordanc		
000 Rio Brazos <u>District IV</u>				1220	Sout	h St. Franc	is Dr.		with Rule 116 on bac		
220 S. St. Franc	cis Dr., Santa	1 Fe, NM 87505		Sa	inta F	e, NM 875	05 <u>N</u>	MOCD ART	ESIA side of form		
			Rele	ease Notific	eatio	n and Co	orrective A	ction			
						OPERAT			tial Report 🛛 Final Repo		
Name of Co Address				ng LLC lland, Texas 79'	701	Contact Telephone N		at Ellis 230-0077			
Facility Nan		righam H S			101	Facility Typ		ank Battery			
Surface Ow	ner: State			Mineral C)wner				No. (API#) 30-015-31366		
			· · · · · · · · · · · · · · · · · · ·			N OF REI	EASE				
Unit Letter	Section	Township	Range	Feet from the		h/South Line	Feet from the	East/West Line	e County		
С	28	17	30E						Eddy		
	L	\		L otitudo 32	18 77	0 I ongitud	e 103 58.685	I			
						COF RELI					
Type of Relea	ase: Oil				UNC		Release 13 bbls	oil Volume	e Recovered 10 bbls oil		
Source of Rel	lanca: Circu	lating Pump				Data and W	lour of Occurrence	Data an	d Hour of Discovery		
						05/16/2012 05/16/201			2012 1:03 p.m.		
Was Immedia	ate Notice C		Yes 🕅	No 🛛 Not Re	anired	If YES, To Whom?					
By Whom? Jo	osh Russo					Date and H	our				
Was a Watero				······································		If YES, Vo	lume Impacting	the Watercourse.			
			Yes 🛛			N/A					
If a Watercou	irse was Im	pacted, Descri	be Fully. [*]	ĸ							
								······			
Describe Cau	se of Proble	em and Remed	lial Action	n Taken.*							
Describe Cau The seal on th replaced.					ıbsequ	ently caused a	release of oil into	the facility. The	e seal inside the pump has been		
The seal on the replaced.	he circulatir	ng pump was r	ot workin	ng correctly and su	ıbsequ	ently caused a	release of oil into	o the facility. The	e seal inside the pump has been		
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State of New Mexico Energy Minerals and Natural Resources

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

Closest well location

Release Notification and Corrective Action

		OPERATOR	\boxtimes	Initial Report	Final Report
Name of Company COG OPERATING LL	.C	Contact	Pat Ellis		
Address 550 W. Texas, Suite 100, Midland	I, TX 79701	Telephone No.	432-230-0077		
Facility Name Brigham H South Tank Battery	у	Facility Type	Tank Battery		
Surface Owner Federal	Mineral Owne	r		Lease No. (API#)	30-015-50473

LOCATION OF RELEASE

Unit Letter	Section 28	Township 17	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
~								

Latitude 32 48.720 Longitude 103 58.685

NATURE OF RELEASE

Type of Release Oil	Volume of Release 13bbls	Volume Re	covered 10bbls						
Source of Release Circulating pump	Date and Hour of Occurrence	Date and Ho	our of Discovery						
	05/16/2012	05/16/2012	1:03 p.m.						
Was Immediate Notice Given?	If YES, To Whom?								
🗌 Yes 🖾 No 🖾 Not Required									
By Whom?	Date and Hour								
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	atercourse.							
🗋 Yes 🖾 No									
If a Watercourse was Impacted, Describe Fully.*	d aun								
Describe Cause of Problem and Remedial Action Taken.*	· · · · · · · · · · · · · · · · · · ·								
The seal on the circulating pump was not working correctly and subsequently caused a release of oil into the facility. The seal inside the pump has been replaced.									
Describe Area Affected and Cleanup Action Taken.*									
Initially 13bbls of oil was released from the circulating pump and we were able to recover 10bbls with a vacuum truck. All free fluid has been recovered and several inches of the contaminated soil has been removed from the facility and hauled to disposal. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.									
I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release no public health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remediate or the environment. In addition, NMOCD acceptance of a C-141 report do federal, state, or local laws and/or regulations.	otifications and perform corrective at NMOCD marked as "Final Report" e contamination that pose a threat to	tions for release does not reliev ground water, s	ses which may endanger we the operator of liability surface water, human health						
	OIL CONSER	VATION D	DIVISION						
Signature: Jan 1/5									
Printed Name: Josh Russo	Approved by District Supervisor:								
Title: HSE Coordinator	Approval Date:	Expiration Da	ite:						
	Conditions of Approval:		Attached						
Date: 06/04/2012 Phone: 432-212-2399									

* Attach Additional Sheets If Necessary

APPENDIX B

.

Water Well Data Average Depth to Groundwater (ft) COG - Brigham H South Tank Battery Eddy County, New Mexico

7 8 9 10 11 12 7 8 9 10 11 12 18 17 16 15 14 13 19 20 21 22 23 24 80 20 21 22 23 24 30 29 210 28 27 26 25 208' 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 18 17 16 15 14 13 12 13 13 2 23 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 18 17 16 15 14 13 16 5 4 3 2 1 7 8 9 <th< th=""><th></th><th>16 Sc</th><th>outh</th><th>2</th><th>29 East</th><th></th></th<>		16 Sc	outh	2	29 East	
18 17 16 15 14 13 19 20 21 22 23 24 100 29 28 27 26 25 30 29 28 27 26 25 31 32 33 34 35 36 17 South 29 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 2 1 7 8 9 10 11 12 18 17 16 15 14 13 19 20 21 22 23 24 30 29 21 22 23 24 30 2 1 19 20 21 22 23 24 30 29 28 27 26 25	6	5	4	3	2	1
19 20 21 22 23 24 30 29 28 27 26 25 31 32 33 34 35 36 17 South 29 East 17 South 30 29 28 27 26 25 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31	7	8	9	10	11	12
110 29 28 27 26 25 31 32 33 34 35 36 17 South 29 East 17 South 30 East 17 South 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 36 31 32 33 34 35 36 17 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 31 32 33 34 35 36 31 32 33 34 35 36 31 32 31 32 <	18	17	16	15	14	13
30 29 28 27 26 25 30 29 28 27 26 25 31 32 33 34 35 36 11 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 36 31 32 33 34 35 36 36 31 32 33 34 35 36 36 31 32 33 34 35 36 36 31 32 33 34 35 36 31 32 33 34 35 <		20	21	22	23	24
17 South 29 East 17 South 30 East 17 South 30 East 17 South 18 East 17 South 17 South 18 East 18 East 17 South 18 East 18 East 17 South 18 East 18 East 19 East 18 East <th< td=""><td></td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td></th<>		29	28	27	26	25
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 29 210 28 27 26 25 31 32 33 34 35 36 31 32 33 34 35 36 18 20 21 22 23 24 30 29 28 27 26 25 31 32 33 34 35 36 11 12 13 2 1 30 29 28 27 26 25 31 32 33 34 35 36 31 32 11 12 7 8 9 10 11 12 12 23 <td< td=""><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td></td<>	31	32	33	34	35	36
7 8 9 10 11 12 18 17 16 15 14 13 19 20 21 22 23 24 30 29 210 28 27 26 25 208' 33 34 35 36 18 17 16 15 14 13 19 20 21 22 23 24 30 29 210 28 27 26 25 31 32 33 34 35 36 18 17 16 15 14 3 2 1 7 8 9 10 11 12 18 17 16 5 4 3 2 1 7 8 9 10 11 12 18 17 16 15 14 13 18 17 16 15 14 3 2 1 7 8 9 <		17 Se	outh	:	29 East	
18 17 16 15 14 13 19 20 21 22 23 24 30 29 210 28 27 26 25 31 32 33 34 35 36 36 31 32 33 34 35 36 18 17 16 15 14 13 19 20 21 22 23 24 30 29 28 27 26 25 30 29 28 27 26 25 31 32 33 34 35 36 31 32 33 34 35 36 18 Outh 29 East 18 South 30 East 18 30 East 18 30 East 18 17 16 15 14 13 13 13 14 13 13 13 13 13 13 13 14 13 13 13 14 13	6	5	4	3	2	1
19 20 21 22 23 24 30 29 210 28 27 26 25 31 32 33 34 35 36 31 32 33 34 35 36 19 20 21 22 23 24 19 20 21 22 23 24 31 32 33 34 35 36 36 31 32 33 34 35 36 18 South 29 East 18 South 30 East 18 30 East 18 17 16 15 14 13 18 17 16 15 14 13 18 17 16 15 14 13 19 20 21 22 23 24 19 20 21 22 23 24 13 16 5 4 3 2 1 1 1 1 1 1 1 1 1 1	7	8	9	10	11	12
30 29 210 28 27 26 25 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 36 36 31 32 33 34 35 36 36 36 36 36 36 36 <	18	17	16	15	14	13
30 29 210 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 34 35 36 31 32 33 18 South 30 East 18 South 30 East 18 South 6 5 4 3 2 1 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 18 17 16 15	19	20	21		23	24
31 32 33 34 35 36 31 32 33 34 35 36 18 South 29 East 18 South 30 East 31 32 33 6 5 4 3 2 1 6 5 4 3 2 1 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 18 17 16 15 14 13 18 17 16 15 14 13 19 20 21 22 23 24 19 20 21 30 29	30		28		26	25
6 5 4 3 2 1 7 8 9 10 11 12 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		33	34		36
7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 7 8 9 10 11 12 18 17 16 15 14 13 19 20 21 22 23 24 30 29 28 27 26 25		18 So	outh	1	29 East	
18 17 16 15 14 13 19 20 21 22 23 24 30 29 28 27 26 25	6	5	4	3	2	1
19 20 21 22 23 24 19 20 21 22 23 24 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28 27 26 25 30 29 28	7	8	9	10	11	12
30 29 28 27 26 25 30 29 28 27 26 25 30 29 28	18	17	16	15	14	13
	19	20	21	22	23	24
31 32 33 34 35 36 31 32 33 34 35 36 31 32 33	30	29	28	27	26	25
	31	32	33			

New Mexico State Engineers Well Reports

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Site Location -Brigham H South Tank Battery

APPENDIX C

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· · ·

Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

Report Date: July 20, 2012

Work Order: 12070519

Project Location:Eddy Co., NMProject Name:COG/Brigham H South Tank BatteryProject Number:114-6401444

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
302766	AH-1 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302767	AH-1 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302768	AH-1 1.5-2' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302769	AH-2 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302770	AH-2 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302771	AH-3 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302772	AH-4 05' (6-in. BEB)	soil	2012-07-03		2012-07-05
302773	AH-5 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302774	AH-5 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
- 3027-75	AH-6 0-1' (6 in. BEB)	soil	2012-07-03	00:00	

		BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
302766 - AH-1 0-1' (6 in. BEB)	0.0231	0.645	0.335	0.507		1590 Q8	21.9 Q8
302769 - AH-2 0-1' (6 in. BEB)	0.264	22.4	38.1	69.8		4000 Qs	1620 Je,Q8
302771 - AH-3 0-1' (6 in. BEB)	0.0609	0.245	0.411	0.713		711 Qs	46.6 Qs
302772 - AH-4 05' (6 in. BEB)	<0.0200	0.0504	0.0227	0.0236		72.9 Qs	6.65 Qs
302773 - AH-5 0-1' (6 in. BEB)	$< 0.200^{-1}$	7.82	18.3	32.3		10000 Qs	1120 Je,Qs
302774 - AH-5 1-1.5' (6 in. BEB)	<0.400 ²	4.10	8.63	16.4	< 0.400	4060 Qs	763
302775 - AH-6 0-1' (6 in. BEB)	2.05	8.85	22.9	24.9		4200 Q₅	2750 ³ Qs

Sample: 302766 - AH-1 0-1' (6 in. BEB)

continued ...

¹Dilution due to excessive hydrocarbons.

²Dilution due to excessive hydrocarbons.

³Sample weighed out of 48-hr preservation time.

Work Order: 12070519

sample 302766 continued ...

Param	Flag	Result	Units	RL
Param	Flag	Result	Units	RL
Chloride		99.6	mg/Kg	4

Sample: 302767 - AH-1 1-1.5' (6 in. BEB)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 302768 - AH-1 1.5-2' (6 in. BEB)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 302769 - AH-2 0-1' (6 in. BEB)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 302770 - AH-2 1-1.5' (6 in. BEB)

Param	Flag	= 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1	Units	RL
Chloride		94.6	mg/Kg	4

Sample: 302771 - AH-3 0-1' (6 in. BEB)

Param	Flag	Result	Units	RL
Chloride		632	mg/Kg	4

Sample: 302772 - AH-4 0-.5' (6 in. BEB)

Param	Flag	Result	Units	RL
Chloride		4320	mg/Kg	4

Sample: 302773 - AH-5 0-1' (6 in. BEB)

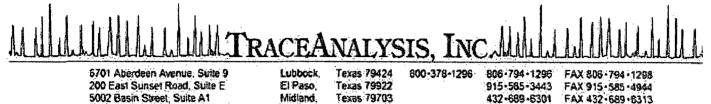
Report Date: July 20, 2012		Work Order: 12070519		Page Number: 3 of 3	
Param	Flag	Result	$\mathbf{U}\mathbf{n}\mathbf{i}\mathbf{t}\mathbf{s}$	RL	
Chloride		<20.0	mg/Kg	4	
Sample: 302774	- AH-5 1-1.5' (6 in. B	EB)			
Sample: 302774 Param	- AH-5 1-1.5' (6 in. B Flag	EB) Result	Units	RL	

Sample: 302775 - AH-6 0-1' (6 in. BEB)

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Param	Flag	Result	Units	RL
Chloride		76.0	mg/Kg	4

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5002 Basin Street: Suite A1 (BioAquatic) 2501 Mayes Rd., Suite 100

Midland. Carrolizon,

Texas 79703 Texas 75006

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

NCTRCA NELAP DoD LELAP WBE HUB DBE Kansas Oklahoma ISO 17025

Analytical and Quality Control Report (Corrected Report)

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: July 20, 2012

Work Order: 12070519 10721 NOTE BOTT FOTO NOTE STATE NOTE NOTE NOTE FOR STATE

972-242 -7750

Project Location: Eddy Co., NM Project Name: COG/Brigham H South Tank Battery 114-6401444 Project Number:

-Enclosed-are the Analytical Report-and Quality Control-Report-for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
302766	AH-1 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302767	AH-1 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302768	AH-1 1.5-2' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302769	AH-2 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302770	AH-2 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302771	AH-3 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302772	AH-4 05' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302773	AH-5 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302774	AH-5 1-1.5' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05
302775	AH-6 0-1' (6 in. BEB)	soil	2012-07-03	00:00	2012-07-05

Report Corrections (Work Order 12070519)

• 7/10/12: Added BTEX to sample 302774.

• 7/18/12: Removed 48-hour flag from BTEX.

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 40 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael aller

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

.

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Sample 302766 (AH-1 0-1' (6 in. BEB))	6
Sample 302767 (AH-1 1-1.5' (6 in. BEB))	7
Sample 302768 (AH-1 1.5-2' (6 in. BEB))	7
Sample 302769 (AH-2 0-1' (6 in. BEB))	8
Sample 302770 (AH-2 1-1.5' (6 in. BEB))	9
Sample 302771 (AH-3 0-1' (6 in. BEB))	9
Sample 302772 (AH-4 05' (6 in. BEB))	11
Sample 302773 (AH-5 0-1' (6 in. BEB))	12
Sample 302774 (AH-5 1-1.5' (6 in. BEB))	14
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QC Batch 92803 - LCS (1)	22 22
•	22 22
	22
	23
	23 23
	23 24
	25
	$\frac{25}{25}$
	26
	26 26
QC Batch $92804 - MS(1)$	$\frac{20}{27}$
QC Batch $92862 - MS (1) \dots \dots$	27
	$\frac{27}{27}$
•	
$-\mathbf{v} = -$	28 20
	29 20
	29 20
$-\mathbf{v} = -$	30
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Calibration Standards

•••

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QC Batch 92885 - CCV (2)	34
QC Batch 92885 - CCV (3)	
QC Batch 92886 - CCV (1)	
QC Batch 92886 - CCV (2)	35
QC Batch 92886 - CCV (3)	
QC Batch 92978 - CCV (1)	35
QC Batch 92978 - CCV (2)	35
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Case Narrative

Samples for project COG/Brigham H South Tank Battery were received by TraceAnalysis, Inc. on 2012-07-05 and assigned to work order 12070519. Samples for work order 12070519 were received intact at a temperature of 4.0 C.

Prep Prep \mathbf{QC} Analysis Test Method Batch Date Batch Date BTEX S 8021B 78768 2012-07-10 at 14:25 92885 2012-07-10 at 14:25 S 8021B BTEX 78843 2012-07-11 at 15:36 92978 2012-07-11 at 15:36 Chloride (Titration) SM 4500-Cl B 78690 2012-07-06 at 08:44 92803 2012-07-06 at 14:55 Chloride (Titration) SM 4500-Cl B 78690 2012-07-06 at 08:44 92804 2012-07-06 at 14:56 MTBE S 8021B 78768 2012-07-10 at 14:25 92885 2012-07-10 at 14:25 TPH DRO - NEW S 8015 D 78748 2012-07-09 at 09:00 92862 2012-07-09 at 11:00 TPH DRO - NEW S 8015 D 78943 2012-07-16 at 15:00 93102 2012-07-16 at 15:22 S 8015 D TPH GRO 78768 2012-07-10 at 14:25 92886 2012-07-10 at 14:25 2012-07-11 at 15:36 TPH GRO S 8015 D 7884392979 2012-07-11 at 15:36 TPH GRO S 8015 D 78890 2012-07-13 at 16:19 93030 2012-07-13 at 16:19

Samples were analyzed for the following tests using their respective methods.

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12070519 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: July 20, 2012 114-6401444

Analytical Report

Sample: 302766 - AH-1 0-1' (6 in. BEB)

Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843		Date Ana	l Method: lyzed: reparation	2012-07	-11		Prep Method Analyzed By Prepared By:	: ZLM
				RL				
Parameter	Flag	Cert		Result	Units		Dilution	RL
Benzene		1	0	0.0231	mg/Kg		1	0.0200
Toluene		1		0.645	mg/Kg		1	0.0200
Ethylbenzene		1		0.335	mg/Kg		1	0.0200
Xylene		1		0.507	mg/Kg		1	0.0200
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.06	mg/Kg	1	2.00	103	70 - 130
4-Bromofluorobenzene (4-BFB)			2.21	mg/Kg	1	2.00	110	70 - 130

Sample: 302766 - AH-1 0-1' (6 in. BEB)

Laboratory:	Midland	r , a secondari		i is to a prompton di termi di a Ministra (1770). Na mandata da serie di angli di termi di a			· 2.,
Analysis:	Chloride (Titration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	92803	Date An	alyzed:	2012-07-06	Analyzed By:	AR	
Prep Batch:	78690 -	Sample	Preparation:	2012-07-06	-Prepared By:	AR	
			RL				
Parameter	\mathbf{Flag}	Cert	Result	Units	Dilution	RL	
Chloride			99.6	nıg/Kg	5	4.00	

Sample: 302766 - AH-1 0-1' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	MidlandTPH DRO - NEWAnalytical Method:92862Date Analyzed:78748Sample Preparation:		S 8015 D 2012-07-09 2012-07-09	Prep Method: Analyzed By: Prepared By:	ĊŴ		
D (~	RL	TT 1		DI
Parameter		Flag	Cert	Result	Units	Dilution	RL
DRO		Qs	2	1590	mg/Kg	1	50.0

Report Date 114-6401444		C	Page Number: 7 of 40 Eddy Co., NM								
Surrogate		Flag	Cert	Re	esult	Units	Dilutio	Spi on Ame		Percent Recovery	Recovery Limits
n-Tricosane	Qsr	QBT			230	mg/Kg	1	10	00	230	49.3 - 157.5
Sample: 30	2766 - A	AH-1 0-1	.' (6 in.	BEB)							
Laboratory: Analysis:	Lubboc TPH G			A	Analytica	al Method:	S 8015	D		Prep Meth	iod: S 5035
QC Batch: Prep Batch:	92979 78843				Date Ana Sample F	alyzed: Preparation:	2012-07 2012-07			Analyzed Prepared	
							RL				
Parameter			Flag		Cert	Re	sult	Unit	s	Dilution	RL
GRO			Qв		1	2	21.9	mg/K	g	1	2.00
									Spike	Percent	Recovery
Surrogate				Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT	<u>)</u>				1.48	mg/Kg	1	2.00	74	70 - 130
(D) (1	•	(0.01	/**	-			

Sample: 302767 - AH-1 1-1.5' (6 in. BEB)

Qsr

Qsr

4-Bromofluorobenzene (4-BFB)

Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytic	al Method:	SM-4500-Cl B	Prep Method:	N/A
QC Batch:	92803	Date An	alyzed:	2012-07-06	Analyzed By:	AR
Prep Batch:	78690	Sample	Preparation:	2012-07-06	Prepared By:	AR
,, − tekstenske et s∵ entjerne∳teetste t ⁱⁿ eket	n in an					
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	U		<20.0	mg/Kg	5	4.00

2.81

mg/Kg

1

2.00

140

70 - 130

Sample: 302768 - AH-1 1.5-2' (6 in. BEB)

Midland				
Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
92803	Date Analyzed:	2012-07-06	Analyzed By:	AR
78690	Sample Preparation:	2012-07-06	Prepared By:	AR
	Chloride (Titration) 92803	Chloride (Titration)Analytical Method:92803Date Analyzed:	Chloride (Titration)Analytical Method:SM 4500-Cl B92803Date Analyzed:2012-07-06	Chloride (Titration)Analytical Method:SM 4500-Cl BPrep Method:92803Date Analyzed:2012-07-06Analyzed By:

continued ...

114-6401444		C		ork Order: gham H So			Page Number: 8 of Eddy Co., N		
sample 302768 continued									
					R.L				
Parameter	Flag		Cert	R	esult	Units	; 	Dilution	
					RL				
Parameter	\mathbf{F} lag		Cert	R	esult	Units	5	Dilution	
Chloride	υ			<	<20.0	mg/Kg	5	5	4
Sample: 302769 - AH-2 0- Laboratory: Lubbock Analysis: BTEX	r (om.	A	nalytical	Method:	S 8021E			Prep Method	
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978	r (om.	A: D	nalytical ate Anal		S 8021E 2012-07- 2012-07-	-11		Prep Method Analyzed By: Prepared By:	ZLI
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978	,	A: D	nalytical ate Anal ample Pr	yzed: eparation:	2012-07- 2012-07- RL	-11 -11		Analyzed By: Prepared By:	ZLI ZLI
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter	Flag	A: D	nalytical ate Anal	yzed: eparation: R	2012-07 2012-07 RL esult	-11 -11 Units		Analyzed By: Prepared By: Dilution	ZLI ZLI
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene	,	A: D	nalytical ate Anal ample Pr	yzed: eparation: 	2012-07- 2012-07- RL esult .264	-11 -11 Units mg/Kg		Analyzed By: Prepared By: Dilution 10	
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene	,	A: D	nalytical ate Analy umple Pr Cert	yzed: eparation: 	2012-07- 2012-07- RL esult .264 22.4	-11 -11 Units mg/Kg mg/Kg		Analyzed By: Prepared By: Dilution 10 10	ZLI ZLI 0.02 0.02
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene Ethylbenzene	,	A: D	nalytical ate Analy ample Pr Cert	yzed: eparation: 	2012-07- 2012-07- RL esult .264 22.4 38.1	-11 -11 Units mg/Kg mg/Kg mg/Kg		Analyzed By: Prepared By: Dilution 10 10 10	ZLM ZLM 0.02 0.02 0.02
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene	,	A: D	nalytical ate Analy mple Pr Cert	yzed: eparation: 	2012-07- 2012-07- RL esult .264 22.4	-11 -11 Units mg/Kg mg/Kg		Analyzed By: Prepared By: Dilution 10 10	ZLM ZLM 0.02 0.02 0.02
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene Ethylbenzene Xylene	,	A: Di Sa	nalytical ate Analy ample Pr Cert	yzed: eparation: R 0	2012-07 2012-07 RL esult .264 22.4 38.1 69.8	-11 -11 Units mg/Kg mg/Kg mg/Kg mg/Kg	Spike	Analyzed By: Prepared By: Dilution 10 10 10 10 Percent	ZLM ZLM 0.02 0.02 0.02 0.02 Recover
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	,	A: D	nalytical ate Analy ample Pr Cert	yzed: eparation: R 0 Result	2012-07 2012-07 RL esult .264 22.4 38.1 69.8 Units	-11 -11 <u>Units</u> mg/Kg mg/Kg mg/Kg mg/Kg Dilution	Spike Amount	Analyzed By: Prepared By: Dilution 10 10 10 Percent Recovery	ZLM ZLM 0.02 0.02 0.02 0.02 Recove Limit
Laboratory: Lubbock Analysis: BTEX QC Batch: 92978 Prep Batch: 78843 Parameter Benzene Toluene Ethylbenzene Xylene	Flag	A: Di Se	nalytical ate Analy ample Pr Cert	yzed: eparation: R 0	2012-07 2012-07 RL esult .264 22.4 38.1 69.8	-11 -11 Units mg/Kg mg/Kg mg/Kg mg/Kg	Spike	Analyzed By: Prepared By: Dilution 10 10 10 10 Percent	ZLN

Sample: 302769 - AH-2 0-1' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 92803 78690	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-06 2012-07-06	Prep Method: Analyzed By: Prepared By:	AR
D (ורז	<i>a i</i>	RL	T T '4		זמ
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	IJ		<20.0	mg/Kg	5	4.00

Sample: 302769 - AH-2 0-1' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO - NEW 92862 78748			Dat	dytical Meth e Analyzed: ple Preparat	2012-	07-09	Prep M Analyz Prepar	0
-				a .		RL	.		DI
Parameter			Flag	Cert	Res	sult	Units	Dilution	RL
DRO			Qs	2	40	000	mg/Kg	5	50.0
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qsr		353	mg/Kg	5	100	353	49.3 - 157.5

Sample: 302769 - AH-2 0-1' (6 in. BEB)

Laboratory:LubbockAnalysis:TPH GROQC Batch:92979Prep Batch:78843	Date		Date Ana	alytical Method: te Analyzed: nple Preparation:		S 8015 D 2012-07-11 2012-07-11		Prep Method Analyzed By Prepared By	By: ZLM
					\mathbf{RL}				
Parameter	Flag		Cert	Re	sult	Units	5	Dilution	\mathbf{R}
GRO	Je,Qs		1	1	620	mg/Kg	5	10	2.0
	****						Spike	Percent	Recover
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)				1.41	mg/Kg	10	2.00	70	70 - 13
4-Bromofluorobenzene (4-BFB)QHr	Qer		65:8	mg/Kg-	10	- 2:00 -	3290	70 - 13

Sample: 302770 - AH-2 1-1.5' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 92803 78690	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-06 2012-07-06	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	\mathbf{RL}
Chloride	······································		94.6	mg/Kg	5	4.00

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Sample: 302771 - AH-3 0-1' (6 in. BEB)

Laboratory: Lubbock Analysis: BTEX QC Batch: 92978]	Date Ana	•	S 80211 2012-07	-11		Prep Method Analyzed By:	ZLM
Prep Batch: 78843		Sample Preparation:		2012-07	-11		Prepared By:	ZLM
				RL				
Parameter	Flag	Cert	Ι	Result	Units		Dilution	RL
Benzene		1	0	.0609	mg/Kg		2	0.0200
Toluene		1	(0.245	mg/Kg		2	0.0200
Ethylbenzene		1	(0.411	mg/Kg		2	0.0200
Xylene		1		0.713	mg/Kg		2	0.0200
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	2	2.00	100	70 - 130
4-Bromofluorobenzene (4-BFB)			2.36	mg/Kg	2	2.00	118	70 - 130

Sample: 302771 - AH-3 0-1' (6 in. BEB)

Laboratory:	Midland						
Analysis:	Chloride (T	itration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92803	Date Analyzed			2012-07-06	Analyzed By:	\mathbf{AR}
Prep Batch:	78690		U		2012-07-06	Prepared By:	AR.
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Chloride				632	mg/Kg	5	4.00
	entine in the				می و در در در در در در در در میشود است. می و در	. Consequence management	

Sample: 302771 - AH-3 0-1' (6 in. BEB)

n-Tricosane	Qsr	Qar		180	mg/Kg	1	100	180	49.3 - 157.5
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO	<u></u>		Qs	2		711	mg/Kg	1	50.0
Parameter			Flag	Cert	Re	RL esult	Units	Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	sis: TPH DRO - NEW atch: 92862		Dat	lytical Meth e Analyzed: 1ple Prepara	2012-	5 D -07-09 -07-09	Prep M Analyz Prepar	U U	

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114-6401444	COG/Brigham H South Tank Battery	Eddy Co., NM

Sample: 302771 - AH-3 0-1' (6 in. BEB)

~	Lubbock									
Analysis: 7	ГРН GRO		Analytical Method: S 8015 D						Prep Metho	d: S 5035
QC Batch: 9)2979]	Date An	alyzed:	2012-	07-11		Analyzed By	y: ZLM
Prep Batch: 7	78843		C.	Sample I	Preparatio	n: 2012-	07-11		Prepared By	r: ZLM
						\mathbf{RL}				
Parameter	F	Plag		Cert		Result	Uni	ts	Dilution	RL
GRO		Qa		1		46.6	mg/ł	Kg	2	2.00
								Spike	Percent	Recovery
Surrogate		ł	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene	e (TFT)				1.47	mg/Kg	2	2.00	74	70 - 130
4-Bromofluorob	penzene (4-BFB)				2.60	mg/Kg	2	2.00	130	70 - 130

Sample: 302772 - AH-4 0-.5' (6 in. BEB)

Laboratory:LubbockAnalysis:BTEXQC Batch:92978Prep Batch:78843		Analytica Date Ana Sample P	lyzed:	2012-07			Prep Metho Analyzed By Prepared By	y: ZLM
				\mathbf{RL}				
Parameter	Flag	Cert		Result	Units	;	Dilution	RI
Benzene	υ]		< 0.0200	mg/Kg		1	0.020
Toluene		1		0.0504	mg/Kg		1	0.020
Ethylbenzene	· •			0.0227	mg/Kg		1	0.020
Xylene	В	1		0.0236	mg/Kg		1	0.020
						Spike	Percent	Recover
Surrogate	Fla	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.22	mg/Kg	1	2.00	111	70 - 130
4-Bromofluorobenzene (4-BFB)			2.28	mg/Kg	1	2.00	114	70 - 130

Sample: 302772 - AH-4 0-.5' (6 in. BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92803	Date Analyzed:	2012-07-06	Analyzed By:	\mathbf{AR}
Prep Batch:	78690	Sample Preparation:	2012-07-06	Prepared By:	AR.

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			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			4320	mg/Kg	10	4.00
······································			ι			

Sample: 302772 - AH-4 0-.5' (6 in. BEB)

$\frac{Surrogate}{n-Tricosane}$	Flag	Cert	Result 146	Units mg/Kg	Dilution	Amount 100	Recovery 146	Limits 49.3 - 157.5
_					_	Spike	Percent	Recovery
DRO		Qs	2		72.9	mg/Kg	1	50.0
Parameter		Flag	Cert	R	RL esult	Units	Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	analysis: TPH DRO - NEW 2C Batch: 92862		Dat	alytical Met te Analyzed nple Prepar	: 2012	15 D -07-09 -07-09	-	Method: N/A ed By: CW ed By: CW

Sample: 302772 - AH-4 0-.5' (6 in. BEB)

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Ana QC	ooratory: alysis: Batch: p Batch:	Lubbock TPH GRO 92979 78843			Date Ar		d: S 8013 2012-0 on:2012-0)7-11	a su	Prep Metho Analyzed B Prepared B	y: ZLM
							RL				
Par	ameter.	and a second second second	- Flag	, 	Cert		Result	Uni	ts	Dilution	RL
$\overline{\mathrm{GR}}$.00		Qs		1		6.65	mg/ŀ	ζg	1	2.00
Q	marcha			171	Cont	Result	Units	Dilution	Spike	Percent	Recovery Limits
	rogate	(77777)		Flag	Cert			Diffusion	Amount	Recovery	
Trif	fluorotolue	ene (TFT)				1.87	mg/Kg	1	2.00	94	70 - 130
<u>4-B</u>	romofluor	obenzene (4-B	FB)			2.17	mg/Kg	1	2.00	108	70 - 130

Sample: 302773 - AH-5 0-1' (6 in. BEB)

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92978	Date Analyzed:	2012-07-11	Analyzed By:	ZLM
Prep Batch:	78843	Sample Preparation:	2012-07-11	Prepared By:	ZLM

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Parameter	Flag		Cert		RL Result	Units	1	Dilution	RL	
Benzene			1		< 0.200	mg/Kg		10	0.0200	
Toluene			1		7.82	mg/Kg		10	0.0200	
Ethylbenzene			1		18.3	mg/Kg		10	0.0200	
Xylene			1		32.3	mg/Kg		10	0.0200	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)				1.89	mg/Kg	10	2.00	94	70 - 130	
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		3.91	mg/Kg	10	2.00	196	70 - 130	

Sample: 302773 - AH-5 0-1' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 92803 78690	Dat	alytical Method: a Analyzed: aple Preparation:	SM 4500-Cl B 2012-07-06 2012-07-06	Prep Method: Analyzed By: Prepared By:	\overline{AR}
			RL			
Parameter	Fla	g Cert	Result	Units	Dilution	RL
Chloride	υ		<20.0	mg/Kg	5	4.00

Sample: 302773 - AH-5 0-1' (6 in. BEB)

Laboratory: Analysis: QC-Batch: Prep Batch:	Midland TPH DR 92862 78748	O - NEV		Dat	•	hod: S 801 - 2012-(ation: 2012-(07-09	-	fethod: N/A ed-By: CW ed By: CW
Parameter			Flag	Cert	R	RL sult	Units	Dilution	RI
DRO			Qa	2		000	mg/Kg	20	50.0
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qar		855	mg/Kg	20	100	855	49.3 - 157.

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Sample: 302773 - AH-5 0-1' (6 in. BEB)

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92979	Date Analyzed:	2012-07-11	Analyzed By:	ZLM
Prep Batch:	78843	Sample Preparation:	2012-07-11	Prepared By:	ZLM

Report Date: July 20, 2012 114-6401444		C	Wo DG/Brig	Page Number: 14 of 40 Eddy Co., NM						
Parameter	Flag		Cert	Ι	RL Result	Unit	s	Dilution	RL	
GRO	Je,Qs		1	1120		mg/Kg		10	2.00	
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)	Qar	Qsr		1.14	mg/Kg	10	2.00	57	70 - 130	
4-Bromofluorobenzene (4-BFB)	QBT	QBT		76.0	mg/Kg	10	2.00	3800	70 - 130	

Sample: 302774 - AH-5 1-1.5' (6 in. BEB)

				-						
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 92885 78768		D	ate Anal	Method: yzed: reparation	2012-07	-10		Prep Method Analyzed By Prepared By:	: ZLM
						RL				
Parameter		Flag		Cert		Result	Units		Dilution	RI
MTBE		U		3		< 0.400	mg/Kg		20	0.020
Benzene	2	υ		1		< 0.400	mg/Kg		20	0.020
Toluene				1		4.10	mg/Kg		20	0.020
Ethylbenzene				1		8.63	mg/Kg		20	0.020
Xylene				ı		16.4	mg/Kg		20	0.020
							6 F F	Spike	Percent	Recover
Surrogate			Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ne (TFT)				1.70	mg/Kg	20	2.00	85	70 - 130
4-Bromofluoro	obenzene (4-BFB)	Q#r	Qsr	• • • • •	2.93	mg/Kg	20	2.00°	146	70 - 130

Sample: 302774 - AH-5 1-1.5' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 92804 78690	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-06 2012-07-06	Prep Method: Analyzed By: Prepared By:	ÁR.
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

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Sample: 302774 - AH-5 1-1.5' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DF 93102 78943	RO - NEV	V	Date	lytical Methe e Analyzed: ple Preparat	2012-0		Prep Me Analyze Prepare	d By: DS
D				~ .		RL	T T 1.		DI
Parameter			Flag	Cert	Res	ult	Units	Dilution	RL
DRO			Qя	1	40	60	mg/Kg	10	50.0
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
n-Tricosane	Qsr	Qar		350	mg/Kg	10	100	350	75.4 - 130

Sample: 302774 - AH-5 1-1.5' (6 in. BEB)

Laboratory: Lubbock Analysis: TPH GRO QC Batch: 92886 Prep Batch: 78768		I	Date Ana	l Method lyzed: reparation	2012-0	7-10		Prep Method Analyzed By Prepared By	: ZLM
					RL				
Parameter	Flag		Cert	I	Result	\mathbf{Unit}	8	Dilution	RL
GRO			I		763	mg/K	3	20	2.00
							Spike	Percent	Recovery
Surrogate		\mathbf{F} lag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)				1.91	mg/Kg	20	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)	Qar	Qar	and the second second	20.4	mg/Kg	····· · 20·	2.00	1020	70 -~130

Sample: 302775 - AH-6 0-1' (6 in. BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 92978 78843		Analytical Me Date Analyzeo Sample Prepa	d:	S 8021B 2012-07- 2012-07-		Prep Method: Analyzed By: Prepared By:	S 5035 ZLM ZLM
					RL			
Parameter		Flag	Cert	Re	sult	Units	Dilution	RL
Benzene			1	2	1.05	mg/Kg	5	0.0200
Toluene			1	8	8.85	m mg/Kg	5	0.0200
Ethylbenzene	<u>e</u>		1	2	2.9	mg/Kg	5	0.0200

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sample 302775 continue	1							
				\mathbf{RL}				
Parameter	Flag	Cer	t	Result	Units		Dilution	RL
Xylene		1		24.9	mg/Kg		5	0.0200
Surrogate		Flag Cert	t Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	5	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB) _{Qsr}	Qar	3.62	mg/Kg	5	2.00	181	70 - 130
Laboratory: Midland Analysis: Chloride (QC Batch: 92804 Prep Batch: 78690	Titration)	Da	alytical Met te Analyzed nple Prepar	l: 20	A 4500-Cl B 12-07-06 12-07-06		Prep Me Analyzec Preparec	l By: AR
Parameter	Flag	Cert	.]	Result	Units		Dilution	RL
Chloride				76.0	mg/Kg		5	4.00
Sample: 302775 - AH Laboratory: Midland Analysis: TPH DRC QC Batch: 92862	,	Aı Da	nalytical Me ate Analyze	ed: 2	8015 D 012-07-09		Prep Me Analyzeo	l By: CW
Prep Batch: 78748		Sa	mple Prepa	ration: 2	012-07-09		Preparec	l By: CW
				\mathbf{RL}				
Parameter	Flag	Cert		Result	Units		Dilution	RL
DRO	Qs	2		4200	mg/Kg		10	50.0
Surrogate	Flag Cert	Result	Units	Diluti	Spike ion Amou		Percent lecovery	Recovery Limits
n Thissen		250	mar/W/r	10	100		250	40.2 157.5

Sample: 302775 - AH-6 0-1' (6 in. BEB)

Qsr

Qst

n-Tricosane

Laboratory: Analysis:	Lubbock TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	93030	Date Analyzed:	2012-07-13	Analyzed By:	
Prep Batch:		Sample Preparation:		Prepared By:	

mg/Kg

350

10

100

350

49.3 - 157.5

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Parameter	Flag		Cert	-	RL Result	Uni	58	Dilution	RL
GRO 3	Qs		1		2750	mg/K	g	50	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				1.45	mg/Kg	50	2.00	72	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	QBT		60.6	mg/Kg	50	2.00	3030	70 - 130

ուս է է են են այս տեն են առաջին տեղ տասը է եւ եւն է այլ եւնի տեստանի ու ելի եւնի տեստանի ու ելի եւ ուն այնեն են անդրե

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Method Blanks

Method Blank (1)	QC Batch: 92803				
QC Batch: 92803 Prep Batch: 78690		Date Analyzed: QC Preparation:	2012-07-06 2012-07-06	Analyzed By: Prepared By:	AR AR
			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride			<3.85	mg/Kg	4
Method Blank (1)	QC Batch: 92804				
QC Batch: 92804		Date Analyzed:	2012-07-06	Analyzed By:	\mathbf{AR}
Prep Batch: 78690		QC Preparation:	2012-07-06	Prepared By:	AR
			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride	······································		<3.85	mg/Kg	4
Method Blank (1)	QC Batch: 92862		an a tha an	· · · · · · · · · · · · · · · · · · ·	
QC Batch: 92862		Date Analyzed:	2012-07-09	Analyzed By:	\mathbf{CW}
Prep Batch: 78748		QC Preparation:	2012-07-09	Prepared By:	CW
Parameter	Flag	Cert	$egin{array}{c} \mathrm{MDL} \ \mathrm{Result} \end{array}$	Units	RL
DRO		2	<14.5	mg/Kg	50
Surrogate n-Tricosane	Flag Cert	Result Units 130 mg/Kg	Spike Dilution Amount 1 100	Recovery Li	overy nits 160.8

QC Batch: 92885 Prep Batch: 78768									
Prep Batch: 78768			Date Ar		2012-07-10			Analyzed	
			QC Pre	paration:	2012-07-10)		Prepared 1	By: ZLM
Parameter		Flag		Cert		$egin{array}{c} \mathrm{MDL} \ \mathrm{Result} \end{array}$		Units	RI
MTBE		I lag				<0.00502		mg/Kg	0.0
Benzene				1		<0.00365		mg/Kg	0.0
Toluene				1		<0.00816		mg/Kg	0.0
Ethylbenzene				1		< 0.00560		mg/Kg	0.0
Xylene				1		0.0133		mg/Kg	0.0
	·····						Spike	Percent	Recover
							•		
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
		Flag	Cert	Result 1.96	Units mg/Kg	Dilution 1	Amount 2.00	Recovery 98	
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene ((4-BFB)		Cert						70 - 13
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886			Date Ar	1.96 1.88	mg/Kg mg/Kg 2012-07-10	1	2.00	98 94 Analyzed	70 - 13 70 - 13 By: ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1)	(4-BFB)		Date Ar	1.96 1.88	mg/Kg mg/Kg	1	2.00	98 94	70 - 13 70 - 13 By: ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768	(4-BFB)	92886	Date Ar	1.96 1.88 nalyzed: paration:	mg/Kg mg/Kg 2012-07-10	1 1 MDL	2.00	98 94 Analyzed Prepared	By: ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768 Parameter	(4-BFB)		Date Ar	1.96 1.88	mg/Kg mg/Kg 2012-07-10	1 1 MDL Result	2.00 2.00	98 94 Analyzed Prepared 1 Units	70 - 13 70 - 13 By: ZLM By: ZLM R
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768	(4-BFB)	92886	Date Ar	1.96 1.88 nalyzed: paration:	mg/Kg mg/Kg 2012-07-10	1 1 MDL	2.00 2.00	98 94 Analyzed Prepared	70 - 13 70 - 13 By: ZLM By: ZLM R
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768 Parameter	(4-BFB)	92886 Flag	Date Ar	1.96 1.88 nalyzed: paration: <u>Cert</u>	mg/Kg mg/Kg 2012-07-10 2012-07-10	1 1 MDL Result 0.650	2.00 2.00	98 94 Analyzed Prepared 1 Units	70 - 13 70 - 13 By: ZLM By: ZLM Recover
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768 Parameter	(4-BFB)	92886	Date Ar	1.96 1.88 nalyzed: paration: Cert	mg/Kg mg/Kg 2012-07-10	1 1 MDL Result	2.00 2.00	98 94 Analyzed Prepared 1 Units mg/Kg	70 - 13 70 - 13 By: ZLM By: ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 92886 Prep Batch: 78768 Parameter GRO	(4-BFB) QC Batch:	92886 Flag	Date An QC Prej	1.96 1.88 nalyzed: paration: <u>Cert</u>	mg/Kg mg/Kg 2012-07-10 2012-07-10	1 1 MDL Result 0.650	2.00 2.00 Spike	98 94 Analyzed Prepared Units mg/Kg Percent	70 - 13 70 - 13 By: ZLM By: ZLM Recover

2 12.1

QC Batch: Prep Batch:	92978 78843		Analyzed: reparation:	2012-07-11 2012-07-11	Analyzed By: Prepared By:	
Parameter		Flag	Cert	MDL Result	Units	RL
Benzene			1	< 0.00365	mg/Kg	0.02
Toluene			ì	< 0.00816	mg/Kg	0.02
		· · · · · · · · · · · · · · · · · · ·		continued		

Report Date: July 20, 2012 114-6401444				er: 12070519 South Tank	Battery		-74	ber: 20 of 40 dy Co., NM
method blank continued					MDI			
Parameter	Flag		Cert		MDL Result		Units	RL
Ethylbenzene	0		1		< 0.00560		mg/Kg	0.02
Xylene			1		0.0126		mg/Kg	0.02
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.98	mg/Kg	1	2.00	99	70 - 130
Method Blank (1) QC Bate QC Batch: 92979 Prep Batch: 78843	ch: 92979	Date Ar QC Prej	alyzed: paration:	2012-07-11 2012-07-11			Analyzed Prepared	
					MDL			
Parameter	Flag		Cert		Result		Units	RL
GRO			1		0.540		mg/Kg	2
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	70 - 130
4-Bromofluorobenzene (4-BFB)			1.94	mg/Kg	1	2.00	97	70 - 130
					· • •			
Method Blank (1) QC Bate	ch: 93030							
QC Batch: 93030 Prep Batch: 78890		Date Ar QC Prej	alyzed: paration:	2012-07-13 2012-07-13			Analyzed Prepared 1	
Parameter	Flag		Cert		MDL Result		Units	RL
GRO	0		1		2.32		mg/Kg	2
				тт •.	D'1 - '	Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)			$\begin{array}{c} 1.76 \\ 2.06 \end{array}$	mg/Kg mg/Kg	$\frac{1}{1}$	$\begin{array}{c} 2.00 \\ 2.00 \end{array}$	$\frac{88}{103}$	70 - 130 70 - 130
			2.00	mg/ng	±			10 - 190

Report Date: July 20 114-6401444	, 2012			Work Order righam H Se	: 12070519 outh Tank Batt	ery		aber: 21 of 40 Oddy Co., NM	
Method Blank (1)	QC E	Batch: 9310)2						
QC Batch: 93102			Date A	Analyzed:	2012-07-16		Analyz	ed By: DS	
Prep Batch: 78943			QC Pr	reparation:	2012-07-16		Prepared By: DS		
					I	MDL			
Parameter		Fla	ıg	Cert	R	esult	Units	RL	
DRO				1	<	(6.50	mg/Kg	50	
						Spike	Percent	Recovery	
Surrogate	Surrogate Flag Cert			Units	Dilution	Amount	Recovery	Limits	
n-Tricosane			128	mg/Kg	1	100	128	75.4 - 130	

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

Prep Batch: 78690				Analyzed Preparatic		2-07-06 2-07-06				alyzed E epared B	
Param	F		C	LCS Result	Units	Dil.	Spike Amount	R	atrix esult	Rec.	Rec. Limit
Chloride				2580	mg/Kg		2500		3.85	103	85 - 115
Percent recovery is based on the sp	ike re	esult	t. RPD	is based of	on the sp	oike and sp	oike duplica	ate res	ult.		
			LCSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2690	mg/Kg	1	2500	<3.85	108	85 - 11	5 4	20
Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Laboratory Control Spike (LCS-1) QC Batch: 92804 Date Analyzed: 2012-07-06 Analyzed By: AR											
	S-1)			Analyzed Preparatio		2-07-06 2-07-06				alyzed B pared B	
QC Batch: 92804	S-1) F		QC I	Preparatio LCS		2-07-06 Dil.	Spike Amount 2500	R	Pro		
QC Batch: 92804 Prep Batch: 78690 Param	F		QC I	Preparatio LCS Result 2620	n: 2012 Units mg/Kg	2-07-06 	Amount 2500	R(Pro atrix esult 3.85	pared B	y: AR Rec. Limit
QC Batch: 92804 Prep Batch: 78690 Param Chloride	F	sult	QC I	Preparatio LCS Result 2620	n: 2012 Units mg/Kg	2-07-06 Dil. 1 Dike and sp	Amount 2500 ike duplica	R(Pro atrix esult 3.85	pared B	y: AR Rec. Limit
QC Batch: 92804 Prep Batch: 78690 Param Chloride Percent recovery is based on the sp	F ike re	sult	QC I C	Preparatio LCS Result 2620	n: 2012 Units mg/Kg	2-07-06 	Amount 2500	R(Pro atrix esult 3.85 ult.	pared B	y: AR Rec. Limit 85 - 115 RPD

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch:	92862	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78748	QC Preparation:	2012-07-09	Prepared By:	CW

Report Date: July 20, 2012 114-6401444			COG/		rder: 12 H South	070519 1 Tank Ba	ttery		Page Number: 23 Eddy Co				
Param		F		LCS Result	Units	Dil.	Spike Amount		atrix esult	Rec.		Rec. Limit	
DRO			2	263	mg/Kg	1	250	<	14.5	105	62	- 128.3	
Percent recovery is based on th	ie spike	e resi	ılt. RPD LCSD	is based	on the s	pike and Spike	spike dupli Matrix	cate re	sult. Re	2/2		RPD	
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.		nit	RPD	Limit	
DRO	····-	2	263	mg/Kg	1	250	<14.5	105	62 -	128.3	0	20	
Percent recovery is based on th	e spike	e rest	ılt. RPD	is based	on the s	pike and	spike dupli	cate re	sult.				
	LC	\mathbf{S}	LCSD)			Spike	LCS	\mathbf{L}	CSD	I	Rec.	

Laboratory Control Spike (LCS-1)

Result

129

Surrogate

n-Tricosane

QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	QC Preparation:	2012-07-10	Prepared By:	ZLM

Units

mg/Kg

Dil.

1

Rec.

129

Amount

100

Rec.

129

Limit

58.6 - 149.6

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
MTBE		1	1.93	mg/Kg	1	2.00	< 0.00502	96	71.4 - 120
Benzene		1	1.94	mg/Kg	1	2.00	< 0.00365	97	75.4 - 120
Toluene		1	1.88	mg/Kg	1	2.00	< 0.00816	94	74.9 - 120
Ethylbenzene		i	1.91	mg/Kg	1	2.00	< 0.00560	96	78.1 - 120
Xylene		1	5.73	mg/Kg	1	6.00	0.0133	96	77.3 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Result

129

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit	RPD	Limit
MTBE	<u></u>	1	1.98	mg/Kg	1	2.00	< 0.00502	99	71.4 - 120	3	20
Benzene		1	1.96	mg/Kg	1	2.00	< 0.00365	98	75.4 - 120	1	20
Toluene		ı	1.96	mg/Kg	1	2.00	< 0.00816	98	74.9 - 120	4	20
Ethylbenzene		1	2.00	mg/Kg	1	2.00	< 0.00560	100	78.1 - 120	5	20
Xylene		n	5.98	mg/Kg	1	6.00	0.0133	100	77.3 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.98	mg/Kg	1	2.00	92	99	70 - 130
4-Bromofluorobenzene (4-BFB)	1.87	1.98	mg/Kg	1	2.00	94	99	70 - 130

Laboratory Control Spike (L	CS-2	1)										
QC Batch: 92886 Prep Batch: 78768				e Analyz Prepara		12-07-10 12-07-10				Analyze Prepare	•	
				LCS			Spike		atrix			Rec.
Param		F	<u>C</u>	Result	Units		Amount		esult	Rec.		Limit
GRO			1	17.8	mg/K		20.0		0.65	89	68	8.9 - 120
Percent recovery is based on the	spike	e rest	ılt. RPI) is base	ed on the	spike and	spike dupli	cate re	sult.			
			LCSD			Spike	Matrix		Re	c.		RPD
Param	\mathbf{F}	\mathbf{C}	Result		ts Dil.	Amount	Result	Rec.	Lin		RPD	Limit
GRO		1	17.9	mg/l	Kg 1	20.0	0.65	90	68.9 -	120	1	20
Percent recovery is based on the	spike	e rest	ılt. RPI) is base	ed on the	spike and	spike dupli	cate re	sult.			
			т	\mathbf{CS}	LCSD		Ċ.	pike	LCS	LCS	۹D	Rec.
			L.	UD .	LODD			JIKE		U	50	nec.
Surrogato			R	enlt	Result	Unite	Dil An	ount	Rec	Re		Limit
Surrogate					Result	Units mg/Kg		iount	Rec.	Re 91	ec.	Limit 70 - 130
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	CS-:	1)	1	esult .84 .98	Result 1.81 1.92	Units mg/Kg mg/Kg	1 2	10unt .00 .00	Rec. 92 99	Re 90 96	ec. 0	Limit 70 - 130 70 - 130
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978	CS-:	L)	1 1 Date	.84 .98 e Analyz	1.81 1.92 zed: 20	mg/Kg mg/Kg 12-07-11	1 2	.00	92 99	90 96 Analyze	ed By:	70 - 130 70 - 130 ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978	CS-I	1)	1 1 Date	.84 .98	1.81 1.92 zed: 20	mg/Kg mg/Kg	1 2	.00	92 99	9(96	ed By:	70 - 130 70 - 130 ZLM
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843	CS-:	1)	1 1 Date QC	.84 .98 e Analyz Prepara LCS	1.81 1.92 2ed: 20 tion: 20	mg/Kg mg/Kg 12-07-11 12-07-11	1 2 1 2 Spike	.00 .00 Ma	92 99 A F trix	9(9(Analyze Prepare	ed By: ed By:	70 - 130 70 - 130 ZLM ZLM Rec.
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param	CS-:	ι) F	1 1 Date QC	.84 .98 e Analyz Prepara LCS Result	1.81 1.92 2ed: 20 tion: 20 Units	mg/Kg mg/Kg 12-07-11 12-07-11 Dil.	1 2 1 2 Spike Amount	.00 .00 Ma Re	92 99 A F trix sult	90 90 Analyze Prepare	ed By: ed By:	70 - 130 70 - 130 ZLM ZLM Rec. Limit
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene	CS-:	l)	1 Date QC	.84 .98 Prepara LCS Result 2.06	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1	1 2 1 2 Spike Amount 2.00	.00 .00 Ma Re <0.0	92 99 A F trix sult- 00365	9(9(Analyze Prepare 	ed By: ed By: ed Ty:	70 - 130 70 - 130 ZLM ZLM ZLM Rec. Limit 5.4 - 120
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene	CS- :	l)	1 Date QC	.84 .98 Prepara LCS Result 2.06 2.04	1.81 1.92 zed: 20 tion: 20 Units mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1	1 2 1 2 Spike Amount 2.00 2.00	.00 .00 Ma Re <0.0 <0.0	92 99 A F trix sult- 0365 00816	9(9(Analyze Prepare Rec: 103 102	ed By: ed By: ed By: 75 74	70 - 130 70 - 130 ZLM ZLM Limit 5.4 - 120 1.9 - 120
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Päram Benzene Toluene Ethylbenzene	CS-	L)	1 Date QC	.84 .98 Prepara LCS Result 2.06 2.04 2.06	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1	1 2 1 2 Spike Amount 2.00 2.00 2.00	.00 .00 Ma Re <0.0 <0.0 <0.0	92 99 A F trix sult 00365 00816 00560	9(9(9(Analyze Prepare 	ed By: ed By: ed By: 74 74 78	70 - 130 70 - 130 ZLM ZLM ZLM Rec. Limit 5.4 - 120 1.9 - 120 3.1 - 120
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene		F	1 1 Date QC	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19	1.81 1.92 ced: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1 1	1 2 1 2 1 2 Spike <u>Amount</u> 2.00 2.00 2.00 6.00	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0	92 99 A F trix sult- 00365 00816 00560 126	9(9(Analyze Prepare Rec: 103 102	ed By: ed By: ed By: 74 74 78	70 - 130 70 - 130 ZLM ZLM Limit 5.4 - 120 1.9 - 120
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene		F	1 Date QC -CI 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19	1.81 1.92 ced: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1 1 1 spike and	1 2 1 2 1 2 Spike Amount- 2.00 2.00 2.00 6.00 spike dupli	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0	92 99 4 F trix sult- 00365 00816 00560 126 sult.	9(9(9(Prepare 103 102 103	ed By: ed By: ed By: 74 74 78	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 8.1 - 120 7.3 - 120
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the	spike	F	1 Date QC -CI i i i 1 LCSD	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base	1.81 1.92 zed: 20 tion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 1 1 1 1 1 1 1 5 pike and Spike	1 2 1 2 1 2 Spike Amount 2.00 2.00 2.00 2.00 6.00 spike dupli Matrix	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 0.0 cate re	92 99 A F trix sult- 00365 00816 00560 126 sult. Ra	9(9(9f Analyze Prepare 	ed By: ed By: ed By: 77 74 78 77	70 - 130 70 - 130 ZLM ZLM ZLM Limit 5.4 - 120 1.9 - 120 3.1 - 120 7.3 - 120 RPD
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param		F rest C	1 Date QC · · · · · · · · · · · · · · · · · ·	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg ed on the s Dil.	mg/Kg mg/Kg 12-07-11 12-07-11 1 1 1 1 1 1 1 1 1 Spike and Spike Amount	1 2 1 2 1 2 Spike - Amount 2.00 2.00 2.00 2.00 6.00 spike dupli Matrix Matrix Result	.00 .00 Ma -Re <0.0 <0.0 <0.0 0.0 cate re Rec.	92 99 4 F trix sult 00365 00816 00560 126 sult. Ra Lin	9(9(9(Analyze Prepare 	ed By: ed By: ed By: 74 74 77 77 74 78 77	70 - 130 70 - 130 ZLM ZLM ZLM Eec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 7.3 - 120 RPD Limit
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene	spike	F ; rest C	1 Date QC · · · · · · · · · · · · · · · · · ·	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units mg/K	1.81 1.92 2.20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 12-07-11 1 1 1 1 1 1 1 1 1 1 1 Spike and Spike Amount 2.00	1 2 1 2 1 2 Spike Amount- 2.00 2.00 2.00 2.00 6.00 spike dupli Matrix Result <0.00365	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 cate re <u>Rec.</u> 104	92 99 4 F trix sult 00365 00816 00560 126 sult. Re Lin 75.4	9(96 96 Prepare Prepare 103 102 103 103 103 ec. nit - 120	ed By: ed By: ed By: 72 74 78 77 77 78 77 78 77	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 7.3 - 120 RPD Limit 20
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Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene	spike	F ; rest C	1 Date QC · · · · · · · · · · · · · · · · · ·	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units mg/K	1.81 1.92 2.20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 12-07-11 1 1 1 1 1 1 1 1 1 1 1 Spike and Spike Amount 2.00	1 2 1 2 1 2 Spike Amount- 2.00 2.00 2.00 2.00 6.00 spike dupli Matrix Result <0.00365	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 cate re <u>Rec.</u> 104	92 99 4 F trix sult 00365 00816 00560 126 sult. Re Lin 75.4	9(96 96 Prepare Prepare 103 102 103 103 103 ec. nit - 120	ed By: ed By: ed By: 72 74 78 77 77 78 77 78 77	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 7.3 - 120 RPD Limit 20
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene Toluene Toluene	spike	F Prest C 1	1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units mg/K mg/K	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1 spike and Spike Amount 2.00 2.00	1 2 1 2 1 2 Spike Amount- 2.00 2.00 2.00 6.00 spike dupli Matrix Result <0.00365 <0.00816	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 cate re Rec. 104 104	92 99 4 4 F 5 00365 00816 00560 126 sult. Ra Lin 75.4 74.9	9(96 96 Prepare Prepare 103 102 103 103 103 ec. nit - 120 - 120	ed By: ed By: ed By: 72 74 78 77 8 77 77 78 77 77 78 77 77 78 77 78 77 77	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 RPD Limit 20 20
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene	spike	F ; rest C	1 1 1 Date QC 	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units mg/K mg/K	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg g 1 g 1 g 1 g 1	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1 1 spike and Spike Amount 2.00 2.00 2.00	1 2 1 2 1 2 Spike Amount 2.00 2.00 2.00 6.00 spike dupli Matrix Result <0.00365 <0.00816 <0.00560	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 cate re <u>Rec.</u> 104 104	92 99 99 4 F 5 00365 00816 00560 126 sult. Ra Lin 75.4 74.9 78.1	9(9(9(2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2) 2)	ed By: ed By: ed By: 72 74 78 77 77 78 77 78 77	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 RPD Limit 20 20 20 20
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 92978 Prep Batch: 78843 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene Toluene Toluene	spike	F Prest C 1	1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.84 .98 Prepara LCS Result 2.06 2.04 2.06 6.19 D is base Units mg/K mg/K	1.81 1.92 2ed: 20 tion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg g 1 g 1 g 1 g 1	mg/Kg mg/Kg 12-07-11 12-07-11 Dil. 1 1 1 1 spike and Spike Amount 2.00 2.00	1 2 1 2 1 2 Spike Amount- 2.00 2.00 2.00 6.00 spike dupli Matrix Result <0.00365 <0.00816	.00 .00 Ma Re <0.0 <0.0 <0.0 0.0 cate re Rec. 104 104	92 99 99 4 F 5 00365 00816 00560 126 sult. Ra Lin 75.4 74.9 78.1	9(96 96 Prepare Prepare 103 102 103 103 103 ec. nit - 120 - 120	ed By: ed By: ed By: 72 74 78 77 8 77 77 78 77 77 78 77 77 78 77 78 77 77	70 - 130 70 - 130 70 - 130 ZLM ZLM Rec. Limit 5.4 - 120 8.1 - 120 7.3 - 120 RPD Limit 20 20

Report Date: July 20, 2012 114-6401444		COG		k Order: am H Sou	12070519 1th Tank B	attery		P	age Nu		25 of 40 Co., NM
control spikes continued											
9			CS	LCSD Dervelt	Units	Dil.	Spike	LCS			Rec.
Surrogate		Re	sult	Result	Units	DII.	Amount	Rec.	Re	<u>c.</u>	Limit
		\mathbf{L}	\mathbf{CS}	LCSD			Spike	LCS	LCS	SD	Rec.
Surrogate		Re	sult	Result	Units	Dil.	Amount	Rec.			Limit
Trifluorotoluene (TFT)			.01	2.04	mg/Kg	1	2.00	100			70 - 130
4-Bromofluorobenzene (4-BFB)	 	2	.06	2.09	_mg/Kg		2.00	103	10	4	70 - 130
Laboratory Control Spike (L QC Batch: 92979 Prep Batch: 78843	CS-1)		- Analy Prepar		012-07-11 012-07-11				Analyze Prepare		
						C.	- ilea - i	Matrix			Rec.
			LCS			ວ	pike I	watta			1000
•	F	С	Result			An	nount	Result	Rec.		Limit
	F	C1		Unit mg/K		An	+		Rec. 84		Limit
GRO		1	Result 16.7	mg/K	Kg 1	An 2	ount	Result 0.54			
GRO		ı ult. RPI	Result 16.7	mg/K	Kg 1 e spike and	Am 2 spike	ount 0.0 duplicate	Result 0.54 result.	84		Limit 3.9 - 120
GRO Percent recovery is based on the s		1	Result 16.7) is ba	mg/K sed on the	Kg 1 e spike and Spike	An 2 spike Ma	ount 0.0 duplicate trix	Result 0.54 result. R	84 ec.		Limit
GRO Percent recovery is based on the s Param	spike res	ult. RPI	Result 16.7) is ba	mg/K sed on the its Dil.	Kg 1 e spike and Spike	An 2 spike Ma	ount 0.0 duplicate trix sult Rec	Result 0.54 result. R :. Lit	84 ec.	68	Limit 3.9 - 120 RPD
GRO Percent recovery is based on the s Param GRO	spike res F C	ı ult. RPI LCSD Result 17.9	Result 16.7 D is bas Un mg/	mg/K sed on the its Dil. /Kg 1	<u>لاح 1</u> e spike and Spike . Amount 20.0	Am 2 spike Ma 2 0.	ount 0.0 duplicate trix sult Rec 54 90	Result 0.54 result. R c. Lii 68.9	84 ec. mit	68 RPD	Limit 3.9 - 120 RPD Limit
GRO Percent recovery is based on the s Param GRO	spike res F C	ult. RPI LCSD Result 17.9 ult. RPI	Result 16.7) is bas Un mg/) is bas	$\frac{mg/K}{sed on the}$ its Dil. /Kg 1 sed on the	<u>لاح 1</u> e spike and Spike . Amount 20.0	Am 2 spike Ma 2 0.	ount 0.0 duplicate trix sult Rec 54 90 duplicate	Result 0.54 result. R 2. Li: 68.9 result.	84 ec. mit - 120	68 RPD 7	Limit 3.9 - 120 RPD Limit 20
GRO Percent recovery is based on the s Param GRO Percent recovery is based on the s	spike res F C	ı ult. RPI LCSD Result 17.9 ult. RPI L	Result 16.7) is bas Un mg/) is bas CS	mg/K sed on the its Dil. /Kg 1 sed on the LCSD	Kg 1 e spike and Spike . Amount 20.0 e spike and	An 2 spike Ma 2 Res 0. spike	ount 0.0 duplicate trix sult Rec 54 90 duplicate Spike	Result 0.54 result. R 2. Li: 68.9 result. LCS	84 ec. mit - 120	68 RPD 7	Limit 3.9 - 120 RPD Limit 20 Rec.
GRO Percent recovery is based on the s Param GRO Percent recovery is based on the s Surrogate	spike res F C	ı ult. RPI LCSD Result 17.9 ult. RPI L Re	Result 16.7) is bas Un mg/) is bas CS sult	mg/K sed on the its Dil. /Kg 1 sed on the LCSD Result	Image: Spike and spike and spike and 20.0 e spike and 20.0 units	An 2 spike Ma 2 Res 0. spike Dil.	ount 0.0 duplicate trix sult Rec 54 90 duplicate Spike Amount	Result 0.54 result. R Lin 68.9 result. LCS Rec.	84 ec. mit - 120 & LCS	68 RPD 7 SD c.	Limit 3.9 - 120 RPD Limit 20 Rec. Limit
Param GRO Percent recovery is based on the s Param GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromoffuorobenzene (4-BFB)	spike res F C	ı ult. RPI LCSD Result 17.9 ult. RPI L Re 1	Result 16.7) is bas Un mg/) is bas CS	mg/K sed on the its Dil. /Kg 1 sed on the LCSD	Kg 1 e spike and Spike . Amount 20.0 e spike and	An 2 spike Ma 2 Res 0. spike	ount 0.0 duplicate trix sult Rec 54 90 duplicate Spike	Result 0.54 result. R 2. Li: 68.9 result. LCS	84 ec. mit - 120	68 RPD 7 SD c.	Limit 3.9 - 120 RPD Limit 20 Rec.
GRO Percent recovery is based on the s Param GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT)	spike res	ı ult. RPI LCSD Result 17.9 ult. RPI L Re 1 1	Result 16.7) is bas Un mg/) is bas CS sult .68	mg/K sed on the its Dil. /Kg 1 sed on the LCSD Result 1.80 2.02	Kg 1 e spike and Spike Amount 20.0 e spike and Units mg/Kg	An 2 spike Ma 2 Res 0. spike Dil. 1	ount 0.0 duplicate trix sult Rec 54 90 duplicate Spike Amount 2.00	Result 0.54 result. R Li: 68.9 result. LCS Rec. 84 98	84 ec. mit - 120 & LCS . Re . 90	68 RPD 7 SD c. 1 1	Limit 3.9 - 120 RPD Limit 20 Rec. Limit 70 - 130 70 - 130
GRO Percent recovery is based on the second	spike res	ı ult. RPI LCSD Result 17.9 ult. RPI L Re 1 1.	Result 16.7) is base Un mg/) is base CS sult .68 .95 Analy	mg/K sed on the its Dil. /Kg 1 sed on the LCSD Result 1.80 2.02 z.02	Kg 1 e spike and Spike Amount 20.0 e spike and Units mg/Kg mg/Kg 012-07-13 012-07-13	An 2 spike Ma 2 c spike Dil. 1 1	ount 0.0 duplicate trix sult Rec 54 90 duplicate Spike Amount 2.00 2.00	Result 0.54 result. R Li: 68.9 result. LCS Rec. 84 98	84 ec. - 120 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1	68 RPD 7 SD c. 1 1	Limit 3.9 - 120 RPD Limit 20 Rec. Limit 70 - 130 70 - 130 ZLM

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control spikes continued												.
	Ð	a	LCSD	TT	D:1	Spike	Matrix		Re		ממת	RPE
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Lin	nit.	RPD	Limi
			LCSD			Spike	Matrix		Re	c.		RPI
Param	F	С	Result	Units		Amount			Lin		RPD	Limi
GRO		1	21.1	mg/Kg	g 1	20.0	2.32	106	68.9 -	120	1	20
Percent recovery is based on the	spike	rest	ılt. RPD	is based	on the	spike and	spike duj	olicate re	sult.			
			LC	S L	CSD			Spike	LCS	LCS	SD	Rec.
Surrogate			Res		esult	Units		mount	Rec.	Re		Limit
Trifluorotoluene (TFT)			1.9		.75	mg/Kg	1	2.00	95	88		0 - 13
4-Bromofluorobenzene (4-BFB)			2.1	5 2	2.18	mg/Kg	1	2.00	108	10	9 7	0 - 13
Param DRO		F	C R	LCS esult 245	Units mg/K		Spike Amou 250	nt Re	atrix esult .49	Rec. 95]	Rec. Limit
	•1											2 - 11
Percent recovery is based on the	spike	resu	ut. RPD	is based	on the	spike and	spike dup	plicate re	sult.			
and an and a second and a secon			LCSD			Spike	Matrix		Re			
Param	F	<u>C</u>	Result	Units		Amount	Result	Rec.	Lin		RPD	Limi
DRO.		1.	246	mg/Kg		250	7.49	95	73.2 -	118	0	20
Percent recovery is based on the	spike	resu	ılt. RPD	is based	on the	spike and	spike dup	olicate re	sult.			
	LC	S	LCSE)			Spike	LCS	5 I	LCSD		Rec.
Surrogate	Res		Resul		Inits	Dil.	Amount			Rec.		Limit
-Tricosane	12	5	124	m	g/Kg	1	100	125		124	75.	4 - 13
					0/0							
Matrix Spike (MS-1) Spike QC Batch: 92803 Prep Batch: 78690	ed Sai	mple		Analyze 'reparat)12-07-06)12-07-06					zed By red By	
QC Batch: 92803	ed Sa	mple	Date QC F				Spike	Mat			red By	: AR
QC Batch: 92803		mple F	Date QC F	reparat			Spike Amount	Mat Res	rix		red By: F	

114-6401444	· · · · · · · · · · · · · · · · · · ·		COG	Work O Brigham		Page Nu	Eddy C				
Percent recovery is based on t	he spike	resu	ılt. RPD) is based	on the	spike and	spike dup	licate re	sult.		
2		~	MSD			Spike	Matrix	~	Rec.		R
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Li
Chloride			2860	mg/Kg	5	2500	<19.2	114	79.4 - 120.6	3	
Percent recovery is based on t	ne spike	resu	lit. KPL	IS Dased	on the	зріке апо	зріке ацр	ncate re	Suit.		
Matrix Spike (MS-1) S_{I}	oiked San	nple	: 302775								
QC Batch: 92804			Date	e Analyze	d: 2	012-07-06			Anal	yzed By	: 1
Prep Batch: 78690			\mathbf{QC}	Preparati	on: 2	012-07-06			Prep	ared By	: .
				MS			Spike	Ma	rix	F	Rec.
Param	F	?		lesult	Units	Dil.	Amount	Res			imi
Chloride				2510	mg/Kg	; <u>5</u>	2500	7	6 97	79.4	- 1
Percent recovery is based on t	he spike	resu	lt. RPD) is based	on the	spike and	spike dup	licate re	sult.		
u u u u u u u u u u u u u u u u u u u	•					-					-
Param	F	a	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	R Li
	H	\mathbf{C}	Result	Units	1 11 1	Amount	Result	Rec	Limit	RPD	I
	+										
Chloride			2630	mg/Kg	5	2500	76	102	79.4 - 120.6	5	
			2630	mg/Kg	5	2500	76	102	79.4 - 120.6		
Chloride			2630	mg/Kg	5	2500	76	102	79.4 - 120.6		
Chloride Percent recovery is based on t	he spike	resu	2630 ilt. RPD	mg/Kg) is based	5	2500	76	102	79.4 - 120.6		
Chloride Percent recovery is based on t		resu	2630 ilt. RPD	mg/Kg) is based	5	2500	76	102	79.4 - 120.6		
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862	he spike	resu	2630 Ilt. RPD : 302733	mg/Kg) is based	5 on the d: 20	2500 spike and 012-07-09	76	102	79.4 - 120.6 sult. Analy	5 vzed By:	
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp	he spike	resu	2630 Ilt. RPD : 302733	mg/Kg) is based	5 on the d: 20	2500 spike and	76	102	79.4 - 120.6 sult. Analy	5	
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862	he spike	resu	2630 Ilt. RPD : 302733	mg/Kg) is based	5 on the d: 20	2500 spike and 012-07-09	76	102	79.4 - 120.6 sult. Analy	5 vzed By:	
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862	he spike	resu	2630 Ilt. RPD : 302733	mg/Kg) is based	5 on the d: 20	2500 spike and 012-07-09	76	102 licate re	79.4 - 120.6 sult. Analy	5 vzed By: ured By:	Ċ
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862	he spike iked San	resu	2630 ilt. RPD : 302733 Date QC	mg/Kg) is based Analyzed Preparatio	5 on the d: 20	2500 spike and 012-07-09 012-07-09	76 spike dup	102 licate re	79.4 - 120.6 sult. Analy Prepa	5 vzed By: ured By:	C C C Rec
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748	he spike iked San	resu	2630 ilt. RPD : 302733 Date QC	mg/Kg) is based) e Analyzed Preparatio MS	5 on the d: 20 on: 20	2500 spike and 012-07-09 012-07-09 s Dil.	76 spike dup	102 licate re Mant R	79.4 - 120.6 sult. <u>Analy</u> Prepa	5 vzed By: ured By: c. 1	C C C Rec
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param	he spike iked San	resu nple F 29	2630 ilt. RPD : 302733 Date QC 2	mg/Kg) is based) is based Preparation MS Result 372	5 on the d: 24 on: 24 Unit mg/H	2500 spike and 012-07-09 012-07-09 s Dil. kg 1	76 spike dup Spike Amour 250	102 licate re m nt R	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60	5 vzed By: ured By: c. 1	C C C Rec Lim
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO	he spike iked San	resu nple F 29	2630 ilt. RPD : 302733 Date QC 	mg/Kg) is based) is based Preparation MS Result 372) is based	5 on the d: 24 on: 24 Unit mg/H	2500 spike and 012-07-09 012-07-09 s Dil. kg 1 spike and	76 spike dup Spike Amour 250 spike dup	102 licate re M nt R licate re	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 esult.	5 vzed By: ured By: c. 1	C C Lim .5 -
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t	he spike oiked San 98 he spike	resu aple F Qn resu	2630 ilt. RPD : 302733 Date QC 2 ilt. RPD MSD	mg/Kg) is based e Analyzed Preparatio MS Result 372) is based	5 on the d: 20 on: 20 Unit mg/H on the	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike	76 spike dup Spike Amour 250 spike dup Matrix	102 licate re Mat R licate re	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 sult. Rec.	5 vzed By: ured By: c. 1 45	C C Lim 5 -
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t Param	he spike jiked San <u>9</u> * he spike F	resu nple F Qn resu C	2630 Ilt. RPD : 302733 Date QC 2 Ilt. RPD MSD Result	mg/Kg) is based) is based Preparation MS Result 372) is based ; Units	5 on the d: 20 on: 20 Unit mg/H on the Dil	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike . Amoun	76 spike dup Spike Amour 250 spike dup Matrix t Result	102 licate re M nt R licate re Rec.	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 sult. Rec. Limit	5 vzed By: ured By: c. 1 45. RPD	C C Lim .5 - R Li
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t Param DRO	he spike iked San e spike F 2* 2*	resu nple F co resu C 2	2630 Ilt. RPD : 302733 Date QC C 2 Ilt. RPD MSD Result 375	mg/Kg) is based) is based Preparation MS Result 372) is based ; Units mg/Kg	5 on the d: 20 on: 20 Unit mg/H on the Dil g 1	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike . Amoun 250	76 spike dup Spike Amoun 250 spike dup Matrix t Result 221	102 licate re mt R licate re Rec. 62	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 esult. Rec. Limit 45.5 - 127	5 vzed By: ured By: c. 1 45	C C Lim .5 - R L
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t Param	he spike iked San he spike F Q* Q* he spike	resu ple F 20 resu C 2 resu	2630 Ilt. RPD : 302733 Date QC C 2 Ilt. RPD MSD Result 375 Ilt. RPD	mg/Kg) is based) is based Preparation MS Result 372) is based ; Units mg/Kg) is based	5 on the d: 20 on: 20 Unit mg/H on the Dil g 1	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike . Amoun 250	76 spike dup Spike Amoun 250 spike dup Matrix t Result 221 spike dup	102 licate re M nt R licate re <u>Rec.</u> 62 licate re	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 esult. Rec. Limit 45.5 - 127 esult.	5 vzed By: ured By: c. 1 45 RPD 1	C C Lim .5 - R Li
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t Param DRO Percent recovery is based on t	he spike iked San iked San P P P P P P P P P P P P P	$\frac{F}{\frac{Q^{n}}{resu}}$	2630 Ilt. RPD : 302733 Date QC 2 Ilt. RPD MSD Result 375 Ilt. RPD MSI	mg/Kg) is based) is based Preparation MS Result 372) is based ; Units mg/Kg) is based)	$\frac{5}{\text{on the}}$ $\frac{1}{2}$ $\frac{1}{2$	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike . Amoun 250 spike and	76 spike dup Spike Amour 250 spike dup Matrix t Result 221 spike dup Spike	102 licate re Mat R licate re Rec. 62 licate re MS	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 sult. Rec. Limit 45.5 - 127 sult. MSD	5 vzed By: ured By: c. 1 45 RPD 1	C C C Rec Limit 5 - R Li
Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp QC Batch: 92862 Prep Batch: 78748 Param DRO Percent recovery is based on t Param DRO	he spike iked San he spike F Q* Q* he spike	result	2630 Ilt. RPD : 302733 Date QC C 2 Ilt. RPD MSD Result 375 Ilt. RPD	mg/Kg mg/Kg is based Analyzee Preparatie MS Result 372 is based Units mg/Kg is based lt Ui	5 on the d: 20 on: 20 Unit mg/H on the Dil g 1	2500 spike and 012-07-09 012-07-09 s Dil. (g 1 spike and Spike . Amoun 250	76 spike dup Spike Amoun 250 spike dup Matrix t Result 221 spike dup	102 licate re M nt R licate re <u>Rec.</u> 62 licate re	79.4 - 120.6 sult. Analy Prepa atrix esult Rec 221 60 sult. Rec. Limit 45.5 - 127 sult. MSD . Rec.	5 vzed By: ured By: c. 1 45 RPD 1	2 C C C Rec Limi 5 - R. Li 2 Rec. Limit

Report Date: July 20, 201 114-6401444	2 .	CO	Work G/Brighan	Order: 1 n H Sout		attery		Page	Number: Eddy	28 of 40 Co., NM
Matrix Spike (MS-1)	Spiked Sam	ple: 3030	95							
QC Batch: 92885		Da	te Analyze	ed: 201	2-07-10			Ana	lyzed By:	ZLM
Prep Batch: 78768		Q	C Preparat	ion: 201	12-07-10			Prej	pared By:	ZLM
	Б	a	MS	¥Т • ,	17-11	Spike	Mat	,		Rec.
Param	F	<u>C</u>	Result	Units	Dil.	Amount	Res		Rec.	Limit
MTBE		1	2.21	mg/Kg	1	2.00	< 0.0			8.4 - 137
Benzene		1	1.89	mg/Kg	1	2.00	< 0.0			7.6 - 142
Foluene		1	1.97	mg/Kg	1	2.00	< 0.0			8.6 - 153
Ethylbenzene		1	2.10	mg/Kg	1	2.00	< 0.0			5.7 - 172
Kylene		1	6.33	mg/Kg	1	6.00	0.0	106	10530	5.7 - 17:
Percent recovery is based o	on the spike r	esult. Rl	PD is base	d on the	spike and	spike dupli	cate res	sult.		
		MSE)		Spike	Matrix		Rec.		RPD
Param	F C			Dil.	Amount	Result	Rec.	Limit	RPD	
ATBE		0.10			2.00	<0.00502	105	48.4 - 1		20
Benzene	1	1 00			2.00 2.00	< 0.00365	93	37.6 - 1		20
Foluene	1	1 00			2.00 2.00	< 0.00816	96	38.6 - 1		20
Ethylbenzene		0.00	U, Q		2.00 2.00	< 0.00560	103	36.7 - 1		20
Sinyhoenzene Kylene	1	0.10	()		6.00	0.0106	$103 \\ 103$	36.7 - 1 36.7 - 1		20
· · · · · · · · · · · · · · · · · · ·			0/0						10 2	
Percent recovery is based o	on the spike r	esuit. R.	PD is base	d on the	spike and	spike dupin	cate res	suit.		
			MS	MSD		S	pike	MS	MSD	Rec.
Surrogate			Result I	Result	Units		aount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)			2.18	2.08	mg/Kg	1	2	109		70 - 130
-Bromofluorobenzene (4-I	3FB)									
	· · · · · · · · · · · · · · · · · · ·		n - Malana ay sa ay sa	Network - prove -		1				
Matrix Spike (MS-1)	Spiked Sam	ple: 3030	95							
QC Batch: 92886			te Analyze		12-07-10			Ana	lyzed By:	
Prep Batch: 78768		Q	C Preparat	ion: 201	12-07-10			Pre	pared By:	ZLM
			MS			Spike	M	latrix		Rec.
Param	F	С	Result	Units	5 Dil.	Amoun	t R	lesult	Rec.	Limit
GRO		1	12.6	mg/K	g 1	20.0	<	0.359	63	70 - 130
Percent recovery is based of	n the spike r	esult. R	PD is base			spike dupli	cate res	sult.		
		$_{ m MS}$	Л		Spike	Matrix		Rec.		RPL
Param	\mathbf{F}	C Res		s Dil.	Amoun		Rec.	Limit	RPD	Limi
	F									
GRO		1 15.	1 mg/F	(g 1	20.0	< 0.359	76	70 - 13	0 18	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Report Date: July 20, 2012 114-6401444	Wor COG/Brigh	rk Order: nam H Sou	Page Number: 29 of 40 Eddy Co., NM					
Surrogate	MS MSD Spike Result Result Units Dil. Amount							
Trifluorotoluene (TFT)	1.35	1.61	mg/Kg	1	2	68	80	70 - 130
4-Bromofluorobenzene (4-BFB)								

Matrix Spike (MS-1) Spiked Sample: 302733

QC Batch:	92978	Date Analyzed:	2012-07-11	Analyzed By:	ZLM
Prep Batch:	78843	QC Preparation:	2012-07-11	Prepared By:	ZLM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Benzene		1	1.96	mg/Kg	1	2.00	0.223	87	37.6 - 142
Toluene		1	2.11	mg/Kg	1	2.00	0.259	92	38.6 - 153
Ethylbenzene		ı	2.64	mg/Kg	1	2.00	0.41	112	36.7 - 172
Xylene		1	7.81	mg/Kg	1	6.00	0.944	114	36.7 - 173

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	Limit
Benzene		1	2.04	mg/Kg	1	2.00	0.223	91	37.6 - 142	4	20
Toluene		1	2.18	mg/Kg	1	2.00	0.259	96	38.6 - 153	3	20
Ethylbenzene		1	2.42	mg/Kg	1	2.00	0.41	100	36.7 - 172	9	20
Xylene		ı	7.26	mg/Kg	1	6.00	0.944	105	36.7 - 173	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MS	MSD			Spike	MS	MSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)			2.15	2.29	mg/Kg	1	2	108	114	70 - 130
4-Bromofluorobenzene (4-BFB)	Qer	Qsr	3.14	2.52	mg/Kg	1	2	157	126	70 - 130

QC Batch: 92979 Prep Batch: 78843				e Analyzed Preparatic					Analyzed By: ZLM Prepared By: ZLM		
Param			F	С	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
			Г	<u> </u>	nesun		<u>Dii.</u>	Amount	nesun	nec.	Linne
GRO		Qв	Qs	1	117	mg/Kg	1	20.0	66.2	254	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

)70519 Tank Batt	tery		Page-l	Number: Eddy	30 of 40 Co., NM
F	C C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPE	
Qs Q	в)	107	mg/Kg	1	20.0	66.2	204	70 - 130) 9	20
the spike	e resul	t. RPD i	s based or	n the s	pike and sp	oike duplie	cate res	ult.		
		1	MS M	ISD		ç	bike	MS	MSD	Rec.
					Units		-			Limit
						1	2	80	62	70 - 130
7B) _{Qsr}	Qar					1	2	168	103	70 - 130
Spiked Sa	mple:	302775			·					
			•/							
			MS			Spike	M	latrix		Rec.
	F									Limit
Qs	Qs								-250	70 - 130
the spike	e resul	t. RPD i	s based or	n the s	pike and sp	oike duplie	cate res	sult.		
		MSD			Spike	Matrix		Rec.		RPD
F	r C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPE) Limit
Qs Q	8 l	2890	mg/Kg	50	20.0	2750	700	70 - 13) 7	20
the_spik	e resul	t <u>RPD_</u> i	s_based_or	n the s	pike and sp	oike_duplie	cate_res	sult.		
		7	MC M	ren		ç	biko	MS	MSD	Rec.
					Units		-			Limit
	Osr				A stranger a stranger and and a stranger and a stranger	and the second of the second second second				70 - 130
						50	2	2820	3075	70 - 130
	The spike FB) Qar Spiked Sa Qa the spike H Qa the spike H Qa Car Car Car Car Car Car Car Ca	The spike result FB) Qar Qar Spiked Sample: F Qa Qa the spike result F C Qa Qar Qar	the spike result. RPD i Reference of the spike result. RPD i FB) Q_{87} Q_{8	the spike result. RPD is based on MS M Result Rd 1.61 1 \overline{FB} Q_{87} Q_{87} $\overline{3.35}$ 2 Spiked Sample: 302775 Date Analyzed: QC Preparation MS F C Result Q_8 Q_8 1 2700 1 the spike result. RPD is based of MSD F C Result Units Q_8 Q_8 1 2890 mg/Kg 1 the_spike_result_RPD_is_based_of MS M Result Rd Q_{87} Q_{87} 1.26 1	the spike result. RPD is based on the spike result. RPD is based on the spike result Result Result Result Result Result 1.61 1.23 TB) q_{sr} q_{sr} 3.35 2.06 Spiked Sample: 302775 Date Analyzed: 2012 QC Preparation: 2012 MS F C Result Units Qs Qs 1 2700 mg/Kg A the spike result. RPD is based on the spike result. RPD is based on the spike result. RPD is based on the spike result RPD is based on the spike result. Result resul	the spike result. RPD is based on the spike and spike result. RPD is based on the spike and spike MS MSD Result Result Units 1.61 1.23 mg/Kg FB) $_{Qsr}$ $_{Qsr}$ $_{Qsr}$ 3.35 2.06 mg/Kg Spiked Sample: 302775 Date Analyzed: 2012-07-13 QC Preparation: 2012-07-13 QC Preparation: 2012-07-13 MS F C Result Units Dil. $_{Qs}$ $_{Qs}$ 1 2700 mg/Kg 50 1 the spike result. RPD is based on the spike and spike F C Result Units Dil. Amount $_{Qs}$ $_{Qs}$ 1 2890 mg/Kg 50 20.0 1 the spike result. RPD is based on the spike and spike F C Result Units Dil. Amount $_{Qs}$ $_{Qs}$ 1 2890 mg/Kg 50 20.0 1 the spike result. RPD is based on the spike and spike MSD Spike F C Result Units Dil. Amount $_{Qs}$ $_{Qs}$ 1 2890 mg/Kg 50 20.0 1 the spike result. RPD is based on the spike and spike MS MSD Result Result Units Dil. Amount MS MSD Result Result Units	the spike result. RPD is based on the spike and spike duplic $MS MSD \qquad SPECER SPEC$	the spike result. RPD is based on the spike and spike duplicate res MS MSD Spike Result Result Units Dil. Amount 1.61 1.23 mg/Kg 1 2 7B) q_{sr} q_{sr} 3.35 2.06 mg/Kg 1 2 Spiked Sample: 302775 Date Analyzed: 2012-07-13 QC Preparation: 2012-07-13 QC Preparation: 2012-07-13 MS Spike M F C Result Units Dil. Amount R q_s q_s 1 2700 mg/Kg 50 20.0 the spike result. RPD is based on the spike and spike duplicate res MSD Spike Matrix F C Result Units Dil. Amount Result Rec. q_s q_s 1 2890 mg/Kg 50 20.0 2750 700 a the spike result. RPD is based on the spike and spike duplicate res MSD Spike Matrix F C Result Units Dil. Amount Result Rec. q_s q_s 1 2890 mg/Kg 50 20.0 2750 700 a the spike result. RPD-is-based on the spike and spike duplicate res MS MSD Spike Matrix result Rec. MS MSD Spike Amount Result	the spike result. RPD is based on the spike and spike duplicate result. $\begin{array}{c ccccccccccccccccccccccccccccccccccc$	the spike result. RPD is based on the spike and spike duplicate result. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. 1.61 1.23 mg/Kg 1 2 80 62 7B) q_{ar} q_{ar} 3.35 2.06 mg/Kg 1 2 168 103 Spiked Sample: 302775 Date Analyzed: 2012-07-13 Analyzed By QC Preparation: 2012-07-13 Prepared By MS Spike Matrix F C Result Units Dil. Amount Result Rec. q_{ar} q_{ar} 1 2700 mg/Kg 50 20.0 2750 -250 the spike result. RPD is based on the spike and spike duplicate result. MS Spike Matrix Rec. F C Result Units Dil. Amount Result Rec. F C Result Units Dil. Amount Result Rec. MS Spike Matrix Rec. F C Result Units Dil. Amount Result Rec. MS Spike Matrix Rec. MS MSD Spike Matrix Rec. MS MSD Spike Matrix Rec. MS MSD Spike Matrix Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. MS MSD Spike MS MSD Result Result Units Dil. Amount Rec. Rec. Rec. Rec.

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Report Date: July 20, 2012 114-6401444		Work Order: 12070519 COG/Brigham H South Tank Battery						Page Number: 31 of 40 Eddy Co., NM				
Param		F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	Qs	Qs	1	5490	mg/Kg	10	250	5020	188	75.4 - 130	4	20
Percent recovery is based on	the sp					on the s	spike and s					Den
Surrogate			MS esult	MS Rest		Units	Dil.	Spike Amount	-	IS MSD ec. Rec.		Rec. Limit
n-Tricosane _{Qsr} _{Qsr}			446	39		ng/Kg	10	100		$\frac{1000}{46}$.4 - 143

and the second second

Calibration Standards

Standard (CCV-1)

QC Batch:	92803			Date A	nalyzed: 2	012-07-06		Analy	zed By: AR
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	101	101	85 - 115	2012-07-06

Standard (CCV-2)

QC Batch: 9	92803			Analy	zed By: AR				
					CCVs	CCVs	CCVs	Percent	_
					True	Found	$\operatorname{Percent}$	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	99.4	99	85 - 115	2012-07-06

Standard (CCV-1)

QC Batch: 92804				Date A	nalyzed: 2	Analyzed By: AR			
• • •				· · · ·	CCVs	CCVs	CCVs	Percent	a daa iin
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	99.7	100	85 - 115	2012-07-06

Standard (CCV-2)

QC Batch:	92804			Date A	nalyzed: 2	2012-07-06		Analyzed By: AR				
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date			
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
Chloride				mg/Kg	100	100	100	85 - 115	2012-07-06			

Report Date: 114-6401444	: July 20, 2012	2		Work Orde Brigham H	Page Number: 33 of 40 Eddy Co., NM			
Standard (C	CCV-1)							
QC Batch:	92862		Date	Analyzed:	2012-07-09		Analy	zed By: CW
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		2	mg/Kg	250	251	100	80 - 120	2012-07-09
Standard (C	CCV-2)							
QC Batch: 9	92862		Date	Analyzed:	2012-07-09		Analy	zed By: CW
				$\rm CCVs$	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		2	mg/Kg	250	257	103	80 - 120	2012-07-09
Standard (C QC Batch: 9	·		Date	Analyzed:	2012-07-09		Analy	zed By: CW
				CCVs	CCVs	CCVs	Percent	
					Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO	<u> </u>	2	mg/Kg	250	243	97	80 - 120	2012-07-09
Standard (C	CCV-4)							
Standard (C QC Batch: 9	,		Date	Analyzed:	2012-07-09		Analy	zed By: CW
× ×	,		Date	Analyzed: CCVs	2012-07-09 CCVs	$\rm CCVs$	Analy: Percent	zed By: CW
× ×	,		Date	U		CCVs Percent	·	zed By: CW Date
,	,	Cert	Date . Units	CCVs	CCVs		Percent	-

Standard (CCV-1)

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Report Date: July 20, 2012 114-6401444			Wo COG/Brig	Page Number: 34 of 40 Eddy Co., NM				
				$\rm CCVs$	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		1	mg/Kg	0.100	0.0988	99	80 - 120	2012-07-10
Benzene		1	mg/kg	0.100	0.0984	98	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.0967	97	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.0969	97	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.292	97	80 - 120	2012-07-10

Standard (CCV-2)

QC Batch: 92885			Analyzed By: ZLM					
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		1	mg/Kg	0.100	0.0952	95	80 - 120	2012-07-10
Benzene		1	mg/kg	0.100	0.0945	94	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.0945	94	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.0951	95	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.284	95	80 - 120	2012-07-10

-----Standard-(CCV-3)

QC Batch: 92885			Analyzed By: ZLM					
· · · · · · · · · · · · · · · · · · ·	· · ·	ана то сторож. Т	t an ata, a i a a a a	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		1	mg/Kg	0.100	0.103	103	80 - 120	2012-07-10
Benzene		1	mg/kg	0.100	0.103	103	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.101	101	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.103	103	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.310	103	80 - 120	2012-07-10

Standard (CCV-1)

QC Batch: 92886

Date Analyzed: 2012-07-10

Analyzed By: ZLM

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Report Date: . 114-6401444	July 20, 20	12			12070519 uth Tank Ba	ttery		mber: 35 of 40 Eddy Co., NM
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		ι	mg/Kg	1.00	0.888	89	80 - 120	2012-07-10
Standard (CO	CV-2)							
QC Batch: 92	886		Date Ar	nalyzed: 20	12-07-10		Analyze	ed By: ZLM
				CCVs	CCVs	CCVs	Percent	
Danam	Flore	Cont	Units	True	Found	Percent	Recovery	Date
Param	Flag	Cert	mg/Kg	Conc. 1.00	Conc. 0.824	Recovery 82	Limits 80 - 120	Analyzed 2012-07-10
Standard (CC		i	Date Ar	alyzed: 20	112-07-10		Analyze	ed By: ZLM
Standard (CC				CCVs	CCVs	CCVs	Percent	-
GRO Standard (CC QC Batch: 92	886		Date Ar	CCVs True	CCVs Found	Percent	Percent Recovery	Date
Standard (CC QC Batch: 92 Param		Cert	Date Ar Units	CCVs True Conc.	CCVs Found Conc.	Percent Recovery	Percent Recovery Limits	Date Analyzed
Standard (CC QC Batch: 92	886		Date Ar	CCVs True	CCVs Found	Percent	Percent Recovery	Date
Standard (CC QC Batch: 92 Param	Flag	Cert	Date Ar Units mg/Kg	CCVs True Conc. 1.00	CCVs Found Conc. 1.02	Percent Recovery 102	Percent Recovery Limits 80 - 120	Date Analyzed
Standard (CC QC Batch: 92 Param GRO Standard (CC	Flag	Cert	Date Ar Units mg/Kg	CCVs True Conc. 1.00 alyzed: 20 CCVs	CCVs Found Conc. 1.02 12-07-11 CCVs	Percent Recovery 102 CCVs	Percent Recovery Limits 80 - 120 Analyze Percent	Date Analyzed 2012-07-10
Standard (CC QC Batch: 92 Param GRO Standard (CC QC Batch: 92	Flag Flag CV-1) 978	Cert 1	Date Ar Units mg/Kg Date An	CCVs True Conc. 1.00 alyzed: 20 CCVs True	CCVs Found Conc. 1.02 12-07-11 CCVs Found	Percent Recovery 102 CCVs Percent	Percent Recovery Limits 80 - 120 Analyze Percent Recovery	Date Analyzed 2012-07-10 ed By: ZLM Date
Standard (CC QC Batch: 92 Param GRO Standard (CC QC Batch: 92 Param	Flag Flag CV-1) 978	Cert 1 Flag Cert	Date Ar Units mg/Kg Date An Units	CCVs True Conc. 1.00 alyzed: 20 CCVs True Conc.	CCVs Found Conc. 1.02 12-07-11 CCVs Found Conc.	Percent Recovery 102 CCVs Percent Recovery	Percent Recovery Limits 80 - 120 Analyze Percent Recovery Limits	Date Analyzed 2012-07-10 ed By: ZLM Date Analyzed
Standard (CC QC Batch: 92 Param GRO Standard (CC QC Batch: 92 Param Benzene	Flag Flag CV-1) 978	Cert 1 Flag Cert	Date Ar Units mg/Kg Date An Date An Units mg/kg	CCVs True Conc. 1.00 alyzed: 20 CCVs True Conc. 0.100	CCVs Found Conc. 1.02 12-07-11 CCVs Found Conc. 0.106	Percent Recovery 102 CCVs Percent Recovery 106	Percent Recovery Limits 80 - 120 Analyze Percent Recovery Limits 80 - 120	Date Analyzed 2012-07-10 ed By: ZLM Date Analyzed 2012-07-11
Standard (CC QC Batch: 92 Param GRO Standard (CC	Flag Flag CV-1) 978	Cert 1 Flag Cert	Date Ar Units mg/Kg Date An Units	CCVs True Conc. 1.00 alyzed: 20 CCVs True Conc.	CCVs Found Conc. 1.02 12-07-11 CCVs Found Conc.	Percent Recovery 102 CCVs Percent Recovery	Percent Recovery Limits 80 - 120 Analyze Percent Recovery Limits	Date Analyzed 2012-07-10 ed By: ZLM Date

Standard (CCV-2)

QC Batch: 92978

Report Date: July 114-6401444	20, 2012			rk Order: 1 ham H Sout	2070519 th Tank Bat	tery	Q,	mber: 36 of 40 Eddy Co., NM
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene	<u>-</u>	1	mg/kg	0.100	0.0979	98	80 - 120	2012-07-11
Toluene		1	mg/kg	0.100	0.0957	96	80 - 120	2012-07-11
Ethylbenzene		1	mg/kg	0.100	0.0965	96	80 - 120	2012-07-11
Xylene		1	mg/kg	0.300	0.292	97	80 - 120	2012-07-11

Standard (CCV-3)

QC Batch: 92978			Date Ana	lyzed: 201	2-07-11		Analyze	ed By: ZLM
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0963	96	80 - 120	2012-07-11
Toluene		t	mg/kg	0.100	0.0974	97	80 - 120	2012-07-11
Ethylbenzene		1	mg/kg	0.100	0.0968	97	80 - 120	2012-07-11
Xylene		1	mg/kg	0.300	0.287	96	80 - 120	2012-07-11

Standard (CCV-1)

	QC_Batch:	92979		Date	Analyzed:	2012-07-11		Analyze	ed By: ZLM	
					CCVs	CCVs	CCVs	Percent		
• •	··· ·	· · · · · · ·		a nan sarah	True	Found	Percent	Recovery	Date	
	Param	\mathbf{F} lag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
	GRO	······································	1	mg/Kg	1.00	0.889	89	80 - 120	2012-07-11	•

Standard (CCV-2)

QC Batch:	92979		Date A	analyzed:	2012-07-11		Analyze	ed By: ZLM
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.09	109	80 - 120	2012-07-11

Report Date: 114-6401444	July 20, 2012			Work Orders Frigham H Sc	Page Number: 37 of 40 Eddy Co., NM						
Standard (C	CV-3)										
QC Batch: 92	2979		Date A	nalyzed: 2	012-07-11		Analyz	ed By: ZLM			
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed			
GRO 4		1	mg/Kg	2.00	1.61	80	80 - 120	2012-07-11			
Standard (C	CV-1)										
QC Batch: 93	3030		Date A	malyzed: 2	012-07-13		Analyz	ed By: ZLM			
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date			
Param GRO	Flag	Cert	Units mg/Kg	Conc. 1.00	Conc. 1.01	Recovery 101	Limits 80 - 120	Analyzed 2012-07-13			
Standard (C	CV-2)										
QC Batch: 93	3030		Date A	nalyzed: 2	012-07-13		Analyz	ed By: ZLM			
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date			
	Flag	Cert	Units mg/Kg	<u>Conc.</u> 1.00	Conc. 1.12	Recovery 112	Limits 80 - 120	Analyzed 2012-07-13			
GRO			Units mg/Kg	Conc.	Conc.						
GRO Standard (C	CV-1)		mg/Kg	Conc. 1.00	Conc.		80 - 120				
Param GRO Standard (C QC Batch: 93 Param	CV-1)		mg/Kg	Conc. 1.00	Conc. 1.12		80 - 120	2012-07-13			

Standard (CCV-2)

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Report Date: 114-6401444	July 20, 2012			Work Order Brigham H Se	: 12070519 outh Tank Ba	attery	· · ·	mber: 38 of 40 Eddy Co., NM
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	246	98	80 - 120	2012-07-16

114-6401444

Report Date: July 20, 2012 Work Order: -12070519 COG/Brigham H South Tank Battery Page Number: 39 of 40 Eddy Co., NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock
2	NELAP	T104704392-12-4	Midland

Standard Flags

	Description
B	Analyte detected in the corresponding method blank above the method detection
	limit
····· H···	-Analyzed out of hold-time
J	Estimated concentration
$_{\rm Jb}$	The analyte is positively identified and the value is approximated between the SDL
	and MQL. Sample contains less then ten times the concentration found in the
	method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
\mathbf{Qc}	Calibration check outside of laboratory limits.
\mathbf{Qr}	RPD outside of laboratory limits
\mathbf{Qs}	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

- Dilution due to excessive hydrocarbons. 1
- $\mathbf{2}$ Dilution due to excessive hydrocarbons.
- 3 Sample weighed out of 48-hr preservation time.

Report Date: July 20, 2012 114-6401444 Work Order: 12070519 COG/Brigham H South Tank Battery Page Number: 40 of 40 Eddy Co., NM

4 CCV was double-spiked.

Attachments

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The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

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Analysis F	Request of C	hain of Cus	todv	Re	CO	rd								PAG		Í		Un:	1	\square
											(0				REQI fy Me					
	1910 N. E Midland, (432) 682-45	ATECH lig Spring St. Texas 79705 59 • Fax (432) 682-3946					-	05 (Ext. to C35)		Cd Cr Pb Hg Se Cd Vr Pd Hg Se								TDS		
CLIENT NAME:		AGER:		ERS	PRES	ERVA		TX10		R R			0/624	70/62				s, pH,		
CO:6 PROJECT NO .: 114-6401444	PROJECT NAME: Brigham H Sout	AGER: Tanase 2 h Tank Butter MPLE IDENTIFICATION	Eddy (TT,	OF CONTAIN D (Y/N)				BTEX 80218 TPH (8015 MOD.)) TX1005		RCRA Metals Ag As TCLP Metals Ag As	TCLP Volatiles	I CLP Semi Volatiles RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625 PCR's 8080/608	8/608	Spec.	eta (Air)	PLM (Aspestos) Major Anions/Cations,		
LAB I.D. NUMBER	MATRIX COMP: GRAB	MPLE IDENTIFICATION	100 1	NUMBER OF CO	HCL HN03	ICE	NONE	BTEX 8021B TPH (8015	PAH 8270	TCLP M	TCLP Vo	RCI Se	GC.MS \	GC.MS Semi. Vo PCB's 8080/608	Pest. 808/608	Chloride Gamma Spec	Atpha Beta (Air)	PLM (AS Major Al		
302766 6/3/12	1 AH-1	l i	BEB)	i		1		XX	6				T			X				
767 /	1/44-1	1	BEB)	(1		7		\square		T			\square			(
768	ÁH-1		BER						\top		$\uparrow \uparrow$	+				\uparrow				
769	AH-7	'D-1' (.6"B		<u> </u>			-	ΧŇ				╈	\uparrow			#	\dagger			
201			REB)	┼╀╌╂				ΥΎ		_	┼┼	╈	╂╼┨			\square	+	+	-+-+	
771				┼┼┦	+	$\left \right\rangle$		XV			┼┼	+	+		+	╞┼╴	┼┽	+		
	11/74-5	11	3EB)	╁┼╌╁	+-	-++		Γ/Λ		-	┼┼	+	┼┤	_	+	$\left \right $	┼┽	_	╶╆╌╊	
┞	ALL E		3EB)	┤┤╴┤							┢╋	-	+		+		╉╋			
73	H H AH-5	11	EB)	+				A'			$\left \right $		+				┼┼		╶┽┦	
774	AH-5	11 .	BE13)	$\left\{ \left \cdot \right \right\}$		4		ŇΛ		_	┼┼					$\left\{ + \right\}$	+			
RELINQUISHED BY: (Signature)	Date:	RECEIVED BY: (Signature)	BEB)	1×1	Date:	NĄ	-5-1	ĮΧΙΧ	SA	MPLED	BY: (P	rint &	Initial)			Y	Da	te:		
RELINQUISHED BY: (Signature)	Time: Date:7-5-12	RECEIVED BY: (Signature)	tch		Time: Date:		115	2	SA	MPLE S	HIPPE			»)			Tin			
RELINGUISHED BY: (Signature)	Time: Date:7	RECEIVED BY: (Signature)			Time: Date:		15	× S		EDEX	ELIVEF		BUS UPS		- Tay					
	ZIP:	- nate 0 07/09	12	TIME:	Time:	800)		-1	FK				``	-	1 7	<i>.</i> .	Results RUSH C Authoriz Yes	harges red:	No
CONTACT: SAMPLE CONDITION WHEN RECEIVED:	PHONE:	F TPH > 5,000	mg/Ky x > 50	me: _	, de	ere	S SI	nm. des			an	1,0	ie					N		
Please fill out all	I copies - Laboratory retains Y	ellow copy - Return Orginal Add KTE	сору to Tetra X/TPH	Tech 307	1 Prej			r retai 10/12	in's Pi	ipk ci ∀ √/,	UR Vil	la i	nd nd	~ -	- Di	20/	iold c U TDY			

Report Date: September 6, 2012

Work Order: 12083126

Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

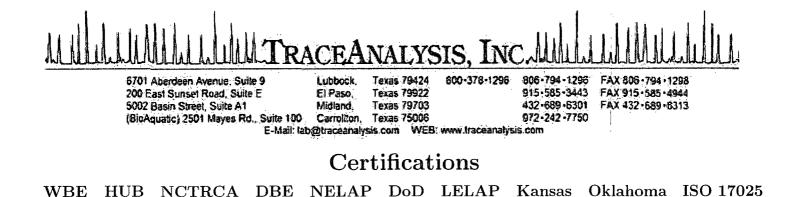
Project Location:	Eddy Co., NM
Project Name:	COG/Brigham H South Tank Battery
Project Number:	114-6401444

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
308288	CS-1 2' Bottom AH-2	soil	2012-08-29	00:00	2012-08-31
308289	CS-2 2' Bottom AH-6	soil	2012-08-29	00:00	2012-08-31
308290	CS-3 3' Bottom AH-4	soil	2012-08-29	00:00	2012-08-31

]	BTEX	······································	TPH DRO - NEW	TPH GRO	
 	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO	
 Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	
308288 - CS-1 2' Bottom AH-2	< 0.0200	< 0.0200	< 0.0200	< 0.0200	99.1 ds	9.32	
 308289 - CS-2 2' Bottom AH-6	< 0.0200	< 0.0200	0.0983	0.439	86.7 Qs	106	· · · · · · · · · · · · · · · · · · ·

Sample: 308290 - CS-3 3' Bottom AH-4

Param	Flag	\mathbf{Result}	Units	\mathbf{RL}
Chloride		1250	mg/Kg	4



Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: September 6, 2012

Work Order: 12083126

Project Location:Eddy Co., NMProject Name:COG/Brigham H South Tank BatteryProject Number:114-6401444

Enclosed are	the Analytical Report and Qualit	y Control Report fo	or the following sample	(s) submitted to 7	TraceAnalysis, Inc.
			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
308288	CS-1 2' Bottom AH-2	soil	2012-08-29	00:00	2012-08-31
308289	CS-2 2' Bottom AH-6	soil	2012-08-29	00:00	2012-08-31
308290	CS-3 3' Bottom AH-4	soil	2012-08-29	00:00	2012-08-31

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	3
Analytical Report Sample 308288 (CS-1 2' Bottom AH-2) Sample 308289 (CS-2 2' Bottom AH-6) Sample 308290 (CS-3 3' Bottom AH-4)	4 4 5 6
Method Blanks QC Batch 94474 - Method Blank (1) QC Batch 94514 - Method Blank (1) QC Batch 94515 - Method Blank (1) QC Batch 94521 - Method Blank (1)	7 7 7 8
QC Batch 94521 - LCS (1) 1 QC Batch 94474 - MS (1) 1 QC Batch 94514 - xMS (1) 1 QC Batch 94515 - MS (1) 1	9 9 9 10 10 10 11 12 12
QC Batch 94474 - CCV (1) I QC Batch 94474 - CCV (2) I QC Batch 94514 - CCV (1) I QC Batch 94514 - CCV (2) I QC Batch 94514 - CCV (3) I QC Batch 94515 - CCV (1) I QC Batch 94515 - CCV (2) I QC Batch 94515 - CCV (2) I QC Batch 94515 - CCV (1) I QC Batch 94515 - CCV (2) I QC Batch 94515 - CCV (1) I QC Batch 94521 - CCV (1) I QC Batch 94521 - CCV (1) I	13 13 13 13 14 14 14 14 15
Report Definitions Image: Construction of the second s	16 16 16 16 16

Case Narrative

Samples for project COG/Brigham H South Tank Battery were received by TraceAnalysis, Inc. on 2012-08-31 and assigned to work order 12083126. Samples for work order 12083126 were received intact at a temperature of 3.7 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	80083	2012-09-05 at 09:24	94514	2012-09-05 at 09:24
Chloride (Titration)	SM 4500-Cl B $$	80093	2012-09-04 at $09:31$	94521	2012-09-04 at 15:32
TPH DRO - NEW	S 8015 D	80058	2012-09-04 at 15:00	94474	2012-09-05 at 08:29
TPH GRO	S 8015 D	80083	2012-09-05 at $09:24$	94515	2012-09-05 at $09:24$

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12083126 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: September 6, 2012 114-6401444

Analytical Report

Sample: 308288 - CS-1 2' Bottom AH-2

Laboratory: Lubbock Analysis: BTEX QC Batch: 94514 Prep Batch: 80083		Date Ana	l Method: lyzed: reparation	S 8021H 2012-09 : 2012-09	-05		Prep Method Analyzed By Prepared By:	: MT
				RL				
Parameter	Flag	Cert		Result	Unit	S	Dilution	RL
Benzene	U	1	<	0.0200	mg/K	g	1	0.0200
Toluene	U	1	<	0.0200	mg/K		1	0.0200
Ethylbenzene	υ	1	<	0.0200	mg/K	g	1	0.0200
Xylene	U	1	<	0.0200	mg/K		1	0.0200
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	70 - 130
4-Bromofluorobenzene (4-BFB)	·····		2.32	mg/Kg	1	2.00	116	70 - 130

Sample: 308288 - CS-1 2' Bottom AH-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO - N 94474 80058		Dat	lytical Methe e Analyzed: ple Preparat	d: S 8015 2012-0	9-05	Prep Me Analyzec Preparec	
					RL			
Parameter		Flag	Cert	Res	ult	Units	Dilution	RL
DRO		Qs	2	9	9.1	mg/Kg	1	50.0
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			107	mg/Kg	1	100	107	70 - 130

Sample: 308288 - CS-1 2' Bottom AH-2

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	94515	Date Analyzed:	2012-09-05	Analyzed By:	\mathbf{MT}
Prep Batch:	80083	Sample Preparation:	2012-09-05	Prepared By:	\mathbf{MT}

Report Date: September 6, 201 114-6401444	2	COG		rder: 12083 H South Ta	126 Ink Battery	-	Page Number: 5 of 16 Eddy Co., NM		
Parameter	Flag	Cert		RL Result	Uni	ts	Dilution	RL	
GRO		1		9.32	mg/K	g	1	4.00	
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130	
4-Bromofluorobenzene (4-BFB)			2.28	mg/Kg	1	2.00	114	70 - 130	

Sample: 308289 - CS-2 2' Bottom AH-6

Laboratory: Lubbock Analysis: BTEX QC Batch: 94514 Prep Batch: 80083		Analytical Date Analy Sample Pre	zed:	S 8021B 2012-09-0 2012-09-0			Prep Method Analyzed By Prepared By:	MT
				\mathbf{RL}				
Parameter	Flag	Cert	R	lesult	Units		Dilution	RL
Benzene	U	1	<0	.0200	mg/Kg		1	0.0200
Toluene	U	1	<0	.0200	mg/Kg		1	0.0200
Ethylbenzene		1	0.	0983	mg/Kg		1	0.0200
Xylene		1).439	mg/Kg		1	0.0200
						Spike	Percent .	Recovery
Surrogate]	Flag===Cert==	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.03	mg/Kg	1	2.00	102	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qвг	3.52	mg/Kg	1	2.00	176	70 - 130

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Sample: 308289 - CS-2 2' Bottom AH-6

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Parameter		Flag 9#	Cert	l Res 86		Units mg/Kg	Dilution 1	RL 50.0
Surrogate n-Tricosane	Flag	Cert	Result 103	Units mg/Kg	Dilution 1	Spike Amount 100	Percent Recovery 103	Recovery Limits 70 - 130

Report Date: September 6, 2012	Work Order: 12083126	Page Number: 6 of 16
114-6401444	COG/Brigham H South Tank Battery	Eddy Co., NM

Sample: 308289 - CS-2 2' Bottom AH-6

Laboratory:LubbockAnalysis:TPH GROQC Batch:94515Prep Batch:80083		Ľ	Date Ana	al Method: alyzed: Preparation	2012-09	9-05		Prep Metho Analyzed B Prepared B	y: MT
					RL				
Parameter	Flag		Cert	F	Result	\mathbf{Unit}_{i}	s	Dilution	RL
GRO			3		106	mg/K_{2}	g	1	4.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				1.78	mg/Kg	1	2.00	89	70 - 130
4-Bromofluorobenzene (4-BFB)	Qar	Qsr		5.10	mg/Kg	1	2.00	255	70 - 130

Sample: 308290 - CS-3 3' Bottom AH-4

Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94521	Date An	alyzed:	2012-09-04	Analyzed By:	AR
Prep Batch:	80093	Sample 1	Preparation:	2012-09-04	Prepared By:	AR.
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			1250	mg/Kg	5	4.00

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Report Date: September 6, 2012 114-6401444

Work Order: 12083126 COG/Brigham H South Tank Battery Page Number: 7 of 16 Eddy Co., NM

Method Blanks

Method Blank (1)	QC B								
QC Batch: 94474				nalyzed:	2012-09-08			Analyzed	v
Prep Batch: 80058			QC Pre	eparation:	2012-09-04	4		Prepared	By: CW
						MDL			
Parameter		Flag		Cert		Result		Units	RI
DRO				2		<14.5		mg/Kg	50
							Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilut	tion .	Amount	Recovery	Limits
n-Tricosane			109	mg/Kg	; 1		100	109	70 - 130
Method Blank (1)	QC B	Batch: 94514				_			
QC Batch: 94514	QC B	Batch: 94514		nalyzed:	2012-09-04 2012-09-05			Analyzee Preparec	
QC Batch: 94514	QC B	Batch: 94514				5			v
QC Batch: 94514 Prep Batch: 80083	·	Batch: 94514 Flag	QC Pre	eparation:	2012-09-08				l By: MT
QC Batch: 94514 Prep Batch: 80083 Parameter	·		QC Pre	eparation:	2012-09-08	5 MDL		Preparec	l By: MT
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene Toluene	·		QC Pre	eparation:	2012-09-08	5 MDL 		Prepared Units mg/Kg mg/Kg	l By: MT
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene Toluene Ethylbenzene	·		QC Pre	eparation:	2012-09-08	5 MDL <0.00365 <0.00816 <0.00560		Prepared Units mg/Kg mg/Kg mg/Kg	l By: MT RL 0.02 0.02 0.02 0.02
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene Toluene Ethylbenzene	·		QC Pre	eparation:	2012-09-08	5 MDL 		Prepared Units mg/Kg mg/Kg	l By: MT
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene	·	Fla	QC Pre	Cert	2012-09-08	5 MDL <0.00365 <0.00816 <0.00560		Prepared Units mg/Kg mg/Kg mg/Kg	l By: MT RL 0.02 0.02 0.02 0.02
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	<u> </u>		QC Pre	Cert	2012-09-08	5 MDL <0.00365 <0.00816 <0.00560	Spike	Prepared Units mg/Kg mg/Kg mg/Kg mg/Kg Percent	l By: MT
QC Batch: 94514 Prep Batch: 80083 Parameter Benzene Toluene Ethylbenzene	· · · · · · · · · · · · · · · · · · ·	Fla	QC Pre	Cert i i i	2012-09-0	5 MDL <0.00365 <0.00816 <0.00560 <0.00460	Spike	Prepared Units mg/Kg mg/Kg mg/Kg mg/Kg Percent	l By: MT RL 0.02 0.02 0.02 0.02 Recovery

Method Blank (1) QC Batch: 94515

QC Batch:	94515	Date Analyzed:	2012-09-05	Analyzed By:	MT
Prep Batch:	80083	QC Preparation:	2012-09-05	Prepared By:	\mathbf{MT}

Report Date: September 6, 2012 114-6401444	COG		rder: 12083) H South Ta		Page Number: 8 of 16 Eddy Co., NM			
Parameter	Flag	Flag Cert Result					Units	RL
GRO		1		< 0.359		mg/Kg	4	
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	Flag	Cert	Result 1.95 2.09	Units mg/Kg mg/Kg	Dilution 1 1	Spike Amount 2.00 2.00	Percent Recovery 98 104	Recovery Limits 70 - 130 70 - 130
Method Blank (1) QC Batch	: 94521							
QC Batch: 94521 Prep Batch: 80093			nalyzed: eparation:	2012-09-04 2012-09-04			Analyzec Prepared	
Parameter	Flag		Cert		MDL Result		Units	RL
Chloride					<3.85		mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

1.044 - 2010 2

QC Batch: 94474 Prep Batch: 80058			e Analyzeo Preparatio		2-09-05 2-09-04			v	zed By red By	
Param	F	С	LCS Result	Units	Dil.	Spike Amount	Re	atrix sult Re		Rec. Limit
DRO		2	262	mg/Kg	1	250	<1	14.5 10)5'	70 - 130
Percent recovery is based of	n the spike re	sult. RPI) is based	on the sp	oike and s	pike duplica	ate resu	ılt.		
		LCSI	`		Spike	Matrix		Rec.		RPD
Param	F	C Resul		Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		$\frac{2}{2}$ 275	mg/Kg		250	<14.5	110	70 - 130	$\frac{10}{5}$	20
Percent recovery is based of	······									
Percent recovery is based of	n the spike re	sun, rri	J is based	on the sp	nke and sj	ріке айриса	ate resu	116.		
	LCS	LC	SD			Spike	LCS	S LCS	D	Rec.
Surrogate	Resul	t Res		Jnits	Dil.	Amount	Rec	. Rec	•	Limit
n-Tricosane	113	1	13 m	g/Kg	1	100	113	113	,	70 - 130
Laboratory Control Spi QC Batch: 94514	ke (LCS-1)	Dat	e Analyze	d: 201:	2-09-05	a (* . 1.1999), meren valen (m. 1919), se a (* .		Analy	rzed By	: MT
Prep Batch: 80083	the standing age of the start.	QC	Preparati	on: 201	2-09-05	algona marina ny s		Prepa	red By	: M'T
			LCS			Spike	Matr			Rec.
Param	\mathbf{F}	CI	Result	Units	Dil.	Amount	Resu			Limit
Benzene		1		ng/Kg	1	2.00	<0.00			.4 - 120
Toluene		1		mg/Kg	1	2.00	< 0.00			.9 - 120
Ethylbenzene		1		mg/Kg	1	2.00	< 0.00			.1 - 120
Xylene		1		mg/Kg	1	6.00	< 0.00			.3 - 120
Percent recovery is based of	n the spike re	esult. RP			oike and s	pike duplic	ate resu	ılt.		
								Th.		
		LCSD			Spike	Matrix		Rec.		RPD
Param	F C	LCSD Result	Units		Spike .mount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit

Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.93	mg/Kg	1	2.00	< 0.00365	96	75.4 - 120	2	20
Toluene		1	1.92	mg/Kg	1	2.00	< 0.00816	96	74.9 - 120	0	20
Ethylbenzene		1	2.02	mg/Kg	1	2.00	< 0.00560	101	78.1 - 120	0	20
Xylene		1	6.02	mg/Kg_	1	6.00	< 0.00460	100	77.3 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

114-6401444		Work Order: 12083126 COG/Brigham H South Tank Battery									Page Number: 10 Eddy Co			
Surrogate			Re	CS sult	LCSD Result		Jnits	Dil.	Spil Amo	unt	LCS Rec.	Re	c.	Rec. Limit
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)		· •••		.77 .84	$\begin{array}{c} 1.76 \\ 1.86 \end{array}$		g/Kg g/Kg	1 1	2.0 2.0		88 92	88 93		70 - 130 70 - 130
Laboratory Control Spike (L	CS-:	1)												
QC Batch: 94515 Prep Batch: 80083					lyzed: tration:		2-09-05 2-09-05					Analy: Prepa		
Param		F	С	LCS Resul	t Un	nits	Dil.	_	ike ount		atrix sult	Rec.		Rec. Limit
GRO		<u> </u>	1	$\frac{100000}{15.5}$	ing/		1).0		.359	78		8.9 - 120
Percent recovery is based on the s	spike	e resu	lt. RPI LCSD) is ba	ased on t	he sp	ike and Spike	spike o Mat	-	te re	sult. Re	ec.		RPD
Param	\mathbf{F}	С	Result	Uı	nits D	il.	Amount	Res	ult I	Rec.	Lir	nit	RPD) Limit
GRO		1	17.8	mg	/Kg :	1	20.0	<0.3	359	89	68.9	- 120	14	20
Percent recovery is based on the s	spike	e resu	lt. RPI) is ba	ased on t	he sp	ike and	spike o	luplica	te re	sult.			
			т	CS	LCSD				Spil	70	LCS	LCS	3D	Rec.
Surrogate				sult	Result	Ţ	Inits	Dil.	Amo		Rec.	Re		Limit
Trifluorotoluene (TFT)				.44	1.67		g/Kg	1	2.0		72	84		70 - 130
4-Bromofluorobenzene (4-BFB)				.78										
					1.96	m	g/Kg	1	2.0	0	89	98	3	70 - 130
Laboratory Control Spike (Le QC Batch: 94521 Prep Batch: 80093	CS-:	1)		e Ana	1.96 lyzed: aration:	2012	g/Kg 2-09-04 2-09-04		2.0	0	89	98 Analy: Prepar	zed B	y: AR
QC Batch: 94521 Prep Batch: 80093 Param	C S- :	I) F		e Ana	lyzed: aration: lt U	2012 2012 nits	2-09-04	S	pike	N	89 fatrix Result	Analy	zed B red B	y: AR y: AR Rec. Limit
QC Batch: 94521 Prep Batch: 80093	C S- :	-	QC	e Ana Prepa LCS	lyzed: aration: lt U	2012 2012	2-09-04 2-09-04	S	pike	M	latrix	Analy: Prepa	zed B red B	y: AR y: AR Rec.
QC Batch: 94521 Prep Batch: 80093 Param		F	QC C lt. RPI	e Ana Prepa LCS <u>Resu</u> 2590) is ba	lyzed: aration: lt U	2012 2012 nits g/Kg	2-09-04 2-09-04 Dil. 1 ike and	S Ar 2 spike c	pike aount 500 luplica	M F	1atrix Lesult <3.85 sult.	Analy: Prepar Rec 104	zed B red B	y: AR y: AR Rec. Limit 85 - 115
QC Batch: 94521 Prep Batch: 80093 Param Chloride		F	QC C	e Ana Prepa LCS Resu 2590) is ba	lyzed: aration: lt U) mg ased on t	2012 2012 nits g/Kg	2-09-04 2-09-04 	S Ar 2 spike c Ma	pike nount 500	M F	fatrix Result <3.85 sult. R	Analy: Prepar Rec 10.	zed B red B	y: AR y: AR Rec. Limit

A 10 APR-1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: September (114-6401444	5, 2012		CO			12083126 outh Tank I			Pag	e Numt Ed	ldy Co.
Matrix Spike (MS-1)	Spiked Sa	unple:	308288	1							
QC Batch: 94474 Prep Batch: 80058				e Analyze Preparati		12-09-05 12-09-04				nalyzed repared	
Param		F	С	MS Result	Units	s Dil.	Spike Amount		latrix esult	Rec.	R Li
DRO			2	406	mg/K		250		99.1	123	70 -
Percent recovery is based	on the spik	e resul	lt. RPD) is based			spike duplic	ate res	sult.		
	on one opin	0 1050									_
-	_		MSD			Spike	Matrix	-	Rec		I
Param	I		Resul					Rec.	Lim		<u>PD I</u>
DRO	Qs Q		434	mg/ŀ		250	99.1	134	70 - 1	130	7
Percent recovery is based	on the spik	e resul	lt. RPD) is based	on the	spike and s	spike duplic	ate res	sult.		
		MS	MS	SD			Spike	Ν	4S	MSD	R
Surrogate		esult	Res		Units	Dil.	Amount		ec.	Rec.	Li
n-Tricosane		110	11		mg/Kg	1	100		10	111	70 -
Matrix Spike (xMS-1)	Spiked S	Sample				12.00.05				nolumo	1 D
		Sample	Date	e Analyze Preparati	ed: 20	12-09-05 12-09-05				nalyzec reparec	•
Matrix Spike (xMS-1) QC Batch: 94514		Sample	Date QC	e Analyze	ed: 20		Spike	Mat	P	•	•
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param		F	Date QC	e Analyze Preparati MS esult	ed: 20 ion: 20 Units	12-09-05 	Spike Amount	Res	P trix ult	reparec Rec.	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene		F	Date QC C R	e Analyze Preparati MS esult 2:12	ed: 20 ion: 20 <u>Units</u> mg/Kg	12-09-05 Dil.	Amount 2:00	Res <0.00	P trix ult 0365	Preparec Rec.	1 By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene		F	Date QC	e Analyze Preparati MS .esult 2:12 2:28	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg	12-09-05 Dil.	Amount 2:00 2.00	Res <0.00 <0.00	P trix ult 0365 0816	Preparec Rec. 106- 114	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene		F	Date QC	e Analyze Preparati MS esult 2-12 2.28 2.52	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg	Dil.	Amount 2.00 2.00 2.00	Res <0.00 <0.00 <0.00	P trix ult 0365 0816 0560	Rec. 106 114 126	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene	Spiked S	F	Date QC	e Analyze Preparati MS esult 2:12 2:28 2.52 7.52	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg	12-09-05 Dil. 1 1 1 1	Amount 2:00 2.00 2.00 6.00	Res <0.00 <0.00 <0.00 <0.00	P crix ult 0365 0816 0560 0460	Preparec Rec. 106- 114	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene	Spiked S	F	Date QC	e Analyze Preparati MS esult 2:12 2:28 2.52 7.52	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg	12-09-05 Dil. 1 1 1 1	Amount 2:00 2.00 2.00 6.00	Res <0.00 <0.00 <0.00 <0.00	P crix ult 0365 0816 0560 0460	Rec. 106 114 126	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene	Spiked S	F e resul	Date QC	e Analyze Preparati MS esult 2:12 2:28 2.52 7.52	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg mg/Kg	12-09-05 Dil. 1 1 1 spike and s	Amount 2:00 2.00 2.00 6.00	Res <0.00 <0.00 <0.00 <0.00	P crix ult 0365 0816 0560 0460	Rec. 106 114 126 125	l By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene	Spiked S	F e resul	Date QC	e Analyze Preparati MS esult 2:12 2:28 2.52 7.52	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg mg/Kg on the	12-09-05 Dil. 1 1 1 1	Amount 2:00 2:00 2:00 6:00 Spike duplic	Res <0.00 <0.00 <0.00 <0.00	P crix ult 0365 0816 0560 0460 sult.	Rec. 106 114 126 125	l By: Re Lin 37.6 38.6 36.7 36.7
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of	Spiked S	F e resul	Date QC	e Analyze Preparati MS eesult 2:12 2:28 2:52 7.52 0 is based Units mg/Kg	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg on the Dil. 1	Dil. Dil. 1 1 1 spike and s Spike Amount	Amount 2:00 2:00 2:00 6:00 spike duplic Matrix	Res <0.00	P crix ult 0365 0816 0560 0460 sult. Rec	Rec. 106 114 126 125 it F	H By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene	Spiked S	Fe resul	Date QC C R I Lt. RPD MSD Result 2.11 2.28	e Analyze Preparati MS esult 2:12 2:28 2:52 7.52 0 is based Units mg/Kg mg/Kg	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg on the Dil. 1	12-09-05 Dil. 1 1 1 spike and s Spike Amount 2.00 2.00	Amount 2:00 2:00 2:00 6:00 Spike duplic Matrix Result <0.00365 <0.00816	Res <0.00	P crix ult 0365 0816 0560 0460 sult. Rec Lim 37.6 - 38.6 -	Rec. 106 114 126 125 it F 142 153	I By: Re Lin
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene Ethylbenzene	Spiked S	F e resul C	Date QC	e Analyze Preparati MS esult 2:12 2:28 2:52 7:52) is based Units mg/Kg mg/Kg mg/Kg	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg on the Dil. 1 1 1 1	12-09-05 Dil. 1 1 1 spike and s Spike Amount 2.00 2.00 2.00 2.00	Amount 2:00 2:00 2:00 6:00 spike duplic Matrix Result <0.00365 <0.00816 <0.00560	$\begin{array}{c} {\rm Res} \\ <0.00 \\ <0.00 \\ <0.00 \\ <0.00 \\ <0.00 \\ \\ {\rm ate\ res} \\ \\ {\rm Rec.} \\ 106 \\ 114 \\ 126 \end{array}$	P crix ult 0365 0816 0560 0460 sult. Rec Lim 37.6 - 38.6 - 36.7 -	Rec. 106 114 126 125 it F 142 153 172	I By: Re Lin 37.6 38.6 36.7 36.7 I RPD I 0 0 0 0
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene	Spiked S	F e resul C 1 1	Date QC C R I Lt. RPD MSD Result 2.11 2.28	e Analyze Preparati MS esult 2:12 2:28 2:52 7.52 0 is based Units mg/Kg mg/Kg	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg on the Dil. 1 1	12-09-05 Dil. 1 1 1 spike and s Spike Amount 2.00 2.00 2.00 2.00	Amount 2:00 2:00 2:00 6:00 Spike duplic Matrix Result <0.00365 <0.00816	Res <0.00	P crix ult 0365 0816 0560 0460 sult. Rec Lim 37.6 - 38.6 -	Rec. 106 114 126 125 it F 142 153 172	I By: Re Lin 37.6 38.6 36.7 36.7 I RPD I 0 0
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene Ethylbenzene	Spiked S on the spike F	F e resul C 1 1 1	Date QC 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e Analyze Preparati MS eesult 2:12 2:28 2:52 7.52 0 is based Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	ed: 20 ion: 20 Units mg/Kg mg/Kg mg/Kg on the Dil. 1 1 1 1 1 1 1 1 1 1	12-09-05 Dil. 1 1 1 spike and s Spike Amount 2.00 2.00 2.00 6.00	Amount 2:00 2.00 2.00 6:00 Spike duplic Matrix Result <0.00365 <0.00816 <0.00460 Spike duplic	$\frac{\text{Res}}{<0.00} < 0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0.00 < <0$	P crix ult 0365 0816 0560 0460 0460 sult. 37.6 - 38.6 - 36.7 - 36.7 - 36.7 - sult.	Rec. -106 114 126 125	H By: Re Lim
Matrix Spike (xMS-1) QC Batch: 94514 Prep Batch: 80083 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene Ethylbenzene Xylene	Spiked S on the spike F	F e resul C 1 1 1	Date QC C R I Lt. RPD MSD Result 2.11 2.28 2.51 7.49 It. RPD	e Analyze Preparati MS esult 2:12 2:28 2:52 7:52 0 is based Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	ed: 20 ion: 20 <u>Units</u> mg/Kg mg/Kg mg/Kg on the Dil. 1 1 1 1 1	12-09-05 Dil. 1 1 1 spike and s Spike Amount 2.00 2.00 2.00 6.00	Amount 2:00 2.00 2.00 6.00 Spike duplic Matrix Result <0.00365 <0.00816 <0.00560 <0.00460 Spike duplic Spike duplic	$\begin{array}{c} {\rm Res} \\ <0.00 \\ <0.00 \\ <0.00 \\ <0.00 \\ {\rm ate\ res} \\ \end{array}$	P crix ult 0365 0816 0560 0460 0460 sult. Rec Lim 37.6 - 38.6 - 36.7 - 36.7 -	Rec. 106 114 126 125 it F 142 153 172	H By: Re Lin 37.6 38.6 36.7 36.7 1 RPD I 0 0 0 0 0 0 0 0 0 0 0 0 0

continued ...

Report Date: September 6, 20 114-6401444	012		C		ork Order: gham H So				Pag	ge Numbe Edd	ber: 12 of 1 ldy Co., NI	
matrix spikes continued				MS Result	MSD Result	Units	Dil. A	Spike Amount	MS Rec.	MSD Rec.	Rec Lim	
4-Bromofluorobenzene (4-BFB	3)			$\frac{1}{2.26}$	2.24	mg/Kg	$\frac{D_{11}}{1}$	2	<u>113</u>	<u> </u>	70 - 1	
Matrix Spike (MS-1) Sp	oiked Sa	mple	e: 3083	36								
QC Batch: 94515 Prep Batch: 80083				ate Analy C Prepar		12-09-05 12-09-05				Analyzed Prepared 1		
Param		F	С	MS Result	Units	Dil.	Spike Amour		atrix esult	Rec.	Rec. Limit	
GRO		- -	1	18.7	mg/Kg		20.0		1.03	88	68.9 - 1	
Percent recovery is based on t.	ha enika	- roei	ilt RI	PD ie hae			spike dur	licate re	enlt			
referre recovery is based on 6.	ne spike	100		D 15 Dao	and on one	spine and	spine dup	110000 10				
			MSI			Spike	Matrix		Rec		RF	
Param	F	C	Resu			Amount		Rec.	Lim		-	
GRO		1	18.9) mg/1	Kg 1	20.0	1.03	90	68.9 -	120 1	2(
Percent recovery is based on the	he spike	e rest	lt. RI	D is bas	ed on the	spike and	spike dup	licate re	esult.			
				MS	MSD			Spike	MS	MSD	Rec	
Surrogate			1	Result	Result	Units	Dil. A	Amount	Rec.	Rec.	Limi	
Trifluorotoluene (TFT)				1.84	1.88	mg/Kg	$\frac{D11.}{1}$	$\frac{111001110}{2}$	92		70 - 1	
4-Bromofluorobenzene (4-BFB	3			2.37		mg/Kg	. 1	2		125		
Matrix Spike (MS-1) Sp QC Batch: 94521 Prep Batch: 80093	iked Sa	mple	Da	90 ate Analy C Prepar	,	12-09-04 12-09-04				Analyzed Prepared	v	
Param		F	С	MS Result	Units	Dil.	Spike Amour		atrix esult	Rec.	Rec. Limit	
				3850	mg/Kg		2500		250	104	78.9 - 1	
						· · · · · · · · · · · · · · · · · · ·						
Chloride Percent recovery is based on the	he spike	e rest	ılt. RI	PD is bas	ed on the	spike and	spike dup	blicate re	esuit.			
Chloride Percent recovery is based on t	he spike		MSI)		Spike	Matrix		Rec		RP	
Chloride	he spike F	e rest C) lt Uni	ts Dil.	-	Matrix			it RP	D Lin	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

· ._...

Calibration Standards

Standard (CCV-1)

QC Batch:	94474		Date Analyzed: 2012-09-05						zed By: CW
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO			2	mg/Kg	250	257	103	80 - 120	2012-09-05

Standard (CCV-2)

QC Batch	: 94474		Date .	Analyzed:	2012-09-05		Analyz	zed By: CW
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		2	mg/Kg	250	260	104	80 - 120	2012-09-05

Standard (CCV-1)

QC Batch: 94514			Date Ana	dyzed: 201	2-09-05		Analyz	ed By: MT
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0971	97	80 - 120	2012-09-05
Toluene		1	mg/kg	0.100	0.0962	96	80 - 120	2012-09-05
Ethylbenzene		1	mg/kg	0.100	0.0988	99	80 - 120	2012-09-05
Xylene		1	mg/kg	0.300	0.295	98	80 - 120	2012-09-05

Standard (CCV-2)

QC Batch: 94514

Date Analyzed: 2012-09-05

Analyzed By: MT

Report Date: Septe 114-6401444 	ember 6, 2012			Work Order righam H So	: 12083126 outh Tank B	attery		mber: 14 of 16 Eddy Co., NM
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0963	96	80 - 120	2012-09-05
Toluene		1	mg/kg	0.100	0.0946	95	80 - 120	2012-09-05
Ethylbenzene		1	mg/kg	0.100	0.0974	97	80 - 120	2012-09-05
Xylene		1	mg/kg	0.300	0.291	97	80 - 120	2012-09-05

Standard (CCV-3)

QC Batch: 94514	QC Batch: 94514		Date Ana	Analyz	zed By: MT			
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0936	94	80 - 120	2012-09-05
Toluene		1	mg/kg	0.100	0.0935	94	80 - 120	2012-09-05
Ethylbenzene		1	mg/kg	0.100	0.0970	97	80 - 120	2012-09-05
Xylene		1	mg/kg	0.300	0.291	97	80 - 120	2012-09-05

Standard (CCV-1)

QC Batch:	94515	-		Date /	Analyzed:	2012-09-05		Analy	zed By: MT
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param]	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO			1	mg/Kg	1.00	0.849	85	80 - 120	2012-09-05

Standard (CCV-2)

QC Batch:	94515		Date .	Analyzed:	2012-09-05		Analy	zed By: MT
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	0.815	82	80 - 120	2012-09-05

Report Date: S 114-6401444	eptember 6,	2012	COG		rder: 12083126 H South Tank		C , 7	mber: 15 of 16 Eddy Co., NM
Standard (CC	CV-3)							
QC Batch: 945	515		Date A	Analyzed:	2012-09-05		Analyz	zed By: MT
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO	<u></u>	1	mg/Kg	1.00	0.894	89	80 - 120	2012-09-05
2	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
5	Flag	Cert	Units					
Param	0		mg/Kg	100	101		85 - 115	
Param Chloride			mg/rxg	100	101	101	89 - 119	2012-09-0
	,			Analyzed:	2012-09-04	101		
Chloride Standard (CC	,		Date 4	Analyzed: CCVs	2012-09-04 CCVs	CCVs	Analy Percent	zed By: AR
Chloride Standard (CC QC Batch: 945	521	~	Date 4	Analyzed: CCVs True	2012-09-04 CCVs Found	CCVs Percent	Analy Percent Recovery	
Chloride Standard (CC	,	Cert	Date 4	Analyzed: CCVs	2012-09-04 CCVs	CCVs	Analy Percent	zed By: AF

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-----Work Order: 12083126 COG/Brigham H South Tank Battery Page Number: 16 of 16 Eddy Co., NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock
2	NELAP	T104704392-12-4	Midland

Standard Flags

<u> </u>	Description
B	Analyte detected in the corresponding method blank above the method detection
	limit
H	Analyzed out of hold time
\mathbf{J}	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL
	and MQL. Sample contains less then ten times the concentration found in the
	method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
\mathbf{Qc}	Calibration check outside of laboratory limits.
\mathbf{Qr}	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

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Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.