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

1220 S. St. Fran	cis Dr., Santa	a Fe, NM 87505	5	Sa	ınta F	e, NM 875	05					side of form	
30-015	30-015-10822 Release Notification and Corrective Action												
15EB 082	91306	97				OPERA	FOR		🗌 Initia	l Report	\boxtimes	Final Report	
Name of Co						Contact Kanicia Carrillo							
				nd, Texas 7970	1	Telephone No. (432) 685-4332							
Facility Nar	me GJCC	OOP Unit #4	1 7			Facility Typ	e Injection we	ell			·····		
Surface Ow	Surface Owner Mineral Ov						······································		Lease N	lo. 30-015	-1082	2	
				LOCA	ATIO	N OF RE	LEASE						
Unit Letter	Section	Township	Range	Feet from the	Nort	h/South Line	Feet from the	East/	West Line	County			
с	21	175	29E	660	Nort	h	1980	West	:	Eddy			
·		····		Latitude N 32°	49.52	7 Longitud	e W 104°04.91	7					
						E OF REL							
Type of Rele	ase Oil and	/or produced	water		UKI		Release 20 bbls		Volume R	Recovered 8	k bble	<u> </u>	
Source of Re		701 produced	water				Iour of Occurrenc			Hour of Dis		,	
flowline							9/30/0 8 5:30 AM	M	9/30/083	:00 pm			
Was Immedi	ate Notice (] No 🗍 Not R	equire	If YES, To Mike Bra							
Dr. Whom?								0.000					
By Whom? Was a Water	course Rea	ched?					Iour 10/1/08 9:1		tercourse.				
]Yes 🛛] No		N/A							
If a Waterco	urse was Im	pacted, Descr	ribe Fully.	*		l							
N/A													
						······································							
Describe Cau	use of Probl	em and Reme	dial Actio	n Taken.*									
Contractor tr	uck turned	too sharp and	ran over s	teel swing in flow	vline. 1	Replaced the d	amage piece of flo	owline					
		1		U		1	5 1						
Describe Are	a Affected	and Cleanup	Action Tal	ken *									
				and middle of lea	ase roa	d. All liquids	were pick up and s	sand w	as spread on	affected ar	ea on ti	he lease road.	
			ined exten	ts. Impacted soil	was re	moved above I	RAL and hauled	to pro	per disposal.	Tetra Tech	1 prepa	red and	
submitted to	NMOCD IO	or review.											
_													
I hereby cert	ify that the	information a	iven abov	e is true and comp	lete to	the best of m	knowledge and	Inderet	and that num	mant to NM	IOCD -	rules and	
				nd/or file certain									
				ce of a C-141 rep									
				y investigate and interview of a C-141									
	or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/ <u>or regu</u> lations.												
	M						OIL CON	SER	VATION	DIVISI	<u>NC</u>		
Signature:]]]	1 llunt	$\langle \rangle$					11					
<u>Signature</u>	1001	- pr-L)			Annroved b	igned Byupervis	Jes-	Kenne	21-			
Printed Nam	e: Ike Tava	rez		· · · · · · · · · · · · · · · · · · ·		·	- Besnie - Antheria						
Title: Project	t Manager			····		Approval Da	IUL 2 3 200	09	Expiration	Date: NA	t		
E-mail Addr	ess: ike.tava	arez@tetratec	h.com			Conditions o	f Approval: NA	•		Attached	a П		

Date: 7-13-09 * Attach Additional Sheets If Necessary

Phone: (432) 682-4559

C

2RP-253



July 13, 2009

Mr. Mike Bratcher New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1301 W. Grand Ave. Artesia, New Mexico 88210

Re: 2 RP-253, Assessment and Closure Report for the COG Operating LLC, GJ West COOP Unit Well #47, Located in Unit Letter C, Section 21, Township 17 South, Range 29 East, Eddy County, New Mexico.

Dear Mr. Bratcher:

Tetra Tech, Inc. was contacted by COG Operating, LLC to investigate a spill that occurred at the GJ West COOP Unit #47 Well. The well is located in Unit Letter C, Section 21, Township 17 South, Range 29 East, Eddy County, New Mexico. The site coordinates are N 32°49.527, W 104°04.917. The Site is shown on Figures 1 and 2.

Background

The spill was discovered on September 30, 2008. According to the C-141 (Initial) included in Appendix A, the spill was caused when a contractor truck turned a corner too sharply on the lease road and ran over a steel swing in the flowline. The spill ran south along the lease road and then turned east along and beside the lease road. Approximately 20 barrels of oil and produced water was spilled and 8 barrels were recovered. The spill location is shown on Figure 3.

Groundwater and Regulatory

A water well located in Section 22, Township 18 South, Range 29 East, was measured using a steel tape to gauge the depth to water. The water well was not in use at the time and the static depth to water was measured at approximately 82.0' below ground surface (bgs).

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 on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Assessment and Corrective Action

On January 20, 2009, Tetra Tech personnel inspected the site and collected samples. A total of three (3) auger holes were placed in the impacted area. Samples were collected to depths of 0.5' (AH-1 and AH-3) and 1.5' (AH-2). Deeper samples could not be collected with the hand auger due to a dense caliche layer. The laboratory report and chain of custody are enclosed in Appendix C. The analytical results are summarized in Table 1.

Referring to Table 1, AH-2 and AH-3, exceeded the RRAL for TPH in the 0-`1.0' and 0-0.5' samples, respectively. The TPH impact was define in AH-2 at 1.0' to less than the RRAL. Chloride concentrations were elevated in all three shallow samples and were only defined in AH-2. Based on the results, COG supervised the removal of 1.0' of impacted soil from the areas around the three auger holes. The soils were hauled offsite for proper disposal.

On February 12, 2009, Tetra Tech personnel supervised the installation of two (2) backhoe trenches to define the vertical extents of the chloride impact in the vicinity of AH-1 and AH-3. Referring to Table 1, the chloride concentrations were 323 mg/kg at 1.0' in the vicinity of AH-1 (Trench T-2) and <200 at 2.0' in the vicinity of AH-3 (Trench T-1). Additionally, TPH was below the RRAL in the vicinity of AH-3 at 1.0'.

Conclusions

The impacted area was defined and the impacted soils above the RRAL were excavated and hauled offsite for disposal. No TPH concentrations exceed the RRAL, and chloride concentrations range from <200 mg/Kg to 323 mg/Kg. Based upon the results of the assessment work and remediation performed at this site, COG requests closure of this site. The final C-141 is enclosed in Appendix B. If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

Respectfully submitted,

Tetra Tech Inc. IM X Tim Reed, P.G.

Senior Project Manager

cc: Pat Ellis – COG

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FIGURES







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TABLE

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Table 1 COG G J West Co-op Unit Well #47 Eddy County, New Mexico

Sample	Date	Sample	Soil	Status	1	TPH (mg/kg	3)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled	Depth (ft)	In-Situ	Removed	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	1/20/2009	0-0.5		X	<50.0	<1.00	<50.0	-	••••••••••••••••••••••••••••••••••••••	-	-	858
T-2	2/12/2009	1.0	X		_				_	-	-	323
AH-2	1/20/2009	0-1	···· · · · · · · · · · · · · · · · · ·	X	2,920	89.9	3,009.9	<0.0200	<0.0200	0.175	0.618	1,190
	1/20/2009	1-1.5	Х		138	38.7	176.7	-	-	-	-	<200
AH-3	1/20/2009	0-0.5		X	4,620	262	4,882	<0.0500	0.326	0.809	2.37	1,200
T-1	2/12/2009	1.0	Х		<50.0	<1.00	<50.0	-	-	-	-	323
<u>T-1</u>	2/21/2009	2.0	Х		-	-	-	-	-	-	-	<200

(-) Not Analyzed

APPENDIX A NMOCD FORM C-141

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· i							
District 1 1625 N French Dr., Hobbs, NM 88240		f New Mex					Form C-141
District II 1301 W. Grand Avenue, Artesta, NM 88210	Energy Mineral	s and Natura	I Resources				i October 10, 2003
District III 1000 Rio Brazos Road, Aztec, NM 87410		ervation Div		OCT () 1 2008	Submit 2 Copi District Offi	es to appropriate ce in accordance
District IV 1220 S St Francis Dr , Santa Fe, NM 87505		th St. Franc	sis Dr.			with F	Rule 116 on back side of form
		Fe, NM 875			ARTE	<u> 918</u>	
Relea	ase Notificatio			Action	-		
Name of Company COG OPERATING LLC	c 229137	OPERA	anicia Carrillo		🛛 Initi	al Report [Final Repor
Address 550 W. Texas, Suite 1300 Midland	the second s		No. 432-685-4				
Facility Name - GJ WEST COOP UNIT #47			e- Injection w				
Surface Owner S	Mineral Owner				Lease	No.API# 30-01	5-10822
30-015-10822	LOCATIO	DN OF RE	LEASE				
	Feet from the Nort	h/South Line	Feet from the		West Line	County	
C 21 17-S 29-E	660	North	1980		West	L R	ddy
Lati	tude	Longitud		,			
Thursday Bulance Blacksol-1	NATURI	E OF REL				D	
Type of Release- Water/oil Source of Release-			Release- 20bbl lour of Occurren			Recovered- 8bb Hour of Discove	
Flowline	····	9/30/08	5:30am	•	9/30/08	3:00 pm	
Was Immediate Notice Given?	No 🔲 Not Require	If YES, To Mike Bra					
By Whom? Kanicia Carrillo			lour 10/01/2008	9:10 :	am		
Was a Watercourse Reached?	No	If YES, V	olume Impacting	the Wat	ercourse.		
If a Watercourse was Impacted, Describe Fully.*							
Describe Cause of Problem and Remedial Action Contractor Truck turned corner too sh We replaced the damaged piece of flo	arp and ran over	steel swin	g in flowline				
Describe Area Affected and Cleanup Action Taken		<u></u>		<u> </u>			<u></u>
Leak was contained to side of lease ro affected area on the road. Tetra Tech			•	-	cked up	and sand wa	s spread on
I hereby certify that the information given above is regulations all operators are required to report and public health or the environment. The acceptance should their operations have failed to adequately a or the environment. In addition, NMOCD accepta federal, state, or local laws and/or regulations.	/or file certain release of a C-141 report by t nvestigate and remedia	notifications a he NMOCD m ate contaminati	nd perform corre arked as "Final 1 on that pose a th	ctive act Report" d reat to gr	tions for rel loes not rel round wate	eases which may ieve the operator r, surface water,	y endanger r of liability human health
			OIL CON	SERV	ATION	DIVISION	
Signature: Y			District Supervi	sor:		Final C-141 submitt	to be completed and ed with confirmation tion on or before the
Title: Regulatory Analyst			10-17-0	a		Date: # 12 -	-18-08
E-mail Address: kcarrillo@conchoresources.com			Approval: ST				10 00
Date: 10/01/2008 Phone: 432-68: Attach Additional Sheets If Necessary	a reme finaliz summa	a 30 days, on or be idiation work plan ed and submitted	fore <u>11-18-08</u> based on delineation for approval to the D taken and/or to be ta	, compl n should be hvision	letion of	Attached E	r .53
				,	Ĺ	Notify OCD 48 ho obtaining samples are to be presented	where analyses

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APPENDIX B GROUNDWATER DATA

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Water Well Data Average Depth to Groundwater (ft) COG - GJ Co-op Unit Well #47, Eddy County, New Mexico

	16 S	outh	2	28 East			16 So	outh	2	9 East			16 \$	South	3	0 East	
3	5	4	3	2	1	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
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	19	20	21	22	23	24
10	29	28	27	26	25	110 30	29	28	27	26	25	30	29	28	27	26	25
1	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36
	17 \$	l South		28 East		L	17 Se	outh		9 East		L	17 :	South	3	0 East	
5	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
,	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
9	20	21	22 79	23	24	19	20	21 SITE	22 80	23	24	19	20	21	22	23	24
0	29	28	27	26	25	30	29 210 208	28	27	26	25	30	29	28	27	26	25
1	32	33	34 53	35	36	31	32	33	34	35	36	31	32	33	34	35	36
	18 \$	South		28 East				outh	2	29 East	:		18	South	3	0 East	
6	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
,	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
9	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
0	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6) Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

121 Abandoned Waterwell (recently measured)

APPENDIX C SUMMARY REPORT February 3, 2009

H

Summary Report

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

Report Date: February 3, 2009

Work Order: 9012121

,

Project Location:	Eddy Co., NM	
Project Name:	COG/GJ West Co-op Unit Well #47	
Project Number:	115-6403610	

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
185449	AH-1 0-0.5'	soil	2009-01-20	00:00	2009-01-21
185450	AH-2 0-1.0'	soil	2009-01-20	00:00	2009-01-21
185451	AH-2 1'-1.5'	soil	2009-01-20	00:00	2009-01-21
185452	AH-3 0-0.5'	soil	2009-01-20	00:00	2009-01-21

		I	BTEX		TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
185449 - AH-1 0-0.5'					<50.0	<1.00
185450 - AH-2 0-1.0'	< 0.0200	< 0.0200	0.175	0.618	2920	89.9
185451 - AH-2 1'-1.5'					138	38.7
185452 - AH-3 0-0.5'	< 0.0500	0.326	0.809	2.37	4620	262

Sample: 185449 - AH-1 0-0.5'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		858	mg/Kg	4.00

Sample: 185450 - AH-2 0-1.0'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		1190	mg/Kg	4.00

Sample: 185451 - AH-2 1'-1.5'

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: Febr 115-6403610	uary 3, 2009	Work Order: 901212 COG/GJ West Co-op Unit V	Page Number: 2 of 2 Eddy Co., NM	
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00
Sample: 185452				
-				
Param	Flag	Result	\mathbf{Units}	RL

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

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 6701 Aberdeen Avenue, Suite 9
 1

 200 East Sunset Road, Suite E
 1

 5002 Basin Street, Suite A1
 1

 6015 Harris Parkway, Suite 110
 Ft

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79922 888 • 588 • 3443 Midland, Texas 79703 Ft Worth, Texas 76132 E-Mail: lab@traceanalysis.com

800 • 378 • 1296 806 • 794 • 1296 888 • 588 • 3443 915 • 585 • 3443 432 • 689 • 6301 817 • 201 • 5260

FAX 806 • 794 • 1298
FAX 915 • 585 • 4944
FAX 432 • 689 • 6313

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 3, 2009

Work Order: 9012121

Project Location:Eddy Co., NMProject Name:COG/GJ West Co-op Unit Well #47Project Number:115-6403610

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
185449	AH-1 0-0.5'	soil	2009-01-20	00:00	2009-01-21
185450	AH-2 0-1.0'	soil	2009-01-20	00:00	2009-01-21
185451	AH-2 1'-1.5'	soil	2009-01-20	00:00	2009-01-21
185452	AH-3 0-0.5'	soil	2009-01-20	00:00	2009-01-21

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 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blain Lepturch

Dr. Blair Leftwich, Director

Standard Flags B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project COG/GJ West Co-op Unit Well #47 were received by TraceAnalysis, Inc. on 2009-01-21 and assigned to work order 9012121. Samples for work order 9012121 were received intact at a temperature of 3.8 deg. C.

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

i.

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	48254	2009-01-29 at 11:17	56465	2009-01-29 at 11:17
Chloride (Titration)	SM 4500-Cl B	48078	2009-01-23 at 09:14	56291	2009-01-23 at 16:45
TPH DRO	Mod. 8015B	48081	2009-01-23 at 09:00	56255	2009-01-23 at 11:15
TPH GRO	S 8015B	48254	2009-01-29 at 11:17	56469	2009-01-29 at 11:17

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 9012121 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.

Analytical Report

Sample: 185449 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	56291	Date Analyzed:	2009-01-23	Analyzed By:	AR
Prep Batch:	48078	Sample Preparation:	2009-01-23	Prepared By:	AR
		\mathbf{RL}			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride	4	858	mg/Kg	50	4.00

Sample: 185449 - AH-1 0-0.5'

n-Triacontan	9	80.0	mg/Kg	1	100	80	10 - 250.4
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
					Spike	Percent	Recovery
DRO			<50.0	n	ng/Kg	1	50.0
Parameter	Flag	5	RL Result		Units	Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 56255 48081		Analytical Me Date Analyze Sample Prepa	d: 200	d. 8015B 99-01-23 99-01-23	Analyz	fethod: N/A ed By: LD ed By: LD

Sample: 185449 - AH-1 0-0.5'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 56469 48254		Analytical Date Anal Sample Pr		S 8015B 2009-01-29 2009-01-29		Prep Meth Analyzed I Prepared 1	By: ME
•			RL	•			*	v
Parameter	Flag		Result		Units	D	vilution	\mathbf{RL}
GRO	· · · · · · · · · · · · · · · · · · ·		<1.00		mg/Kg		1	1.00
a .				TT N		Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		0.904	mg/Kg	1	1.00	90	75 - 117.2
4-Bromofluor	robenzene (4-BFB)		0.700	mg/Kg	1	1.00	70	56 - 142.8

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Sample: 185450 - AH-2 0-1.0'

Laboratory:MidlandAnalysis:BTEXQC Batch:56465Prep Batch:48254		Analytical Date Analy Sample Pre	zed:	S 8021B 2009-01-29 2009-01-29		Prep Met Analyzed Prepared	l By: ME
		RI					
Parameter Flag		Resul	t	Units	I	Dilution	\mathbf{RL}
Benzene		< 0.0200)	mg/Kg		2	0.0100
Toluene		< 0.0200)	mg/Kg		2	0.0100
Ethylbenzene		0.17	5	mg/Kg		2	0.0100
Xylene	· <u> </u>	0.618	3	mg/Kg	·····	2	0.0100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.93	mg/Kg	2	2.00	96	49 - 129.7
4-Bromofluorobenzene (4-BFB)		2.01	mg/Kg	2	2.00	100	45.2 - 144.3

Sample: 185450 - AH-2 0-1.0'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 56291	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-01-23 2009-01-23	Prep Method: Analyzed By: Prepared By:	AR
		RL			,
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		1190	mg/Kg	50	4.00

Sample: 185450 - AH-2 0-1.0'

n-Triacontan	e 1	416	mg/Kg	1	100	416	10 - 250.4
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
					Spike	Percent	Recovery
<u>DRO</u>			2920	mg/H	۲g	1	50.0
Parameter	F	lag	RL Result	Uni	ts	Dilution	\mathbf{RL}
Prep Batch:	48081		Sample Prepa	ration: 2009-0	1-23	Prepar	ed By: LD
QC Batch:	56255		Date Analyze			v	ed By: LD
Laboratory: Analysis:	Midland TPH DRO		Analytical M		3015B	-	lethod: N/A

¹High surrogate recovery due to peak interference.

l

Sample: 185450 - AH-2 0-1.0'

					0.00457		D 14.0		
Analysis:	TPH GRO		Analytical		S 8015B		Prep Met		5 5035
QC Batch:	56469		Date Anal	•	2009-01-29		Analyzed	•	ИE
Prep Batch:	48254		Sample Pr	eparation:	2009-01-29		Prepared	By: 1	ИE
			\mathbf{RL}						
Parameter	Flag		Result		Units		Dilution		\mathbf{RL}
GRO			89.9		mg/Kg		2		1.00
						Spike	Percent	Rec	overy
Surrogate		Flag	\mathbf{Result}	\mathbf{Units}	Dilution	Amount	Recovery	\mathbf{Li}	\mathbf{mits}
0									117.2
	ene (TFT)		1.74	mg/Kg	2	2.00	87	75 -	TT:
Trifluorotolue 4-Bromofluor	ene (TFT) obenzene (4-BFB) 5451 - AH-2 1'-1.5	2	1.74 3.28	mg/Kg mg/Kg	2 2	2.00 2.00	87 164		
Trifluorotolue 4-Bromofluor Sample: 18	obenzene (4-BFB)								
Trifluorotolue 4-Bromofluor Sample: 18 Laboratory:	obenzene (4-BFB) 5451 - AH-2 1'-1.5	,	3.28		2	2.00		56 -	142.8
Trifluorotolue 4-Bromofluor Sample: 18 Laboratory: Analysis:	obenzene (4-BFB) 5451 - AH-2 1'-1.5 Midland	,	3.28 Analy	mg/Kg	2	2.00 •Cl B	164	56 - ethod:	N/A AR
Trifluorotolue 4-Bromofluor	obenzene (4-BFB) 5451 - AH-2 1'-1.5 Midland Chloride (Titration)	,	3.28 Analy Date A	mg/Kg tical Method	2 d: SM 4500- 2009-01-2	2.00 -Cl B 23	164 Prep M	56 - ethod: ed By:	142.8 N/A
Trifluorotolue 4-Bromofluor Sample: 18 Laboratory: Analysis: QC Batch:	obenzene (4-BFB) 5451 - AH-2 1'-1.5 Midland Chloride (Titration) 56291	,	3.28 Analy Date A	mg/Kg tical Methor Analyzed:	2 d: SM 4500- 2009-01-2	2.00 -Cl B 23	164 Prep M Analyze	56 - ethod: ed By:	142.8 N/A AR
Trifluorotolue 4-Bromofluor Sample: 18 Laboratory: Analysis: QC Batch:	obenzene (4-BFB) 5451 - AH-2 1'-1.5 Midland Chloride (Titration) 56291	,	3.28 Analy Date A Sampl	mg/Kg tical Methor Analyzed:	2 d: SM 4500- 2009-01-2	2.00 -Cl B 23	164 Prep M Analyze	56 - ethod: ed By:	142.8 N/A AR

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 56255 48081		Analytical Mo Date Analyze Sample Prepa	ed: 2009-0	1-23	Analyz	fethod: N/A ed By: LD ed By: LD
Parameter	Fla	ıg	RL Result	Uni		Dilution	RL
DRO			138	mg/H	Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	88.6	mg/Kg	1	100	89	10 - 250.4

²High surrogate recovery due to peak interference.

Sample: 185451 - AH-2 1'-1.5'

Analysis:TPH GROQC Batch:56469Prep Batch:48254		Analytica Date Ana Sample P		S 8015B 2009-01-29 2009-01-29		Prep Met Analyzed Prepared	By: ME
		RL		TT •	Ŧ		DI
Parameter Flag GRO	· · · · ·	Result 38.7		Units mg/Kg	L	Dilution1	RL 1.00
		00.1		IIIg/ IXg			
		D L	TT •		Spike	Percent	Recovery
Surrogate	Flag	Result 0.916	Units	Dilution	<u>Amount</u> 1.00	Recovery	Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)		0.916	mg/Kg mg/Kg	1 1	1.00	92 78	75 - 117.2 56 - 142.8
Sample: 185452 - AH-3 0-0.5	:)						
Laboratory: Midland Analysis: BTEX QC Batch: 56465	•	Analytical Date Analy Sample Pre	yzed:	S 8021B 2009-01-29 2009-01-29		Prep Met Analyzed Prepared	By: ME
Laboratory: Midland Analysis: BTEX QC Batch: 56465	•	Date Analy	yzed: eparation:	2009-01-29		Analyzed	By: ME
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254		Date Analy Sample Pro RI Result	yzed: eparation: t	2009-01-29 2009-01-29 Units	D	Analyzed	By: ME By: ME RL
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene		Date Analy Sample Pro RI Result <0.0500	yzed: eparation: t)	2009-01-29 2009-01-29 Units mg/Kg	D	Analyzed Prepared ilution 5	By: ME By: ME RL 0.0100
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene		Date Analy Sample Pro RI Result <0.0500 0.326	yzed: eparation: t t 3	2009-01-29 2009-01-29 Units mg/Kg mg/Kg	D	Analyzed Prepared ilution 5 5	By: ME By: ME RL 0.0100 0.0100
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene Ethylbenzene		Date Analy Sample Pro RI Result <0.0500 0.326 0.809	yzed: eparation: t t 0 3 3	2009-01-29 2009-01-29 Units mg/Kg mg/Kg mg/Kg	D	Analyzed Prepared ilution 5 5 5 5	By: ME By: ME RL 0.0100 0.0100 0.0100
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene		Date Analy Sample Pro RI Result <0.0500 0.326	yzed: eparation: t t 0 3 3	2009-01-29 2009-01-29 Units mg/Kg mg/Kg	D	Analyzed Prepared ilution 5 5	By: ME By: ME RL 0.0100 0.0100 0.0100
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene Ethylbenzene		Date Analy Sample Pro RI Result <0.0500 0.326 0.809	yzed: eparation: t) 3 3 7	2009-01-29 2009-01-29 <u>Units</u> mg/Kg mg/Kg mg/Kg mg/Kg	Spike	Analyzed Prepared ilution 5 5 5 5	By: ME By: ME RL 0.0100 0.0100 0.0100
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene Ethylbenzene Xylene Surrogate		Date Analy Sample Pro RI Result <0.0500 0.326 0.809 2.37 Result	yzed: eparation: t t 3 3 7 Units	2009-01-29 2009-01-29 Units mg/Kg mg/Kg mg/Kg mg/Kg Dilution	Spike Amount	Analyzed Prepared bilution 5 5 5 5 Percent Recovery	By: ME By: ME RL 0.0100 0.0100 0.0100 0.0100 Recovery Limits
Laboratory: Midland Analysis: BTEX QC Batch: 56465 Prep Batch: 48254 Parameter Flag Benzene Toluene Ethylbenzene Xylene		Date Analy Sample Pro RI Result <0.0500 0.326 0.809 2.37	yzed: eparation: t) 3 3 7	2009-01-29 2009-01-29 <u>Units</u> mg/Kg mg/Kg mg/Kg mg/Kg	Spike	Analyzed Prepared ilution 5 5 5 5 5 Percent	By: ME By: ME RL 0.0100 0.0100 0.0100 0.0100 Recovery

Sample: 185452 - AH-3 0-0.5'

Chloride		1200	mg/Kg	50	4.00
Parameter	Flag	RL Result	Units	Dilution	RL
QC Batch: Prep Batch:	56291 48078	Date Analyzed: Sample Preparation:	2009-01-23 2009-01-23	Analyzed By: Prepared By:	
Laboratory: Analysis:	Midland Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	,

.

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Sample: 185452 - AH-3 0-0.5'

-								
•	Midland							
v	TPH DRO		Analytical		Mod. 8015		Prep M	,
	56255		Date Analy		2009-01-23		Analyze	•
Prep Batch:	48081		Sample Pre	eparation:	2009-01-23		Prepare	d By: LI
			\mathbf{RL}					
Parameter	Flag		\mathbf{Result}		Units		Dilution	F
DRO			4620		mg/Kg		5	50
						Spike	Percent	Recove
Surrogate	Flag	Result	\mathbf{Units}	Dih	ition	Amount	Recovery	Limits
n-Triacontane		845	mg/Kg		5	100	845	10 - 250
- Laboratory:	5 452 - AH-3 0-0. Midland	5'						
•	TPH GRO		Analytical		S 8015B		Prep Met	
QC Batch:	56469		Date Analy		2009-01-29		Analyzed	-
Prep Batch:	48254		Sample Pre	eparation:	2009-01-29		Prepared	By: ME
			\mathbf{RL}					
Parameter	Flag		\mathbf{Result}		Units		Dilution]
GRO			262		mg/Kg		5	1.
						Spike	Percent	Recove
Surrogate		Flag	Result	Units	Dilution			Limit
Trifluorotolue	ne (TFT)	0	4.28	mg/Kg	5	5.00	86	75 - 11
	obenzene (4-BFB)	4	8.10	mg/Kg	5	5.00	162	56 - 14
Method Bla		atch: 56255			000 01 00		4 1	
	56255		Date Anal QC Prepa	•	009-01-23 009-01-23		•	zed By: L red By: L
•	48081		V I				-	-
Prep Batch:	48081			MDL				-
Prep Batch: Parameter	48081	Flag		MDL Result			nits]
Prep Batch: Parameter	48081	Flag	• · · ·	MDL			iits /Kg]
Prep Batch: Parameter		Flag		MDL Result				
•	48081	Flag Result	Units	MDL Result		mg	/Kg	

³High surrogate recovery due to peak interference.

⁴High surrogate recovery due to peak interference.

115-6403610	3, 2009		Vork Order West Co-c	: 9012121 pp Unit Well 1	¥47	-	umber: 9 Eddy Co	
Method Blank (1)	QC Batch: 56291						,	
QC Batch: 56291		Date Anal	vzed: 20	09-01-23		Analy	zed By:	AR
Prep Batch: 48078		QC Prepa	•	09-01-23		•	red By:	AR
			MDL					
Parameter	Flag		Result		Uni	ts		RL
Chloride			<2.01		mg/l	Kg		4
Method Blank (1)	QC Batch: 56465							
QC Batch: 56465		Date Anal	yzed: 20	09-01-29		Analy	zed By:	ME
Prep Batch: 48254		QC Prepa	•	09-01-29			red By:	ME
_			MD					
Parameter Benzene	Flag	<u> </u>	Resu <0.0080		Un			RI 0.0
Toluene			< 0.0080		mg/ mg/	-		0.0
Ethylbenzene			< 0.008		mg/			0.0
Xylene			< 0.009		mg/			0.0
					Spike	Percent		overy
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery		nits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (0.960 0.731	mg/Kg mg/Kg	1 1	1.00 1.00	96 73	65.6 - 51.9 -	
Method Blank (1) QC Batch: 56469	QC Batch: 56469	Date Anal QC Prepa)09-01-29)09-01-29		-	zed By: ared By:	
Method Blank (1) QC Batch: 56469 Prep Batch: 48254			ration: 20 MDL	009-01-29	IIni	Prepa	•	ME
Method Blank (1) QC Batch: 56469 Prep Batch: 48254 Parameter	QC Batch: 56469 Flag		ration: 20	009-01-29	Uni mg/	Prepa	•	ME RI
Method Blank (1) QC Batch: 56469 Prep Batch: 48254 Parameter GRO	Flag	QC Prepa	ration: 20 MDL Result <0.171	009-01-29	mg/ Spike	Prepa ts Kg Percent	Reco	ME Rl 1 overy
Method Blank (1) QC Batch: 56469 Prep Batch: 48254 Parameter GRO Surrogate		QC Prepa	ration: 20 MDL Result <0.171 Units	09-01-29 Dilution	mg/ Spike Amount	Prepa ts Kg Percent Recovery	Rece	nits
Method Blank (1) QC Batch: 56469			ration: 20 MDL Result	009-01-29	mg/	Prepa ts Kg	ared By:	
Iethod Blank (1) C Batch: 56469 rep Batch: 48254 arameter RO urrogate rifluorotoluene (TFT) Bromofluorobenzene (Flag Flag (4-BFB)	QC Prepa	ration: 20 MDL Result <0.171	009-01-29	mg/ Spike	Prepa ts Kg Percent	Reco	M I over nits 129
Method Blank (1) QC Batch: 56469 Prep Batch: 48254 Parameter GRO	Flag Flag (4-BFB)	QC Prepa Result 0.922	ration: 20 MDL Result <0.171 Units mg/Kg mg/Kg	009-01-29 	mg/ Spike Amount 1.00	Prepa ts Kg Percent Recovery 92 61 Anal	Reco 58.3 -	MI R overy nits 129 124.

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Report Date: Februar 115-6403610	ry 3, 2009				der: 9012 Co-op Unit	121 t Well #47		Page N	umber: Eddy	10 of 18 Co., NM
Param		LCS _Resul	t U	nits	Dil.	Spike Amount	Matrix Result	t Rec.	I	Rec. Limit
DRO		237	mg	g/Kg	1	250	<12.0	95	27.8	- 152.1
Percent recovery is ba	sed on the spi	ike result.	RPD is b	ased on	the spike	and spike d	uplicate re	esult.		
		LCSD			C nil.o	Matrix		Dee		RPD
Param		Result	Units	Dil.	Spike Amount	Result	Rec.	Rec. Limit	RPD	Limit
DRO	·		mg/Kg	1	250	<12.0		7.8 - 152.1	2	20
Percent recovery is ba	sed on the sp									
	_				one spine	-	-			_
~	LCS	LCSD		•		Spike	LCS	LCSD		Rec.
Surrogate	Result	Result		nits	Dil.	Amount	Rec.	Rec.		Limit
n-Triacontane	73.0	74.1	mg	/Kg	1	100	73	74	38	3 - 130.4
•			Date Ana OC Pren		2000-01	-23		Dro	narod R	7• AP
•			QC Prep		2009-01	-23 Spike	Ma	Pre trix	pared By	y: AR Rec.
Prep Batch: 48078 Param		LC: Resi	QC Prep S ılt	aration: Units	2009-01 Dil.	Spike Amount	t Res	trix sult Re	ec.	Rec. Limit
Prep Batch: 48078 Param Chloride		LC Resu 98.	QC Prep S ilt 2 n	aration: Units ng/Kg	Dil.	Spike Amount 100	t Res	trix sult Ra .01 9	ec.	Rec. Limit
Prep Batch: 48078 Param Chloride	sed on the sp	LC Resu 98.	QC Prep S ilt 2 n	aration: Units ng/Kg	Dil.	Spike Amount 100	t Res	trix sult Ra .01 9	ec.	Rec. Limit
Prep Batch: 48078 Param Chloride	sed on the sp	LC Resu 98.	QC Prep S ilt 2 n	aration: Units ng/Kg	Dil. 1 the spike	Spike Amount 100 and spike d	t Res <2 uplicate re	trix sult Re .01 9 esult.	ec.	Rec. Limit 85 - 11
Prep Batch: 48078 Param Chloride Percent recovery is ba	sed on the sp	LC Resu 98. ike result.	QC Prep S ilt 2 n	aration: Units ng/Kg	Dil.	Spike Amound 100 and spike d Matrix	t Res <2 uplicate re	trix sult Ra .01 9	ec.	Rec.
Prep Batch: 48078 Param Chloride Percent recovery is ba Param	sed on the sp	LC Resu 98. ike result. LCSD	QC Prep S ılt 2 n RPD is b	aration: Units ng/Kg ased on	Dil. 1 the spike Spike	Spike Amound 100 and spike d Matrix	t Res <2 uplicate re	trix sult Ra .01 9 esult. Rec.	ec	Rec. Limit 85 - 11 RPI
Prep Batch: 48078 Param Chloride Percent recovery is ba Param Chloride		LC Resu 98. ike result. LCSD Result 99.7	QC Prep S Ilt 2 n RPD is b Units mg/Kg	units ng/Kg ased on Dil. 1	Dil. 1 the spike Spike Amoun 100	Spike Amount 100 and spike d Matrix t Result <2.01	t Res <2 uplicate re Rec. 100	trix sult Ra .01 9 esult. Rec. Limit 85 - 115	ec. 8 RPD	Rec. Limit 85 - 11 RPI Limi
Prep Batch: 48078 Param Chloride Percent recovery is ba Chloride Param Chloride Percent recovery is ba Laboratory Contro	sed on the sp	LC: Resu 98. ike result. LCSD Result 99.7 ike result. S-1)	QC Prep S Ilt 2 n RPD is b Units mg/Kg RPD is b	units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d	t Res <2 uplicate re Rec. 100	trix sult Ra .01 9 esult. Rec. Limit 85 - 115 esult.	ec. 8 	Rec. Limit 85 - 11 RPI Limi 20
Prep Batch: 48078 Param Chloride Percent recovery is ba Param Chloride Percent recovery is ba	sed on the sp	LC: Resu 98. ike result. LCSD Result 99.7 ike result. S-1)	QC Prep S Ilt 2 n RPD is b Units mg/Kg	units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike 2009-01	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d	t Res <2 uplicate re Rec. 100	trix sult Ra .01 9 esult. Rec. Limit 85 - 115 esult. Ana	ec. 8 RPD	Rec. Limit 85 - 11 RPI Limi 20
Prep Batch: 48078 Param Chloride Percent recovery is ba Chloride Percent recovery is ba Chloride Percent recovery is ba Laboratory Contro QC Batch: 56465 Prep Batch: 48254	sed on the sp	LC: Resu 98. ike result. LCSD Result 99.7 ike result. S-1) LCS	QC Prep S Ilt 2 n RPD is b <u>Units</u> mg/Kg RPD is b Date Ana QC Prep	aration: <u>Units</u> <u>ng/Kg</u> ased on <u>Dil.</u> 1 ased on alyzed: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-01 2009-01	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d -29 -29 Spike	t Res <2 uplicate re Rec. 100 uplicate re	trix sult Ra .01 9 esult. Rec. Limit 85 - 115 esult. Ana Pre	ec. 8 RPD 2 llyzed B pared B	Rec. Limit 85 - 11 Limi 20 y: ME y: ME r: ME Rec.
Prep Batch: 48078 Param Chloride Percent recovery is ba Param Chloride Percent recovery is ba Laboratory Contro QC Batch: 56465 Prep Batch: 48254 Param	sed on the sp	LC: Resu 98. ike result. LCSD Result 99.7 ike result. S-1) LCS Resul	QC Prep S Ilt 2 n RPD is b Units mg/Kg RPD is b Date Ana QC Prep t Ur	aration: <u>Units</u> <u>ng/Kg</u> ased on <u>Dil.</u> 1 ased on alyzed: aration: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-01 2009-01 Dil.	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d -29 -29 Spike Amount	t Res	trix sult Ra .01 9 esult. Rec. Limit 85 - 115 esult. Ana Pre	ec. 8 RPD 2	Rec. Limit 85 - 11 Limi 20 y: ME 7: ME Rec. Limit
Prep Batch: 48078 Param Chloride Percent recovery is ba Param Chloride Percent recovery is ba Laboratory Contro QC Batch: 56465 Prep Batch: 48254 Param Benzene	sed on the sp	LCS Result ike result. LCSD Result 99.7 ike result. S-1) LCS Result 0.761	QC Prep S Ilt 2 n RPD is b Units mg/Kg RPD is b Date Ana QC Prep t Ur mg	aration: <u>Units</u> <u>ng/Kg</u> ased on <u>Dil.</u> 1 ased on alyzed: aration: <u>hits</u> /Kg	Dil. 1 the spike Spike Amoun 100 the spike 2009-01 2009-01 2009-01	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d -29 -29 -29 Spike Amount 1.00	t Res <pre></pre>	trix sult Ra .01 9 esult. Rec. Limit 85 - 115 esult. Ana Pre c	ec. 8 RPD 2 Ilyzed B; pared B; 72.	Rec. Limit 85 - 11 RPI Limi 20 y: ME 7: ME Rec. Limit 7 - 129.
Prep Batch: 48078 Param Chloride Percent recovery is ba Param Chloride Percent recovery is ba Laboratory Contro QC Batch: 56465	sed on the sp	LC: Resu 98. ike result. LCSD Result 99.7 ike result. S-1) LCS Resul	QC Prep S Ilt 2 n RPD is b Units mg/Kg RPD is b Date Ana QC Prep t Ur mg mg	aration: <u>Units</u> <u>ng/Kg</u> ased on <u>Dil.</u> 1 ased on alyzed: aration: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-01 2009-01 Dil.	Spike Amount 100 and spike d Matrix t Result <2.01 and spike d -29 -29 Spike Amount	t Res	trix sult Ra 301 9 esult. Rec. Limit 85 - 115 esult. Ana Presson 300 76 300 90	ec. 8 RPD 2 Ilyzed B pared B 72. 71.0	Rec. Limit 85 - 11 Limi 20 y: ME 7: ME Rec. Limit

Report Date: February 3, 2009 115-6403610		COG		Order: 9012 st Co-op Uni		#47			Page N	umber: Eddy	11 of 15 Co., NM
control spikes continued											
-	LCSD			Spike	Mati	rix		R	ec.		RPD
Param	Result	Units	Dil.	Amount	Rest	ılt	Rec.	Liı	mit	RPD	Limit
	LCSD			Spike	Mat	rix		R	ec.		RPD
Param	Result	Units	Dil.	Amount	Resi	ılt	Rec.	Liı	mit	RPD	Limit
Benzene	0.800	mg/Kg	g 1	1.00	< 0.00	800	80	72.7 -	129.8	5	20
Toluene	0.956	mg/Kg		1.00	< 0.00		96		129.6	6	20
Ethylbenzene	0.997	mg/K		1.00	< 0.00		100	70.8 -	129.7	18	20
Xylene	3.03	mg/Kg		3.00	<0.00		101		129.4	19	20
Percent recovery is based on the	spike result			on the spike	and sp	ike dup	olicate	e result.			
	\mathbf{LC}	S L	CSD			Spike	,	LCS	LCSD		Rec.
Surrogate	Res		lesult	Units	Dil.	Amou		Rec.	Rec.		Limit
Trifluorotoluene (TFT)	0.90	03 ().943	mg/Kg	1	1.00		90	94	65.	9 - 132
											2 - 128.9
Laboratory Control Spike (L QC Batch: 56469	1.0 CS-1)	Date).812 Analyzec reparatio			1.00		108		55.2 yzed By ared By	y: ME
Laboratory Control Spike (L QC Batch: 56469	CS-1)	Date	Analyzeo	1: 2009-01	l-29 l-29	pike		108 Aatrix	Anal	yzed By	y: ME
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254	CS-1) L	Date QC P	Analyzeo	l: 2009-01 on: 2009-01	l-29 l-29 S				Anal	yzed By ared By	y: ME 7: ME
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param	CS-1) L Re	Date QC P CS	Analyzeo reparatio	l: 2009-01 on: 2009-01 Dil.	l-29 l-29 S Ar	pike	1	Aatrix	Anal Prep	yzed By ared By c.	y: ME 7: ME Rec. Limit
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO	CS-1) L Re 7	Date QC P CS esult .78	Analyzec reparatio Units mg/K	l: 2009-01 on: 2009-01 Dil. g 1	l-29 l-29 S Ar	pike nount 10.0		Aatrix Result (0.171	Anal Prep Re 7	yzed By ared By c.	y: ME 7: ME Rec. Limit
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO	CS-1) L Re 7	Date QC P CS esult .78	Analyzec reparatio Units mg/K	l: 2009-01 on: 2009-01 Dil. g 1	l-29 l-29 S Ar	pike nount 10.0		Aatrix Result <0.171 e result.	Anal Prep Re 7	yzed By ared By c.	y: ME 7: ME Rec. Limit 70 - 130
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param	CS-1) L Re 7 spike result LCSD Result	Date QC P CS esult .78 t. RPD Uni	Analyzec reparatio Units mg/K is based ts Di	l: 2009-01 on: 2009-01 	l-29 l-29 An and sp at R	pike nount 10.0 pike duj latrix esult	plicate Rec	∬atrix Result <0.171 ≥ result . L	Anal Prep Re 7 Rec. imit	yzed By ared By c.	y: ME r: ME Rec. Limit 70 - 13 RPI Limi
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param	CS-1) L Re 7 spike result LCSD	Date QC P CS esult .78 t. RPD	Analyzec reparatio Units mg/K is based ts Di	l: 2009-01 on: 2009-01 	l-29 l-29 An and sp at R	pike nount 10.0 pike duj jatrix	l < plicate	∬atrix Result <0.171 ≥ result . L	Anal Prep Re 76 Rec.	yzed By ared By c. 3	y: ME 7: ME Rec. Limit 70 - 130 RPI
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO	CS-1) L Re 7 spike result LCSD Result 7.83	Date QC P CS esult .78 t. RPD Uni mg/	Analyzec reparatio Units mg/K is based ts Di Kg 1	l: 2009-01 on: 2009-01 g 1 on the spike Spike il. Amour 10.0	l-29 l-29 S An and sp at R <	pike nount 10.0 pike duj latrix esult 0.171	plicate Rec 78	Aatrix Result (0.171 e result F . L 70	Anal Prep Re 7	yzed By ared By c. 3 RPD	y: ME r: ME Rec. Limit 70 - 13 RPI Limi
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0	Date QC P CS esult 7.78 t. RPD Uni mg/ t. RPD	Analyzec reparatio Units mg/K is based ts Di Kg 1 is based LCSD	l: 2009-01 on: 2009-01 	I-29 I-29 S Ar and sp and sp and sp and sp	pike nount 10.0 bike duj [atrix esult 0.171 bike duj Sp	l colicato Rec 78 plicato ike	Aatrix Result (0.171 e result E E 70 e result LCS	Anal Prep Re 7	yzed By ared By c. 3 RPD 1 SD	y: ME 7: ME Rec. Limit 70 - 130 RPI Limi 20 Rec.
Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0 Res	Date QC P CS esult .78 t. RPD t. RPD t. RPD CS sult	Analyzec reparatio Units mg/Ki is based ts Di Kg 1 is based LCSD Result	l: 2009-01 on: 2009-01 Dil. g 1 on the spike l. Amour 10.0 on the spike Units	I-29 I-29 Ar and sp and sp t and sp c and sp d Dil.	pike nount 10.0 jike duj [atrix esult 0.171 jike duj Sp Am	l colicate Rec 78 plicate ike ount	Aatrix Result (0.171 e result F L To result LCS Rec.	Anal Prep Re 7	yzed By ared By c. 3 RPD 1 SD ec.	y: ME y: ME Rec. Limit 70 - 130 RPE Limit 20 Rec. Limit
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate Trifluorotoluene (TFT)	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0 Res 0.9	Date QC P CS esult .78 t. RPD t. RPD t. RPD CS sult 982	Analyzec reparatio Units mg/Kg is based ts Di Kg 1 is based LCSD Result 0.937	l: 2009-01 on: 2009-01 Dil. g 1 on the spike I. Amour 10.0 on the spike Units mg/Kg	$\frac{1-29}{1-29}$ S Ar and sp and sp at R and sp bil. 1	pike nount 10.0 bike duj latrix esult 0.171 bike duj Sp Am 1.	l colicato Rec 78 plicato ike ount 00	Matrix Result (0.171 e result F LCS Rec. 98	Anal Prep Re 7	yzed By ared By c. 3 RPD 1 SD ec. 4	y: ME y: ME Rec. Limit 70 - 130 RPD Limit 20 Rec. Limit 70 - 130
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate Trifluorotoluene (TFT)	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0 Res 0.9	Date QC P CS esult .78 t. RPD t. RPD t. RPD CS sult	Analyzec reparatio Units mg/Ki is based ts Di Kg 1 is based LCSD Result	l: 2009-01 on: 2009-01 Dil. g 1 on the spike l. Amour 10.0 on the spike Units	I-29 I-29 Ar and sp and sp t and sp c and sp d Dil.	pike nount 10.0 bike duj latrix esult 0.171 bike duj Sp Am 1.	l colicate Rec 78 plicate ike ount	Aatrix Result (0.171 e result F L To result LCS Rec.	Anal Prep Re 7	yzed By ared By c. 3 RPD 1 SD ec.	y: ME r: ME Rec. Limit 70 - 13 RPI Limi 20 Rec. Limit 70 - 13
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0 Res 0.9	Date QC P CS esult .78 t. RPD t. RPD t. RPD CS sult 982 728	Analyzec reparatio Units mg/Kg is based ts Di Kg 1 is based LCSD Result 0.937	l: 2009-01 on: 2009-01 Dil. g 1 on the spike I. Amour 10.0 on the spike Units mg/Kg	$\frac{1-29}{1-29}$ S Ar and sp and sp at R and sp bil. 1	pike nount 10.0 bike duj latrix esult 0.171 bike duj Sp Am 1.	l colicato Rec 78 plicato ike ount 00	Matrix Result (0.171 e result F LCS Rec. 98	Anal Prep Re 7	yzed By ared By c. 3 RPD 1 SD ec. 4	y: ME y: ME Rec. Limit 70 - 130 RPI Limit 20 Rec. Limit
Laboratory Control Spike (L QC Batch: 56469 Prep Batch: 48254 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	CS-1) L Re 7 spike result LCSD Result 7.83 spike result L0 Res 0.9 0.7	Date QC P CS esult .78 t. RPD t. RPD t. RPD CS sult 982 728 185481	Analyzec reparatio Units mg/Kg is based ts Di Kg 1 is based LCSD Result 0.937	l: 2009-01 on: 2009-01 Dil. g 1 on the spike J. Amour 10.0 on the spike Units mg/Kg mg/Kg	$\frac{1-29}{1-29}$ S Ar and sp and sp at R and sp bil. 1 1 1	pike nount 10.0 bike duj latrix esult 0.171 bike duj Sp Am 1.	l colicato Rec 78 plicato ike ount 00	Matrix Result (0.171 e result F LCS Rec. 98	Anal Prep Re 76	yzed By ared By c. 3 RPD 1 SD ec. 4	y: ME r: ME Rec. Limit 70 - 130 RPI Limit 20 Rec. Limit 70 - 13 70 - 13 70 - 13

Report Date: Februar 115-6403610	y 3, 2009		Work O COG/GJ West	rder: 90121 Co-op Unit			Page N		12 of 15 Co., NM
matrix spikes continue	<i>d</i>	10			a <i>u</i>				
Param		MS Result	Units	Dil.	Spike Amount	Matri Resul			Rec. Limit
		nesun		DII.	Amount	nesu	nec.		
		MS			Spike	Matri	x		Rec.
Param		Result		Dil.	Amount	Resul			Limit
DRO		216	mg/Kg	1	250	126.4	9 36	18	3 - 179.5
Percent recovery is bas	sed on the spil	ke result. R	PD is based on	the spike a	and spike du	plicate rea	sult.		
		MSD		Spike	Matrix		Rec.		RPD
Param		Result	Units Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO			mg/Kg 1	250	126.49		18 - 179.5	1	20
Percent recovery is bas	sed on the spi			· ··· ··· ··· ···					
refective recovery is but	-			i une spike e	and spine du	-			
~	MS	MSD	TT A .		Spike	MS	MSD		Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.		Limit
n-Triacontane	80.9	77.0	mg/Kg	1	100	81	77	34	4.1 - 158
-			Date Analyzed: QC Preparation	2009-01- : 2009-01-				yzed B bared B	•
Prep Batch: 48078		MS	QC Preparation	.: 2009-01-	23 Spike	Mat	Prep	ared B	y: AR Rec.
Prep Batch: 48078 Param		(MS Resul	QC Preparation	.: 2009-01- Dil.	23 Spike Amount	Rest	Prep rix ult _Re	oared B	y: AR Rec. Limit
Prep Batch: 48078 Param Chloride		MS Resul 6690	QC Preparation t Units mg/Kg	: 2009-01- Dil. 50	23 Spike <u>Amount</u> 5000	Rest 163	Prep rix ult Re 30 10	oared B	y: AR Rec. Limit
Prep Batch: 48078	sed on the spi	MS Resul 6690	QC Preparation t Units mg/Kg	: 2009-01- Dil. 50	23 Spike <u>Amount</u> 5000	Rest 163	Prep rix ult Re 30 10	oared B	y: AR Rec.
Prep Batch: 48078 Param Chloride	sed on the spi	MS Resul 6690	QC Preparation t Units mg/Kg	: 2009-01- Dil. 50	23 Spike <u>Amount</u> 5000	Rest 163	Prep rix ult Re 30 10	oared B	y: AR Rec. Limit
Prep Batch: 48078 Param Chloride	sed on the spi	MS Resul 6690 ke result. F MSD Result	QC Preparation t Units mg/Kg RPD is based or Units Dil.	: 2009-01- Dil. 50 n the spike a	23 Spike Amount 5000 and spike du Matrix	Rest 163	Prep rix ult Re 30 10 sult.	oared B	y: AR Rec. Limit 85 - 115 RPD
Prep Batch: 48078 Param Chloride Percent recovery is bas Param	sed on the spi	MS Resul 6690 ke result. F MSD Result	QC Preparation t Units mg/Kg RPD is based or	: 2009-01- Dil. 50 1 the spike a Spike	23 Spike Amount 5000 and spike du Matrix	Rest 163 aplicate re	Prep rix <u>ult Re</u> 30 10 sult. Rec.	c.	y: AR Rec. Limit 85 - 115 RPD
Prep Batch: 48078 Param Chloride Percent recovery is ba		MS Resul 6690 ke result. F MSD Result 6610	QC Preparation t Units mg/Kg RPD is based or Units Dil. mg/Kg 50	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000	23 Spike Amount 5000 and spike du Matrix Result 1630	Rest 163 aplicate re Rec. 100	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115	c. 1 RPD	y: AR Rec. Limit 85 - 115 RPD Limit
Prep Batch: 48078 Param Chloride Percent recovery is bas Param Chloride	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610	QC Preparation t Units mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000	23 Spike Amount 5000 and spike du Matrix Result 1630	Rest 163 aplicate re Rec. 100	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115	c. 1 RPD	y: AR Rec. Limit 85 - 115 RPD Limit
Prep Batch: 48078 Param Chloride Percent recovery is bas Param Chloride Percent recovery is bas	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610 ke result. F Sample: 185	QC Preparation t Units mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du	Rest 163 aplicate re Rec. 100	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 esult.	c. 1 RPD	y: AR Rec. Limit 85 - 115 RPD Limit 20
Prep Batch: 48078 Param Chloride Percent recovery is bas Chloride Percent recovery is bas Matrix Spike (MS-:	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610 ke result. F Sample: 185	2C Preparation t Units mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or RPD is based or	: 2009-01- Dil. 50 a the spike a Spike Amount 5000 a the spike a 2009-01-	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du	Rest 163 aplicate re Rec. 100	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 esult. Ana	c. 1 RPD 1	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME
Prep Batch: 48078 Param Chloride Percent recovery is bas Chloride Percent recovery is bas Matrix Spike (MS-3 QC Batch: 56465 Prep Batch: 48254	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610 ke result. F Sample: 185	QC PreparationtUnitsmg/KgRPD is based orUnitsDil.mg/Kg50RPD is based orig004QC Preparation	: 2009-01- Dil. 50 a the spike a Spike Amount 5000 a the spike a 2009-01- : 2009-01-	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du 29 29 29 Spike	Rest 163 aplicate re <u>Rec.</u> 100 aplicate re	Prep rix <u>ult Re</u> 30 10 sult. Rec. Limit 85 - 115 sult. Ana Prep	c. 1 RPD 1 lyzed B bared B	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME y: ME y: ME Rec.
Prep Batch: 48078 Param Chloride Percent recovery is bas Chloride Percent recovery is bas Matrix Spike (MS-: QC Batch: 56465 Prep Batch: 48254 Param	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610 ke result. F Sample: 185 C MS Result	QC Preparation t Units mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or S904 Date Analyzed: QC Preparation Units	: 2009-01- Dil. 50 a the spike a Spike Amount 5000 a the spike a 2009-01- : 2009-01- : 2009-01-	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du 29 29 29 Spike Amount	Result	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 sult. Anal Prep Rec.	c. 1 RPD 1 Nyzed B bared B	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME y: ME Rec. Limit
Prep Batch: 48078 Param Chloride Percent recovery is bas Param Chloride Percent recovery is bas Matrix Spike (MS-: QC Batch: 56465 Prep Batch: 48254 Param Benzene	sed on the spi	MS Result 6690 ke result. F MSD Result 6610 ke result. F Sample: 185 C MS Result 0.894	QC Preparation t Units Mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or SPD is based or SPD is babased or SPD is based or SPD is babased or SPD is ba	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000 1 the spike a 2009-01- : 2009-01- : 2009-01- 1	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du 29 29 29 29 29 29 29 29	Result 163 aplicate re Rec. 100 aplicate re Matrix Result <0.0080	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 esult. Ana Prep Rec. 0 89	c. 1 RPD 1 lyzed B pared B 58.	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME y: ME y: ME Rec. Limit 6 - 165.2
Prep Batch: 48078 Param Chloride Percent recovery is bas Param Chloride Percent recovery is bas Matrix Spike (MS-1 QC Batch: 56465 Prep Batch: 48254 Param Benzene Toluene	sed on the spi	MS Resul 6690 ke result. F MSD Result 6610 ke result. F Sample: 185 G MS Result 0.894 1.08	QC Preparation t Units Mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or Oute Analyzed: QC Preparation Units mg/Kg mg/Kg	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000 1 the spike a 2009-01- 1 2009-01- 1 1	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du 29 29 29 29 29 29 29 29 29 29 29 29 29	Result 163 aplicate re Rec. 100 aplicate re Matrix Result <0.0080 0.1169	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 esult. Anal Prep Rec. 0 89 96	c. 1 RPD 1 lyzed B aared B 58. 64.	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME y: ME y: ME Rec. Limit 6 - 165.2 2 - 153.8
Prep Batch: 48078 Param Chloride Percent recovery is bas Param Chloride Percent recovery is bas Matrix Spike (MS-: QC Batch: 56465 Prep Batch: 48254 Param Benzene	sed on the spi	MS Result 6690 ke result. F MSD Result 6610 ke result. F Sample: 185 C MS Result 0.894	QC Preparation t Units Mg/Kg RPD is based or Units Dil. mg/Kg 50 RPD is based or SPD is based or SPD is babased or SPD is based or SPD is babased or SPD is ba	: 2009-01- Dil. 50 1 the spike a Spike Amount 5000 1 the spike a 2009-01- : 2009-01- : 2009-01- 1	23 Spike Amount 5000 and spike du Matrix Result 1630 and spike du 29 29 29 29 29 29 29 29	Result 163 aplicate re Rec. 100 aplicate re Matrix Result <0.0080	Prep rix ult Re 30 10 sult. Rec. Limit 85 - 115 esult. Anal Prep Rec. 0 89 96 0 114	c. 1 RPD 1 lyzed B bared B 58. 64. 61.	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: ME y: ME y: ME Rec. Limit 6 - 165.2

Report Date: February 3, 2009 115-6403610		COG		Order: 9012 t Co-op Un		#47		[Page Nu	mber: 1 Eddy C	
	MSD			Spike	Mati	rix		Re	ec.		RPD
Param	Result	Units	Dil.	Amount	Resu		Rec.	Lin		RPD	Limit
Benzene	0.864	mg/K		1.00	< 0.00		86	58.6 -		3	20
Toluene	1.04	mg/K		1.00	0.11		92	64.2 -		4	20
Ethylbenzene	1.07	mg/K		1.00	< 0.00		107	61.6 -		6	20
Xylene	3.27	mg/K	5	3.00	< 0.00	960	109	64.4 -		5	20
Percent recovery is based on the s	spike resu	lt. RPD	is based o	on the spike	and sp	ike dı	iplicate	e result.			
]	MS	MSD			Sp	oike	MS	MSD)	Rec.
Surrogate	R	esult	\mathbf{Result}	Units	Dil.	Am	ount	Rec.	Rec.]	Limit
Trifluorotoluene (TFT)	0	.942	0.942	mg/Kg	1		1	94	94	76	- 127.9
4-Bromofluorobenzene (4-BFB)	0	.991	1.06	mg/Kg			1	99	106	72	- 127.8
QC Batch: 56469 Prep Batch: 48254		QC P	Analyzed reparatio		1-29					vzed By ared By	: ME
D		MS	TT : 4	D:1	Spil		Mat		D		Rec.
Param GRO		esult 120	Units mg/Kg	<u>Dil.</u> 2	Amo 20.		Res 87.9		Rec. 160		imit - 134.0
Percent recovery is based on the s									100		
D	MSD	· ·		Spike	Mat			Re			RPI
Param 6	Result			Amount	Res		Rec.	Lin		RPD	Limi
9110	142	mg/K		20.0	87.9		270	22.3 -		17	20
Percent recovery is based on the	spike resu	It. RPD	is based	on the spike	e and sp	oike di	uplicate	e result.			
		MS	MSD			Sp	ike	MS	MSD		Rec.
Surrogate]	Result	Result	Units	Dil.		ount	Rec.	Rec.		imit
Trifluorotoluene (TFT)	7 0	1.97	1.64	mg/Kg	2		2	98	82		- 113.
4-Bromofluorobenzene (4-BFB)	78	3.16	3.44	mg/Kg			2	158	172	66.7	- 134.
Standard (ICV-1)											
QC Batch: 56255		Date	Analyzed	l: 2009-01-	-23				Anal	yzed By	r: LD
		ICVs		ICVs	IC	V s		Perce	ent		
		True		Found		cent		Recov	•		Date
	ts	Conc.		Conc.	Rec	overy		Limi	ts	Ar	alyzed
Param Flag Uni DRO mg/		250		250		00		85 - 1			9-01-2

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⁷High surrogate recovery due to peak interference. ⁸High surrogate recovery due to peak interference.

Report Dat 115-640361	te: February 3, 2 0	2009		rk Order: 9012 West Co-op Uni		Page Nu	mber: 14 of 15 Eddy Co., NM
Standard	(CCV-1)						
QC Batch:	56255		Date Analy	zed: 2009-01-	23	Anal	yzed By: LD
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO	_*	mg/Kg	250	235	94	85 - 115	2009-01-23
Standard	(CCV-2)						
QC Batch:	56255		Date Analy	rzed: 2009-01-	-23	Anal	yzed By: LD
			CCVs	$\rm CCVs$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	238	95	85 - 115	2009-01-23
Param Chloride	Flag	Units mg/Kg	True Conc. 100	Found Conc. 101	Percent Recovery 101	Recovery Limits 85 - 115	Date Analyzed 2009-01-2
Param	Flag	Units				-	Date Analyzed
Standard	(CCV-1)						
			Date Analy	vzed: 2009-01-	-23	Anal	yzed By: AR
			Date Analy CCVs	vzed: 2009-01- CCVs	-23 CCVs	Anal Percent	yzed By: AR
QC Batch:	56291		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
QC Batch: Param		Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
QC Batch:	56291	Units mg/Kg	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	yzed By: AR Date Analyzed 2009-01-2:
QC Batch: Param Chloride	56291 Flag		CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
QC Batch: Param Chloride Standard	56291 Flag (ICV-1)		CCVs True Conc.	CCVs Found Conc. 98.7	CCVs Percent Recovery 99	Percent Recovery Limits 85 - 115	Date Analyzed 2009-01-2
QC Batch: Param	56291 Flag (ICV-1)		CCVs True Conc. 100	CCVs Found Conc. 98.7	CCVs Percent Recovery 99	Percent Recovery Limits 85 - 115	Date Analyzed 2009-01-2
QC Batch: Param Chloride Standard	56291 Flag (ICV-1)		CCVs True Conc. 100 Date Analy	CCVs Found Conc. 98.7 7zed: 2009-01-	CCVs Percent Recovery 99	Percent Recovery Limits 85 - 115 Anal	Date Analyzed 2009-01-2
QC Batch: Param Chloride Standard	56291 Flag (ICV-1)	mg/Kg Units	CCVs True Conc. 100 Date Analy ICVs True Conc.	CCVs Found Conc. 98.7 vzed: 2009-01- ICVs Found Conc.	CCVs Percent Recovery 99 -29 -29 ICVs Percent Recovery	Percent Recovery Limits 85 - 115 Anal Percent Recovery Limits	Date Analyzed 2009-01-2 yzed By: ME Date
QC Batch: Param Chloride Standard QC Batch: Param Benzene	56291 Flag (ICV-1) 56465	mg/Kg Units mg/Kg	CCVs True Conc. 100 Date Analy ICVs True Conc. 0.100	CCVs Found Conc. 98.7 zzed: 2009-01- ICVs Found Conc. 0.0856	CCVs Percent Recovery 99 -29 -29 ICVs Percent Recovery 86	Percent Recovery Limits 85 - 115 Anal Percent Recovery Limits 85 - 115	Date Analyzed 2009-01-2 yzed By: ME Date Analyzed 2009-01-2
QC Batch: Param Chloride Standard QC Batch: Param	56291 Flag (ICV-1) 56465	mg/Kg Units	CCVs True Conc. 100 Date Analy ICVs True Conc.	CCVs Found Conc. 98.7 vzed: 2009-01- ICVs Found Conc.	CCVs Percent Recovery 99 -29 -29 ICVs Percent Recovery	Percent Recovery Limits 85 - 115 Anal Percent Recovery Limits	Date Analyzed 2009-01-2 yzed By: ME Date Analyzed

Report Date: Fe 115-6403610	bruary 3, 2	2009		rk Order: 9012 West Co-op Un		Page Nu	mber: 15 of 15 Eddy Co., NM
standard continu	ed						
	cu iii		ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Ethylbenzene	0	mg/Kg	0.100	0.104	104	85 - 115	2009-01-29
Xylene	<u></u>	mg/Kg	0.300	0.293	98	85 - 115	2009-01-29
Standard (CC	V-1)						
QC Batch: 564	65		Date Analy	zed: 2009-01-	29	Anal	zed By: ME
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	<u>_</u>	mg/Kg	0.100	0.0910	91	85 - 115	2009-01-29
Toluene		mg/Kg	0.100	0.108	108	85 - 115	2009-01-29
Ethylbenzene		mg/Kg	0.100	0.111	111	85 - 115	2009-01-29
Xylene		mg/Kg	0.300	0.339	113	85 - 115	2009-01-29
Standard (ICV QC Batch: 564			Date Analy	zed: 2009-01-	29	Anal	yzed By: ME
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param F	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.890	89	85 - 115	2009-01-29
Standard (CC	,		Data Analy	zed: 2009-01-	20	Anal	wood By: MF
QC Batch: 564	09		Date Analy				yzed By: ME
			CCVs	CCVs	CCVs	Percent	_
		TT •.	True	Found	Percent	Recovery	Date
Param F	'lag	Units mg/Kg	Conc. 1.00	Conc.	Recovery	Limits 85 - 115	Analyzed 2009-01-2
GRO			1 00	1.01	101	05 115	0000 01 00

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Analysis Request of Chain of Custody	R	e	CC	ord	ł									PAG	ìE:		L		OF:		
						-					(Cil				REC ify M			lo.)			
TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946							5 (Ext. to C35)		HCHA Metals Ag As ba Cd Cr Pb Hg Se TCi P Metals An As Ba Cd Vr Pd Hn Sa		Τ	Γ							SQ		
ELIENT NAME: COG SITE MANAGER: I'VE TAUATEZ	NERS			SERV	ATIVE		TX100		2 C Ba		in		60/624	270/625					ns, pH, 1		
ROJECT NO.: IS-640 3610 LAB I.D. DATE TIME E B B SAMPLE IDENTIFICATION	F CONTA	(N)				2	5 MOD		als Ag A	v Ry eis	Volatile		8240/82	ni. Vol. 8	08		ç,	(Air)	ns/Catio		
LAB I.D. NUMBER DATE TIME TIME ENTIFICATION SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	HILTERED (Y/N) HCI	HNO3	ICE	NONE	ВТЕХ 8021	TPH 8015 MODy TX1005	PAH 8270	TCI P Mate	TCL P Volat	TCLP Semi	RCI	GC.MS Vol.	GC.MS Ser	Pest. 808/608	Chloride	Gamma Sp	Alpha Beta (Air) Pl.M (Ashestos)	Major Anions/Cations, pH, TDS		
8544-1120109 S X AH-1 0-0.5' 450 1120109 S X AH-2 0-1.0' 451 1120109 S X AH-2 1'-1.5'	1			Х			X									X					
450 1/20/09 S X AH -2 0 - 1.0'	1			X			Х									χ					
451 1/20109 5 XAH-2 1'-1.5'	1			Х			X									X					
4521/20/09 S X AH - 3 0 - 0.5'				X			X									X					
		\downarrow						_			_	<u> </u>									
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						\perp		_	_	_		Ļ		\downarrow				_			\square
	$\left \right $	-		-		_			_	4	_	-		\downarrow				+			
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ELINOUISHED BY: (Signature) Date: 1121101 REGENED BY: (Signature) Time: 4:50			Date:				╧┼	SAM	y LEI Ay	D BY	(Prim	It & Ir	nitial)	RØ	1					1/0	✐
ELIÑQÜISHED BY: (Signature) Date: FECEIVED BY: (Signature)			Time: Date:		1/2-2	$\overline{\mathbf{O}}$	<u> </u>	SAM	IPLE	SHIF	PED	BY: (Circle)	/		A	Time			
ELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature)	*****		Time: Date:	_			=+	(H#		DELT			BUS	:			0				
Time:			Time:				_		rate					50NE 82 1;					esults USH C uthoriz	-	5

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

Report Date: February 18, 2009 115-6403610

D

Summary Report

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

Report Date: February 18, 2009

Work Order: 9021330

·m·

Project Location:Eddy Co., NMProject Name:COG/GJ West Co-op Unit Well #47Project Number:115-6403610

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
187522	T-1 1.0' Bottom	soil	2009-02-12	00:00	2009-02-13
187523	T-1 2.0' (1.0' BEB)	soil	2009-02-12	00:00	2009-02-13
187524	T-2 1.0'	soil	2009-02-12	00:00	2009-02-13

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	TPH DRO	TPH GRO
	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)
187522 - T-1 1.0' Bottom	<50.0	<1.00

Sample: 187522 - T-1 1.0' Bottom

Param	Flag	Result	Units	\mathbf{RL}
Chloride		323	mg/Kg	4.00

Sample: 187523 - T-1 2.0' (1.0' BEB)

Param	Flag	Result	Units	\mathbf{RL}
Chloride		<200	mg/Kg	4.00

Sample: 187524 - T-2 1.0'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		323	mg/Kg	4.00

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 Ft Worth, Texas 76132 E-Mail lab@traceanalysis.com

800 • 378 • 1296 806 • 794 • 1296 888 • 588 • 3443 915 • 585 • 3443 432 • 689 • 6301 817 • 201 • 5260

FAX 806 • 794 • 1298 FAX 915•585•4944 FAX 432 • 689 • 6313

WBENC: 237019

HUB: 1752439743100-86536 NCTRCA WFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317

El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 18, 2009

Work Order: 9021330

Project Location: Eddy Co., NM **Project Name:** COG/GJ West Co-op Unit Well #47 115-6403610 Project Number:

Enclosed are	the Analytical Report and Qual	ity Control Report	for the following sample	e(s) submitted to T	FraceAnalysis, Inc.
		•	Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
187522	T-1 1.0' Bottom	soil	2009-02-12	00:00	2009-02-13
187523	T-1 2.0' (1.0' BEB)	soil	2009-02-12	00:00	2009-02-13

187524 T-2 1.0' soil 2009-02-12 00:00 2009-02-13 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 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blain Lepturch

Dr. Blair Leftwich, Director

Standard Flags B - The sample contains less than ten times the concentration found in the method blank.

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Case Narrative

Samples for project COG/GJ West Co-op Unit Well #47 were received by TraceAnalysis, Inc. on 2009-02-13 and assigned to work order 9021330. Samples for work order 9021330 were received intact at a temperature of 5.4 deg. C.

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

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		\mathbf{Prep}	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	48592	2009-02-16 at 10:56	56886	2009-02-16 at 14:43
TPH DRO	Mod. 8015B	48608	2009-02-16 at 10:00	56899	2009-02-16 at 16:03
TPH GRO	S 8015B	48575	2009-02-15 at 13:00	56885	2009-02-15 at 13:26

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 9021330 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: February 18, 2009 115-6403610

Analytical Report

Sample: 187522 - T-1 1.0' Bottom

Midland				
Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
56886	Date Analyzed:	2009-02-16	Analyzed By:	AR
48592	Sample Preparation	: 2009-02-16	Prepared By:	AR
	\mathbf{RL}			
Flag	\mathbf{Result}	Units	Dilution	\mathbf{RL}
· · · · · · · · · · · · · · · · · · ·	323	mg/Kg	50	4.00
	Chloride (Titration) 56886 48592	Chloride (Titration)Analytical Method:56886Date Analyzed:48592Sample PreparationRLFlagResult	Chloride (Titration)Analytical Method:SM 4500-Cl B56886Date Analyzed:2009-02-1648592Sample Preparation:2009-02-16RLFlagResultUnits	Chloride (Titration)Analytical Method:SM 4500-Cl BPrep Method:56886Date Analyzed:2009-02-16Analyzed By:48592Sample Preparation:2009-02-16Prepared By:RLFlagResultUnitsDilution

Sample: 187522 - T-1 1.0' Bottom

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 56899 48608		Analytical Me Date Analyze Sample Prepa	d: 2009-0		Analyz	fethod: N/A ed By: LD ed By: LD
Parameter DRO	Fla	g	RL Result <50.0	Ur mg/	iits Ko	Dilution	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	3	111	mg/Kg	1	100	111	10 - 250.4

Sample: 187522 - T-1 1.0' Bottom

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 56885 48575		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-02-15 2009-02-15		Prep Me Analyzeo Prepareo	d By: AG
			\mathbf{RL}					
Parameter	Flag		\mathbf{Result}		\mathbf{Units}		Dilution	\mathbf{RL}
GRO			<1.00		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	\mathbf{Result}	Units	Dilution	\mathbf{Amount}	Recovery	Limits
Trifluorotolu	ene (TFT)		0.829	mg/Kg	1	1.00	83	68.5 - 119.4
4-Bromofluor	robenzene (4-BFB)		1.12	mg/Kg	1	1.00	112	52 - 117

Sample: 187523 - T-1 2.0' (1.0' BEB)

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 56886 48592	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-02-16 2009-02-16	Prep Method: Analyzed By: Prepared By:	ÁR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		<200	mg/Kg	50	4.00

Sample: 187524 - T-2 1.0'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 56886	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-02-16 2009-02-16	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride		323	mg/Kg	50	4.00

Method Blank (1) QC Batch: 56885

QC Batch:	56885	Date Analyzed:	2009-02-15	Analyzed By:	AG
Prep Batch:	48575	QC Preparation:	2009-02-15	Prepared By:	\mathbf{AG}

Parameter	Flag		MDL Result		Uni	ts	\mathbf{RL}
GRO			< 0.482		mg/	Kg	1
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.851	mg/Kg	1	1.00	85	75.8 - 98.5
4-Bromofluorobenzene (4-BFB)		0.623	mg/Kg	1	1.00	62	56.5 - 109.5

Method Blank (1) QC Batch: 56886

QC Batch:	56886	Date Analyzed:	2009-02-16	Analyzed By:	AR
Prep Batch:	48592	QC Preparation:	2009-02-16	Prepared By:	AR

Report Date: Februar 115-6403610	y 18, 2009			c Order: 9021 est Co-op Uni			Page Number: Eddy C		
				MDL					
Parameter		Flag]	Result		Units			RL
Chloride				<2.01		mg/Kg			4
Method Blank (1)	QC Ba	tch: 56899							
QC Batch: 56899			Date Analyzed	l: 2009-02-	16		Anal	yzed By:	LD
Prep Batch: 48608			QC Preparatio					ared By:	
		Ele a		MDL		TT			ы
Parameter DRO	0			Result <12.0		Units mg/Kg			RL 50
			,,	<u></u>		mg/ itg	•		50
_					Spike		ercent		overy
	Flag	Result	Units	Dilution	Amoun	t Re	ecovery		nits
n-Triacontane		97.8	mg/Kg	1	100		98	30.9 -	- 146.4
Laboratory Control QC Batch: 56885 Prep Batch: 48575	l Spike (L	CS-1)	Date Analyzed QC Preparatio					yzed By: ared By:	
Laboratory Contro QC Batch: 56885 Prep Batch: 48575	l Spike (L	LC	QC Preparatio	on: 2009-02-	15 Spike	Matrix	Prep	ared By: R	AG .ec.
Laboratory Contro QC Batch: 56885 Prep Batch: 48575 Param	l Spike (L	LC Res	QC Preparation CS sult Units	on: 2009-02- Dil.	15 Spike Amount	Result	Prep Rec.	ared By: R Li	AG .ec. mit
Laboratory Contro QC Batch: 56885 Prep Batch: 48575 Param GRO		LC Res 6.8	QC Preparation CS Sult Units 55 mg/Kg	on: 2009-02- Dil.	15 Spike Amount 10.0	Result <0.482	Prep Rec. 66	ared By: R Li	AG .ec.
Laboratory Contro QC Batch: 56885 Prep Batch: 48575		LC Res 6.8	QC Preparation CS Sult Units 55 mg/Kg	on: 2009-02- Dil.	15 Spike Amount 10.0	Result <0.482	Prep Rec. 66	ared By: R Li	AG .ec. mit
Laboratory Contro QC Batch: 56885 Prep Batch: 48575 Param GRO		LC Res 6. spike result	QC Preparation CS Sult Units 55 mg/Kg	Dil. 1 on the spike a	15 Spike Amount 10.0 and spike du	Result <0.482	Prep Rec. 66 ult.	ared By: R Li	AG .ec. mit - 100.
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba		LC Res 6.8	QC Preparation CS Sult Units 55 mg/Kg	Dil. Dil. 1 on the spike a Spike	15 Spike Amount 10.0	Result <0.482	Prep Rec. 66	ared By: R Li	AG ec. mit - 100.
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO		LC Res 6. spike result LCSD	QC Preparation CS 55 mg/Kg . RPD is based	Dil. Dil. 1 on the spike a Spike	15 Spike Amount 10.0 and spike du Matrix	Result <0.482 plicate res Rec.	Prep Rec. 66 ult. Rec.	ared By: R Li 60.5 -	AG ec. mit - 100.
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba Param	sed on the	LC Res 6.3 spike result LCSD Result 6.50	QC Preparation CS 55 mg/Kg . RPD is based Units Dil. mg/Kg 1	Dil. 1 on the spike a Spike Amount 10.0	15 Spike Amount 10.0 and spike du Matrix Result <0.482	Result<0.482	Prep <u>Rec.</u> <u>66</u> ult. Rec. Limit <u>5 - 100.1</u>	ared By: R <u>Li</u> 60.5 - RPD	AG ec. <u>mit</u> - 100. RPE Limi
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba Param GRO Percent recovery is ba	sed on the	LC Res 6.3 spike result LCSD Result 6.50 spike result LC	QC Preparation CS <u>55 mg/Kg</u> . RPD is based <u>Units Dil.</u> <u>mg/Kg 1</u> . RPD is based S LCSD	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik	Result <0.482	Prep Rec. 66 ult. Rec. Limit 5 - 100.1 ult. LCSD	RPD R RPD R R R	AG mit - 100. RPD Limi 20
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param	sed on the	LC Res 6.: spike result LCSD Result 6.50 spike result LC Resu	QC Preparation CS Soult Units 55 mg/Kg . RPD is based Units Dil. mg/Kg 1 . RPD is based S LCSD ult Result	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a Units D	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik Dil. Amou	Result <0.482	Prep. <u>Rec.</u> <u>66</u> ult. Limit <u>5 - 100.1</u> ult. <u>LCSD</u> <u>Rec.</u>	RPD 1 R Li 60.5 - RPD	AG mit - 100.: RPD Limi 20
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param	sed on the sed on the	LC Res 6.50 spike result LCSD Result 6.50 spike result LC Ress 0.92	QC Preparation CS Soult Units 55 mg/Kg . RPD is based Units Dil. mg/Kg 1 . RPD is based S LCSD ult Result 27 0.913	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a Units D mg/Kg	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik Dil. Amou 1 1.00	Result<0.482	Prep. Rec. 66 ult. Rec. Limit 5 - 100.1 ult. LCSD Rec. 91	ared By: R <u>Li</u> 60.5 - <u>RPD</u> 1 R Li 78.8 -	AG ec. <u>mit</u> - 100. RPI Limi 20 ecc. <u>mit</u> - 104.
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba Param GRO Percent recovery is ba Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzene	sed on the sed on the) e (4-BFB)	LC Ress spike result LCSD Result 6.50 spike result LC Ress 0.92 0.72	QC Preparation CS Soult Units 55 mg/Kg . RPD is based Units Dil. mg/Kg 1 . RPD is based S LCSD ult Result 27 0.913	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a Units D mg/Kg	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik Dil. Amou	Result<0.482	Prep. <u>Rec.</u> <u>66</u> ult. Limit <u>5 - 100.1</u> ult. <u>LCSD</u> <u>Rec.</u>	ared By: R <u>Li</u> 60.5 - <u>RPD</u> 1 R Li 78.8 -	AG mit - 100. RPD Limi 20
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba Param GRO Param GRO Percent recovery is ba Surrogate Trifluorotoluene (TFT)	sed on the sed on the) e (4-BFB)	LC Ress spike result LCSD Result 6.50 spike result LC Ress 0.92 0.72	QC Preparation CS Soult Units 55 mg/Kg . RPD is based Units Dil. mg/Kg 1 . RPD is based S LCSD ult Result 27 0.913	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a Units D mg/Kg	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik Dil. Amou 1 1.00	Result<0.482	Prep. Rec. 66 ult. Rec. Limit 5 - 100.1 ult. LCSD Rec. 91	ared By: R <u>Li</u> 60.5 - <u>RPD</u> 1 R Li 78.8 -	AG ec. <u>mit</u> - 100 <u>RPE</u> Limi 20 ec. <u>mit</u> - 104.
Laboratory Control QC Batch: 56885 Prep Batch: 48575 Param GRO Percent recovery is ba Param GRO Percent recovery is ba Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzene	sed on the sed on the) e (4-BFB)	LC Ress spike result LCSD Result 6.50 spike result LC Ress 0.92 0.72	QC Preparation CS Soult Units 55 mg/Kg . RPD is based Units Dil. mg/Kg 1 . RPD is based S LCSD ult Result 27 0.913	Dil. Dil. 1 on the spike a Spike Amount 10.0 on the spike a Units D mg/Kg mg/Kg	15 Spike Amount 10.0 and spike du Matrix Result <0.482 and spike du Spik Dil. Amou 1 1.00	Result<0.482	Prep. Rec. 66 ult. Rec. Limit 5 - 100.1 ult. LCSD Rec. 91 70	ared By: R <u>Li</u> 60.5 - <u>RPD</u> 1 R Li 78.8 -	AG ec. mit - 100. RPI Limi 20 Lec. mit - 104. - 107.

Report Date: February 18, 115-6403610	2009		COG		Order: 9021 Co-op Un	1330 it Well #47	•	Page	Page Number: 7 of 10 Eddy Co., NM		
Param	LC: Resu		ult Units		Dil.	Spike Amount	Re		ec	Rec. Limit	
Chloride		·····	97.8 mg/Kg		1 100				8 8	35 - 115	
Percent recovery is based or	1 the sp	ike result.	RPD is	based on	the spike a	and spike d	uplicate r	esult.			
		LCSD			Spike	Matrix		Rec.		RPD	
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit	
Chloride		100	mg/K	g 1	100	<2.01	100	85 - 115	3	20	
Percent recovery is based of	-		RPD is	based on	the spike a	and spike di	uplicate r	esult.			
Laboratory Control Spil QC Batch: 56899	ke (LC	S-1)		nalyzed:	2009-02-				alyzed B		
Prep Batch: 48608			QC Pr	eparation:	2009-02-	-16		Pre	pared By	7: LD	
		LCS	3			Spike	Matri	x		Rec.	
Param		Resu	lt	Units	Dil.	Amount	Resul	t Rec.		Limit	
DRO		218	3 1	mg/Kg	1	250	<12.	0 87	27.8	- 152.1	
Percent recovery is based of Param DRO		LCSD Result 226	Units mg/Kg	Dil.	Spike Amount 250	Matrix Result <12.0	Rec.	Rec. Limit 27.8 - 152.1	RPD 4	RPD Limit 20	
Percent recovery is based of	n the sp								<u> </u>	20	
	LCS	LCSD			-	Spike	LCS)	Rec.	
Surrogate	Result	Result	t	Units	Dil.	Amount	Rec.	Rec.		Limit	
n-Triacontane	115	118	n	ng/Kg	1	100	115	118	38	3 - 130.4	
Matrix Spike (MS-1) QC Batch: 56885 Prep Batch: 48575	Spiked	Sample: 18	Date A	analyzed: eparation:	2009-02- 2009-02-				alyzed By pared By		
Param		MS Resu		Units	Dil.	Spike Amount	Matri Resul			Rec. Limit	
GRO		9.73		ng/Kg	1	10.0	<0.48			3 - 175.2	
Percent recovery is based of	n the sp					······································					
		MSD			Spike	Matrix		Rec.		RPE	
D		T					-	T • •			
Param GRO		Result 11.0	Units mg/Kg	<u>Dil.</u>	Amount 10.0	Result <0.482	Rec.	Limit 12.8 - 175.2	$\frac{\text{RPD}}{12}$	Limi 20	

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

	3, 2009		F	Page Number: 8 of 10 Eddy Co., NM								
		MS	MSI	C			Spike	М	S I	MSD]	Rec.
Surrogate		Result	Resu	lt U	nits I)il.	Amount	t Re	c.	Rec.	L	imit
Trifluorotoluene (TFT)		1.08	1.17	7 mg		1	1	10		117	60.8	- 132.1
4-Bromofluorobenzene (4-H	BFB)	1.27	1.26		g/Kg	1	1	12	7	126	31.3	- 161.7
Matrix Spike (MS-1)	Spiked S	ample: 187	7522									
QC Batch: 56886]	Date Ana	lyzed:	2009-02-	16				Analy	zed By	r: AR
Prep Batch: 48592		(QC Prepa	aration:	2009-02-	16				Prepa	ared By	·: AR
		MS					ike	Mat				Rec.
Param		Resu		Jnits	Dil.		ount	Resu		Rec		Limit
Chloride		5750) m	ıg/Kg	50	50	00	32	3	108	8	35 - 115
Percent recovery is based o	on the spik	ke result. I	RPD is ba	ased on t	the spike a	and spi	ke dupli	icate re	sult.			
		MSD			Spike	Мо	trix		Rec			RPD
Param		Result	Units	Dil.	Amount			Rec.	Limi		RPD	Limi
Chloride	 	5820	mg/Kg	<u> </u>	5000		23	110	85 - 1		$\frac{\pi}{1}$	20
Matrix Spike (MS-1)	Spiked S	ample: 187	7517									
QC Batch: 56899	Spiked S	-	7517 Date Ana QC Prepa	•	2009-02- 2009-02-						yzed By ared By	
QC Batch: 56899	Spiked S	:	Date Ana	•		16						7: LD
QC Batch: 56899 Prep Batch: 48608	Spiked S	MS	Date Ana QC Prepa	aration:	2009-02-	16 Spi		Matri		Prepa	ared By	7: LD Rec.
QC Batch: 56899 Prep Batch: 48608 Param	Spiked S	MS Resul	Date Ana QC Prepa t U	aration: Inits	2009-02- Dil.	16 Spi Amo	unt	Resul	t	Prepa Rec.	ared By	7: LD Rec. Limit
QC Batch: 56899 Prep Batch: 48608 Param DRO		MS Resul 235	Date Ana QC Prepa t U mį	aration: Units g/Kg	2009-02- Dil. 1	16 Spi <u>Amo</u> 25	unt 0	Resul <12.0	t D	Prepa	ared By	7: LD Rec. Limit
QC Batch: 56899 Prep Batch: 48608 Param DRO		MS Resul 235 ce result. 1	Date Ana QC Prepa t U mį	aration: Units g/Kg	2009-02- Dil. 1 the spike a	16 Spi Amo 25 and spi	unt 0 ke dupl	Resul <12.0	t D sult.	Prepa Rec. 94	ared By	7: LD Rec. Limit - 179.5
QC Batch: 56899 Prep Batch: 48608 Param DRO Percent recovery is based of	on the spik	MS Resul 235	Date Ana QC Prepa t U mį	aration: Units g/Kg	2009-02- Dil. 1 the spike a	16 Spi <u>Amo</u> 25	unt 0 ke dupl rix	Resul <12.0	t D	Prepa Rec. 94	ared By	r: LD Rec. Limit - 179.5 RPD
QC Batch: 56899 Prep Batch: 48608 Param DRO Percent recovery is based of Param	on the spik	MS Resul 235 ce result. I MSD Result	Date Ana QC Prepa t U mg RPD is ba	aration: Units g/Kg ased on	2009-02- Dil. 1 the spike a Spike	16 Spi Amo 25 and spi Mat	unt 0 ke dupl rix ult F	Resul <12.0 icate re Rec.	t D sult. Rec.	Prepa Rec. 94	ared By	7: LD Rec. Limit - 179.8 RPD
QC Batch: 56899 Prep Batch: 48608 Param DRO Percent recovery is based of Param DRO	on the spik	MS Resul 235 ce result. I MSD Result 268	Date Ana QC Prepa t U mą RPD is ba Units mg/Kg	aration: Inits g/Kg ased on Dil. 1	2009-02- Dil. 1 the spike a Spike Amount 250	16 Spi Amo 25 and spi Mat Res <12	unt 0 ke dupl rix ult F 2.0	Resul <12.0 icate re Rec. 107	t 0 sult. Rec. Limi 18 - 17	Prepa Rec. 94	ared By 18 RPD	r: LD Rec. Limit - 179. RPD Limi
QC Batch: 56899 Prep Batch: 48608 Param DRO Percent recovery is based of Param DRO	on the spik	MS Resul 235 ce result. I MSD Result 268	Date Ana QC Prepa t U mą RPD is ba Units mg/Kg	aration: Inits g/Kg ased on Dil. 1	2009-02- Dil. 1 the spike a Spike Amount 250	16 Spi Amo 25 and spi Mat Res <12	unt 0 ke dupl rix ult F 2.0 1 ke dupl	Resul <12.0 icate re Rec. 107	t D sult. Rec. Limi 18 - 17 sult.	Prepa Rec. 94	ared By 18 RPD	r: LD Rec. Limit - 179.5 RPD Limit
QC Batch: 56899 Prep Batch: 48608 Param DRO Percent recovery is based of Param DRO Percent recovery is based of Percent recovery is based of	on the spik	MS Resul 235 ce result. I MSD Result 268 ce result. I	Date Ana QC Prepa t U mą RPD is ba Units mg/Kg RPD is ba	aration: Inits g/Kg ased on Dil. 1	2009-02- Dil. 1 the spike a Spike Amount 250	16 Spii Amo 25 and spi Mat Res <12 and spi	unt 0 ke dupl rix ult F 2.0 ke dupl ke	Resul <12.0 icate re lec. 107 icate re	t 0 sult. Limi 18 - 17 sult.	Prepa <u>Rec.</u> 94 t 9.5	18 RPD 13	r: LD Rec. Limit - 179.5 RPD Limit 20
•	on the spik	MS Resul 235 ce result. I MSD Result 268 ce result. I MSD	Date Ana QC Prepa t U mi RPD is ba Units mg/Kg RPD is ba	aration: <u>Inits</u> <u>g/Kg</u> ased on - <u>Dil.</u> <u>1</u> ased on -	2009-02- Dil. 1 the spike a Spike Amount 250 the spike a	16 Spii Amo 25 and spi Mat Res <12 and spi Spi	unt 0 ke dupl rix ult F 2.0 ke dupl ke ount	Resul <12.0 icate re lec. l07 icate re MS	t 0 sult. Limi 18 - 17 sult.	Prepa Rec. 94 t	18 RPD 13	r: LD Rec. Limit - 179.5 RPD Limit 20 Rec.

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Report Dat 115-640361(e: February 1)	8, 2009		Work Order: 90 J West Co-op U	Page Number: 9 of 10 Eddy Co., NM							
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed					
GRO		mg/Kg	1.00	0.907	91	85 - 115	2009-02-15					
Standard ((CCV-1)											
QC Batch:	56885		Date Ana	lyzed: 2009-02	2-15	Anal	yzed By: AG					
			CCVs	CCVs	CCVs	Percent						
			True	Found	Percent	Recovery	Date					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed					
GRO		mg/Kg	1.00	1.01	101	85 - 115	2009-02-1					
Standard ((ICV-1)											
QC Batch:	56886		Date Ana	lyzed: 2009-02	2-16	Anal	yzed By: AR					
			ICVs	ICVs	ICVs	Percent						
			True	Found	Percent	Recovery	Date					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed					
Chloride		mg/Kg	100	105	105	85 - 115	2009-02-16					
Standard	(CCV-1)											
QC Batch:	56886		Date Ana	lyzed: 2009-02	2-16	Anal	yzed By: AR					
			CCVs	CCVs	CCVs	Percent	,					
			True	Found	Percent	Recovery	Date					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed					
Chloride		mg/Kg	100	95.2	95	85 - 115	2009-02-1					
Standard ((ICV-1)											
QC Batch:	56899		Date Ana	Ana	lyzed By: LD							
			ICVs	ICVs	ICVs	Percent						
			True	Found	Percent	Recovery	Date					
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed					
DRO		mg/Kg	250	266	106	85 - 115	2009-02-1					
Standard	(CCV-1)											
Stanuaru	()											

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Report Da 115-640361	te: February 10	18, 2009		Work Order: 9021330 P COG/GJ West Co-op Unit Well #47							
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date				
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed				
DRO		mg/Kg	250	248	99	85 - 115	2009-02-16				

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An	alys	sis F	Re	q	U	es	it (of	C	ha	air	n of	fC	Jus	tod											_				PAC	GE:		L		OF:	1		
	Analysis Request of Chain of Custody Record															(C	ANALYSIS REQUEST (Circle or Specify Method No.)																					
							19 M)10 idla	N. E nd,	Big : Tex	Spr as	EC ing St 79705 × (432) (it. 5	3946									ie (Ext to Cas)		d Cr Pb Hg Se	d Vr Pd Hg Se					PCB's 8080/608 Pest. 808/608				SC			
CLIENT NA		Ô6					1	SITE	MAN	IAGE	R:	Fke,	Thu	1.117		ERS		P		ERV	ATIV	E	10 17	Š	Ba C	Ba			0/624	70/625					, pH.			
PROJECT N 115-640	0.:		PI C	ROJI 20	ect	NAN	J	U	<u>es</u> t	La	σp	Uni	4 μ	10/1 A	147	CONTAIN	(N/)								ls Ag As	Is Ag As	les Volation	AUIAUIUS	8240/826	il. Vol. 82	608		ÿ	(Alt)	s/Cation:			
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	E	Edd	4	Cov	onty	11	VM ENTIFIC				NUMBER OF	FILTERED (Y/N)	HCL	HN03	ICE	NONE		BTEX 8021B	PAH 8270	RCRA Meta	TCLP Meta	TCLP Volati	RCI Selli	GC.MS Vol.	GC.MS Ser	PCB'S 808/61 Pest. 808/61	Chloride	Gamma Sp	Alpha Beta (Air) Pl M (Ashestos)	Major Anions/Cations, pH, TDS			
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	2/12/09		5		χ	T	-1		2	. 0	4	(1.0	' <i>B</i>	BEB)					X											Τ	X	Π		Τ	\prod		T
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¹Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.