SITE INFORMATION Report Type: Closure Report General Site Information: Site: Skelly Unit 942 Tank Battery Company: COG Operating LLC Section, Township and Range Unit B Sec. 22 T-17S R-31E Lease Number: API 30-015-43645 NM - 029419A County: **Eddy County** GPS: 32.82443° N 103.85564° W Surface Owner: **Federal** Mineral Owner: From the intersection of Hwy 82 and 529, travel east on 82 for 1.9 mi, left 1.5 mi, left 0.1 mi to Directions: location Release Data: Date Released: 3/20/2011 Type Release: Oil Source of Contamination: Oil tank ran over Fluid Released: 15 bbls Fluids Recovered: 14 bbls Official Communication: Name: Pat Ellis lke Tavarez Company: COG Operating, LLC Tetra Tech Address: 550 W. Texas Ave. Ste. 1300 1910 N. Big Spring P.O. Box City: Midland Texas, 79701 Midland, Texas Phone number: (432) 686-3023 432-682-4559 Fax: (432) 684-7137 Email: pellis@conchoresources.com ike.tavarez@tetratech.com

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	0
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	·
>1,000 ft.	0	0

Acceptable Soil RRAL (mg/kg)

Benzene

10

Total BTEX

50

TPH

5,000

OCT 17 2011

NMOCD ARTESIA



October 3, 2011

Mr. Mike Bratcher Environmental Engineer Specialist Oil Conservation Division, District 2 1301 West Grand Avenue Artesia, New Mexico 88210

Closure Request for the COG Operating LLC., Skelly Unit 942, Re: Unit B, Section 22, Township 17 South, Range 31 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 Skelly Unit 942 Tank Battery, Unit B, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81730°, W 104.11283°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on March 20, 2011, and released approximately fifteen (15) barrels of oil from an oil tank running over as a result of rapid increase in production volume. Fourteen (14) barrels of fluid were recovered. alleviate the problem, COG personnel returned the wells back into production at a slower rate after lease shut in. The entire spill was contained inside the facility berm and measured approximately 10' x 75'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 19. Based on the site location and NMOCD groundwater map, the average depth to groundwater in this area is greater than 100' below surface. The well report is shown in Appendix B.



Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On April 20, 2011, Tetra Tech personnel inspected and sampled the spill area. Two auger holes (AH-1 and AH-2) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, auger hole (AH-1) exceeded the RRAL for TPH and total BTEX at 0-1', but decline below the RRAL at 1.0' below surface. Auger hole (AH-2) did show a deeper impact to the soils. The TPH and benzene concentrations declined below the RRAL at 2.0' and 3.0', respectively. However, the total BTEX showed a concentration of 84.4 mg/kg at 3.0' and was not vertically defined.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. Once the site was excavated to the appropriate depths, confirmation samples were collected from the site. A bottom hole sample (T-1) at 4.0' was collected and exhibited BTEX concentrations below the RRAL. As requested by the BLM, sidewall samples were collected for chloride evaluation and results are summarized in Table 2. Due to electrical line and equipment in the area, BLM approved the sample at CS-1 (west wall) of 1,570 mg/kg.



Approximately 60 cubic yards of impacted soil was transported to disposal. Based on the results, the excavation was backfilled with clean soil and brought up to surface grade. The final depths of the soil remediation for the entire spill met or exceeded the depths of the approved work plan. The excavation depths are highlighted in Table 1 and shown on Figure 4. A copy of the C-141 (Final) is included in Appendix A.

If you have any questions or comments concerning the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,

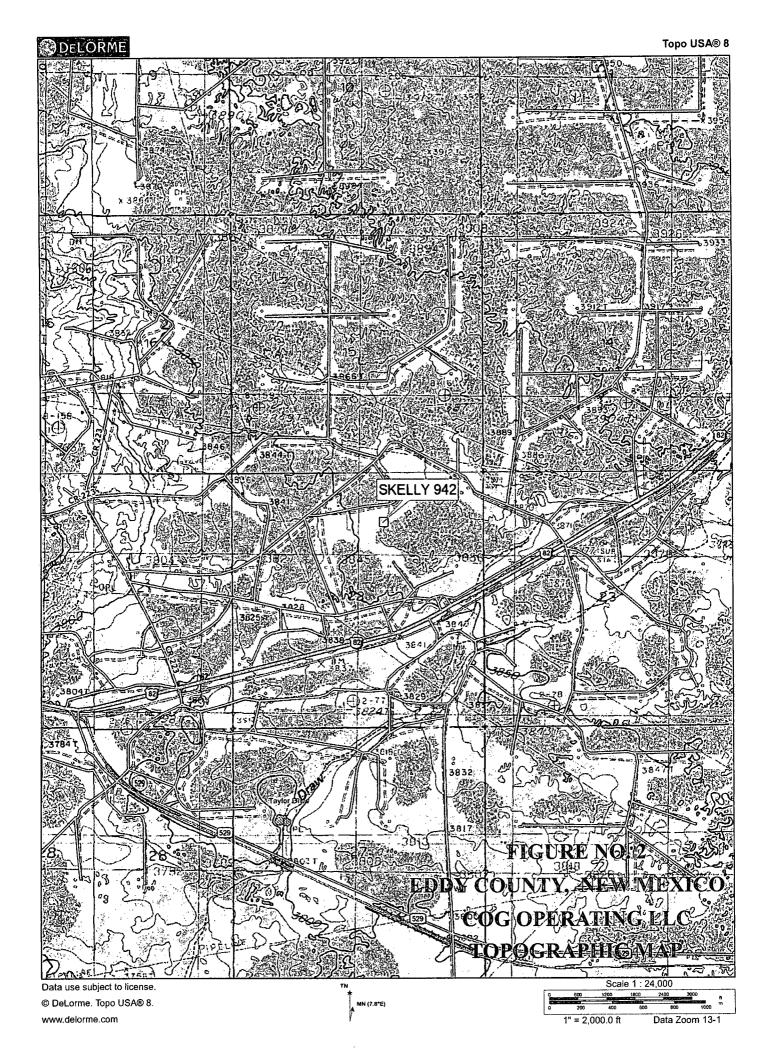
TETRA TECH

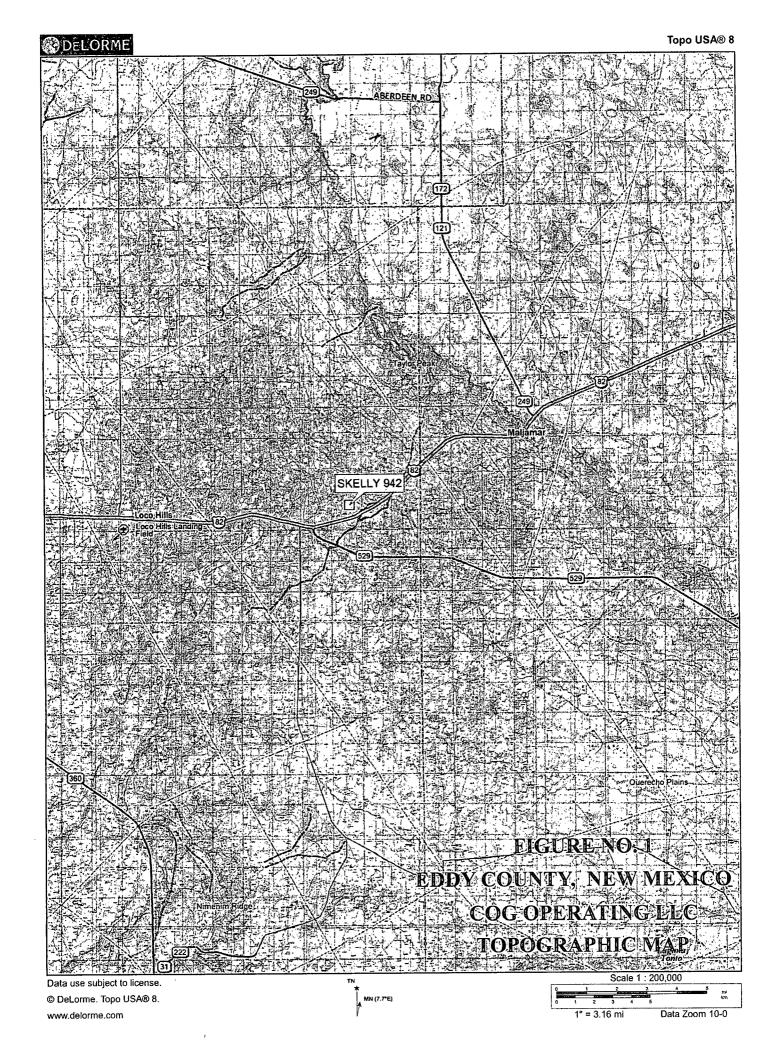
ike Tavarez Project Manager

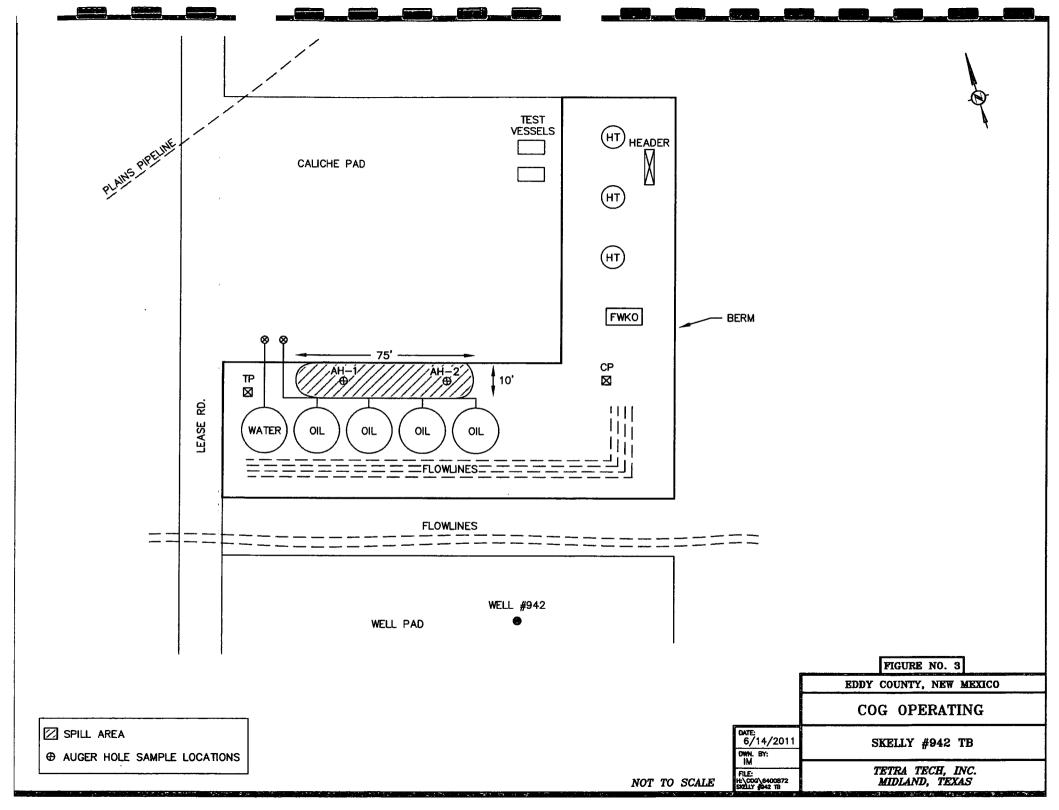
cc: Pat Ellis - COG

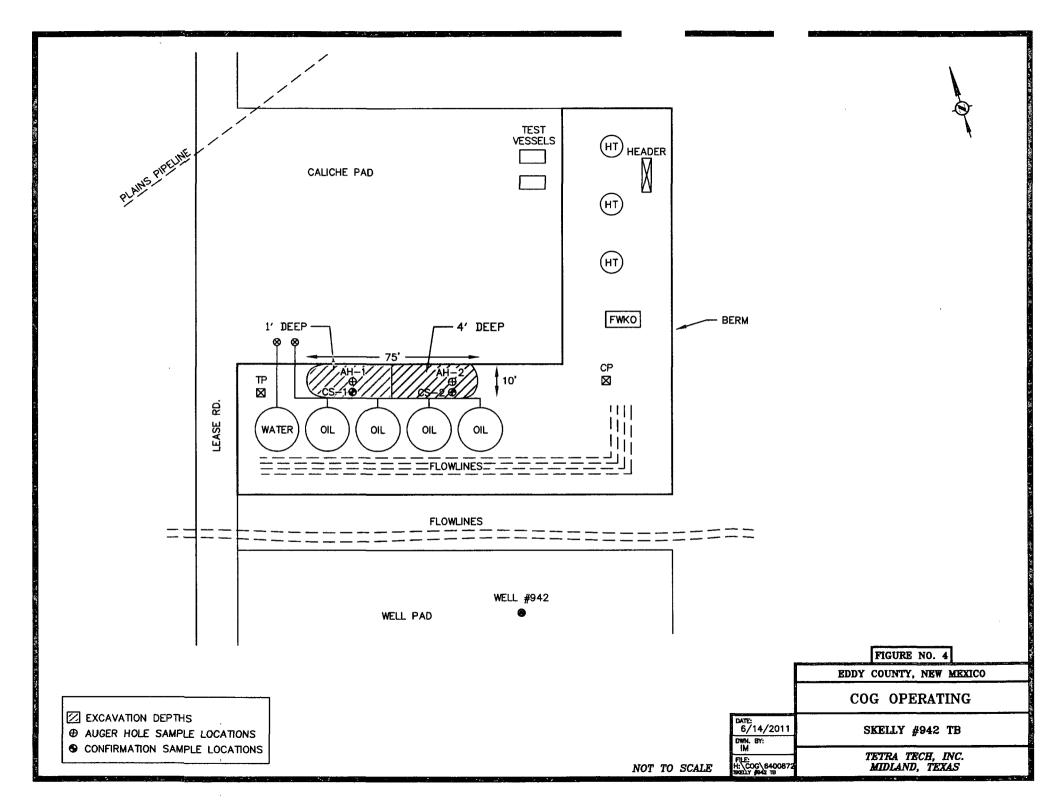
cc: Terry Gregston - BLM

Figures









Tables

Table 1 COG Operating LLC. SKELLY 942 EDDY COUNTY, NEW MEXICO

Sample	Sample	Sample	Soi	l Status	ТР	H (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Total	Chloride
ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (m	(mg/kg)
AH-1	4/20/2011	0-1		X	2,010	3,890	5,900	20.2	* ·120 . ·	85.3	97.2	322.7	* 202
	tı	1-1.5'	Х		99.6	291	390.6	0.245	0.881	0.372	1.54	3.0	643
	ш	2-2.5'	Х		1	_	-	-	-	-	-	÷	<200
	tt	3-3.5'	Х		-	-	-	-	-	-	-	-	343
	·· ·· ·· ·· ·· ·· ·· ·· ·· · · · · · ·			. N. 1 N. 1 Mark 1 1 N.			<u> </u>		h	Francisco de la Company			
AH-2	4/20/2011	0-1'		X	2,150	4,390	6,540	22.1	138	102	127	389.1	<200
	h	1-1.5'		X	3,580	1,940	5,520	48.5	171	110	128	457.5	<200
	п	2-2.5		X	3,590	724	4,314	76.7	181,	103	113	473.7	<200°
	31	3-3.5		X	903	279	1,182	0.789	25.4	28	30.2	84.4	507
T-1	8/30/2011	Bottom Hole 4.0'	X		<u>-</u>	-	<u>-</u>	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-

BEB Below Excavation Bottom

(-) Not Analyzed

Excavated Depths

Table 2 COG Operating LLC. SKELLY UNIT 942 TANK BATTERY EDDY COUNTY, NEW MEXICO

	Sample Date In				l l	Ethlybenzene	Xylene	Total	Chloride
	Sample Date	In-Situ	Removed	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
				- · · · <u>-</u>					
North Wall	8/30/2011	Х		-	-	-	-	-	<200
South Wall	ti .	Х		-	-	-	-	-	<200
West Wall	11	Х		-	-	-	-	-	1,570
South Wall	8/30/2011	X		-	-	-	_		393
North Wall	81	Х		_	-	-	_	-	565
East Wall	t f	Х		-	-	-	-	-	<200
	South Wall West Wall South Wall North Wall	North Wall 8/30/2011 South Wall " West Wall " South Wall 8/30/2011 North Wall "	North Wall 8/30/2011 X	North Wall 8/30/2011 X	North Wall 8/30/2011 X -	North Wall 8/30/2011 X -	North Wall 8/30/2011 X -	North Wall 8/30/2011 X -	North Wall 8/30/2011 X - - - - - - - - -

BEB

Below Excavation Bottom

(-)

Not Analyzed

Appendix A

District 1
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztee, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

Form C-141 Revised October 10, 2003

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

	Release Notification and Corrective Action												
		_				OPERA'			⊠ Init	ial Report		Final	Repor
Name of Co			ERATIN			Contact		at Ellis					
Address Facility Na			e 100, M1 v Unit 94	dland, TX 7970	<u> </u>	Telephone l		230-007 k Batter					
			y Chic			·	C I AIL	K Dallel					
Surface Ow	ner Fede	eral		Mineral (Owner	•			Lease 1	No. (API# NMNI	•	15-436 9419A	
						N OF RE	LEASE				<u> </u>		
Unit Letter B	Section 22	Township 17S	Range 31E	Feet from the	Nort	h/South Line	Feet from the	East/W	est Line	County	Eddy		
	Latitude 32 49.510 Longitude 103 51.384 NATURE OF RELEASE												
Type of Rele	ase Oil		·····	NAT	UKI		Release 15bbls		Volume	Recovered	14bble		
Source of Re		Tank					lour of Occurrence	>e		Hour of Di			
197 T3*		2:0				03/20/2011			03/20/20	11 7:00 a	.m.		
	Was Immediate Notice Given? ☐ Yes ☑ No ☑ Not Req						Whom?						
By Whom?		-k-40	·			Date and I		4). 11/-4		PF(751	VE	M
was a water	Was a Watercourse Reached? ☐ Yes ☒ No					ii yes, vo	olume Impacting (the water	course.	ורת מרו	17	2011	
If a Watercou	ırse was İm	pacted, Descr	ibe Fully.*										T
Describe Cau	se of Probl	em and Reme	dial Action	Taken.*						MMOC	<u>D Al</u>	TES	3IA
		he facility due te after a leas			n after	curtailment an	d rapidly increase	ed produc	tion volu	mes. Retur	n wells	into	
Initially 15bb the berm wal delineate any significant re	ols of oil wa ls of the fac possible co mediation v	ility. The din entamination f vork.	m the oil to nensions of from the re	ank and we were of the spill area me lease and we will	easured preser	l 20' x 20'next nt a remediation	s with a vacuum t to the oil tank. T n work plan to the	Tetra Tech e NMOCI	will sam D / BLM	ple the spill for approva	l site ard l prior t	ea to to any	
regulations all public health should their of the environ	I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.									r tv			
							OIL CON	SERVA	MOITA	DIVISIO	<u>NC</u>		
Signature:		/	1	<u></u>									
Printed Name	:	Josh	Russo			Approved by	District Supervise	or:					
Title:		HSE Co	ordinator			Approval Dat	e:	E	xpiration	Date:			
E-mail Addre	ss:	jrusso@concl	horesource	s.com		Conditions of	Approval:			Attached	ı 🗆		
Date: 03	3/25/2011	F	hone:	432-212-2399	1								

^{*} Attach Additional Sheets If Necessary

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

1301 W. Grand Avenue, Artesia, NM 88210

District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

Revised October 10, 2003

Form C-141

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

Release Notification and Corrective Action

						OPERA	ГOR		☐ Initi	al Report	\boxtimes	Final	Report
Name of Co	mpany C	COG Operat	ing LLC	,		Contact Par	t Ellis						
			0 Midla	nd, Texas 79701			No. (432) 685-4						
Facility Nan	ne Skelly	Unit 942				Facility Typ	e Tank Batte	ery					
Surface Own	ner: Feder	al		Mineral O	wner				Lease N	No. API 30-	025-4	3645	
				LOCA	TIO	N OF REI	LEASE						
Unit Letter	Section	Township	Range	Feet from the		/South Line	Feet from the	East/W	est Line	County			
В	22	17S	31E			·					Eddy	,	
		L	I	atitude N 32 4	9.510	° Longitud	e W 103 51.38	 В4°					
				NAT	URE	OF RELI	EASE						
Type of Relea	ase: Oil					Volume of	Release 15 bbls			Recovered 1			
Source of Re	ource of Release: Oil Tank						lour of Occurrence	ce		Hour of Dis			
Was Immedia	Vas Immediata Notice Given?					3/20/2011 If YES, To	Whom?		3/20/201	1 7:00 a.m.			
was minicula	Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Requ						WHOIII:						
By Whom?						Date and H	lour						
Was a Watero	course Read					6	olume Impacting	the Water	rcourse.	<u></u>			
1		L	Yes 🗵] No		N/A				3 F A F			า
If a Watercou	irse was Im	pacted, Descr	ibe Fully.	ķ					1	RECE	VE	:D	
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1071	IVA								- 1	UCI I	201	Į	
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The oil tanks	ran over at	the facility du	ie to the le	ease being turned o	on after	curtailment a	nd rapidly increas	sed produ	action volu	umes. Retur	n wells	into	
		ite after a leas		J				•					
Describe Are	a Affected	and Cleanup A	Action Tal	cen.*									******
		•											
				oles to define spill									
to NMOCD a			ampies, m	e excavation was	раскии	ied with clean	Dackiiii materiai	i. Tetra I	ech prepa	rea closure r	ероп а	na subn	mittea
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				nd/or file certain re ce of a C-141 repo									
should their o	perations h	ave failed to a	dequately	investigate and re	emedia	te contaminati	on that pose a thr	reat to gro	ound water	r, surface wa	ter, hur	nan hea	
				tance of a C-141 i	eport o	loes not reliev	e the operator of	responsib	oility for co	ompliance w	ith any	other	
federal, state,	01 10cai 1a)	ys and of regi	lations.				OIL CON	CEDV	ATION	DIVISIO	NI		
		1 / 1	V .				OIL COIN	SLAC V A	TION	DIVISIO	11		
Signature:	[[]	(//	/										
Printed Name	: Ike Tavar	ez A	ento	for COC		Approved by	District Supervis	sor:					
Title: Project	Manager	7				Approval Dat	e:	E	xpiration l	Date:			
D mail 4.3.3	and Hear Tre	ower @Total	.ah										
E-mail Addre	ss: IKe. I av	arezw i etra i c	ecn.com			Conditions of	Approval:			Attached			
Date: /0-	41	/	Phone	(432) 682-4559									
* Attach Addit													

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG - Skelly Unit #942 Eddy County, New Mexico

	16	South		30 East			16	South	3	1 East		T T	16	South	3	2 East	
6	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
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19	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
30	29	28	27	26	25	30	29	28	27	26	25	220 30	29	210 28	27	210 26	25
SU	29	28	21	26	25	30	29	28	21	26	25	30	29	28	21	243	25
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36
		.				290											260
	17 :	South		30 East	:		17	South	3	1 East	1		17 9	South	3	2 East	
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30	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
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140	New Mexico State Engineers Well Reports
4	USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Field water level

New Mexico Water and Infrastructure Data System

SITE - Skelly Unit 942

Appendix C

Report Date: May 5, 2011 Work Order: 11042205 Page Number: 1 of 2

Summary Report

Kim Dorey

Tetra Tech

1910 N. Big Spring Street Midland, TX 79705

Report Date: May 5, 2011

Work Order: 11042205

Project Location: Eddy Co., NM Project Name: COG/Skelly 942 Project Number: 114-6400872

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
264388	AH-1 0-1'	soil	2011-04-20	00:00	2011-04-21
264389	AH-1 1-1.5'	soil	2011-04-20	00:00	2011-04-21
264390	AH-1 2-2.5'	soil	2011-04-20	00:00	2011-04-21
264391	AH-1 3-3.5'	soil	2011-04-20	00:00	2011-04-21
264392	AH-2 0-1'	soil	2011-04-20	00:00	2011-04-21
264393	AH-2 1-1.5'	soil	2011-04-20	00:00	2011-04-21
264394	AH-2 2-2.5'	soil	2011-04-20	00:00	2011-04-21
264395	AH-2 3-3.5'	soil	2011-04-20	00:00	2011-04-21

]	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)
264388 - AH-1 0-1'	20.2	120	85.3	97.2	3890	2010
264389 - AH-1 1-1.5'	0.245	0.881	0.372	1.54	291	99.6
264392 - AH-2 0-1'	22.1	138	102	127	4390	2150
264393 - AH-2 1-1.5'	48.5	171	110	128	1940	3580
264394 - AH-2 2-2.5'	76.7	181	103	113	724	3590
264395 - AH-2 3-3.5'	0.789	25.4	28.0	30.2	279	903

Sample: 264388 - AH-1 0-1'

Param	Flag	Result	Units	ŘL
Chloride		202	mg/Kg	4

Sample: 264389 - AH-1 1-1.5'

Report Date: May 5	, 2011	Work Order: 11042205	Page I	Number: 2 of 2
Param	Flag	Result	Units	RL
Chloride		643	mg/Kg	4
Sample: 264390 -	AH-1 2-2.5'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
Sample: 264391 -	AH-1 3-3.5'		3	
Param	Flag	Result	Units	RL
Chloride		343	mg/Kg	4
Sample: 264392 -	AH-2 0-1'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
Sample: 264393 -	AH-2 1-1.5'		٠	
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
Sample: 264394 -	AH-2 2-2.5'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
Sample: 264395 -	AH-2 3-3.5'			
Param	Flag	Result	Units	RL
Chloride		507	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E

El Paso, Texas 79922 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

Midland Texas 79703

888 • 588 • 3443 915 • 585 • 3443 432 • 689 • G301

FAX-915 • 585 • 4944 FAX 432 • 689 • 6313

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications NELAP DoD LELAP Oklahoma ISO 17025 WBE HUB NCTRCA DBE Kansas

Analytical and Quality Control Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Report Date: May 5, 2011

Work Order: 11042205



Project Location: Eddy Co., NM COG/Skelly 942 Project Name:

114-6400872 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
264388	AH-1 0-1'	soil	2011-04-20	00:00	2011-04-21
264389	AH-1 1-1.5°	soil	2011-04-20	00:00	2011-04-21
264390	AH-1 2-2.5'	soil	2011-04-20	00:00	2011-04-21
264391	AH-1 3-3.5'	soil	2011-04-20	00:00	2011-04-21
264392	AH-2 0-1'	soil	2011-04-20	00:00	2011-04-21
264393	AH-2 1-1.5'	soil	2011-04-20	00:00	2011-04-21
264394	AH-2 2-2.5'	soil	2011-04-20	00:00	2011-04-21
264395	AH-2 3-3.5'	soil	2011-04-20	00:00	2011-04-21

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 41 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

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Case Narrative

Samples for project COG/Skelly 942 were received by TraceAnalysis, Inc. on 2011-04-21 and assigned to work order 11042205. Samples for work order 11042205 were received intact at a temperature of 9.4 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	68447	2011-04-25 at 09:04	80636	2011-04-25 at 09:04
BTEX	S 8021B	68516	2011-04-27 at 15:47	80730	2011-04-27 at 15:47
BTEX	S 8021B	68585	2011-04-28 at 11:00	80811	2011-04-28 at 17:50
B'TEX	S 8021B	68707	2011-05-04 at 08:57	80945	2011-05-04 at 17:14
Chloride (Titration)	SM 4500-Cl B	68435	2011-04-25 at 11:20	80726	2011-04-27 at 15:43
TPH DRO - NEW	S 8015 D	68456	2011-04-25 at 09:52	80646	2011-04-25 at 09:52
TPH DRO - NEW	S 8015 D	68529	2011-04-27 at 10:16	80739	2011-04-27 at 10:16
TPH DRO - NEW	S 8015 D	68670	2011-05-03 at 14:00	80908	2011-05-03 at 14:00
TPH GRO	S 8015 D	68447	2011-04-25 at 09:04	80637	2011-04-25 at 09:04
TPH GRO	S 8015 D	68516	2011-04-27 at 15:47	80731	2011-04-27 at 15:47
TPH GRO	S 8015 D	68585	2011-04-28 at 11:00	80812	2011-04-28 at 18:17
TPH GRO	S 8015 D	68707	2011-05-04 at 08:57	80946	2011-05-04 at 17:14

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 11042205 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.

114-6400872

Work Order: 11042205 COG/Skelly 942

Page Number: 6 of 41 Eddy Co., NM

Analytical Report

Sample: 264388 - AH-1 0-1'

Laboratory:

Midland

Analysis: QC Batch: Prep Batch: BTEX 80636

68447

Analytical Method: Date Analyzed:

S 8021B 2011-04-25

Prep Method: S 5035 Analyzed By: ME 2011-04-25 Prepared By: ME

RLUnits Parameter Flag Cert Result Dilution RLBenzene 20.2 mg/Kg 20 0.0200 20 Toluene 120 mg/Kg 0.020020 Ethylbenzene 85.3 mg/Kg 0.020020 97.2 Xylene mg/Kg 0.0200

Sample Preparation:

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	22.1	mg/Kg	20	20.0	110	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1	40.5	mg/Kg	20	20.0	202	38.4 - 157

Sample: 264388 - AH-1 0-1'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 80726 Prep Batch: 68435

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-04-27

2011-04-27

Prep Method: N/A Analyzed By: AR. Prepared By: AR

RLParameter Flag Result Cert Units Dilution RLChloride 202 50 4.00 mg/Kg

Sample: 264388 - AH-1 0-1'

Laboratory:

Midland

Analysis: TPH DRO - NEW QC Batch: 80646 Prep Batch: 68456

Analytical Method: Date Analyzed: Sample Preparation:

S 8015 D 2011-04-25 2011-04-25

Prep Method: N/A Analyzed By: kg Prepared By: kg

RLParameter Flag Cert Result Units Dilution RLDRO 3890 50.0 mg/Kg ì

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Work Order: 11042205 COG/Skelly 942

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Eddy	Co.,	NM
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						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		1	297	mg/Kg	5	100	297	70 - 130

Sample: 264388 - AH-1 0-1'

Laboratory:

Midland

Analysis:

TPH GRO 80637

Analytical Method:

S 8015 D

Prep Method: S 5035

QC Batch:

68447

Date Analyzed:

2011-04-25

Analyzed By: ME

Prep Batch:

Sample Preparation: 2011-04-25

Prepared By: ME

Parameter	Flag	Cert	RL Result

Units Dilution RL**GRO** 2010 mg/Kg 20 2.00

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	21.8	mg/Kg	20	20.0	109	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1	44.8	mg/Kg	20	20.0	224	42 - 159

Sample: 264389 - AH-1 1-1.5'

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

BTEX 80730 68516

Analytical Method: Date Analyzed:

S 8021B 2011-04-27

Prep Method: S 5035 Analyzed By: ME Prepared By: ME

RL

Parameter Flag Cert Result Units Dilution RLBenzene 0.245mg/Kg 0.0200 1 1 Toluene 0.881 mg/Kg 1 0.0200Ethylbenzene 0.372mg/Kg1 0.0200Xylene mg/Kg 0.02001.54

Sample Preparation: 2011-04-27

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	${f Amount}$	Recovery	Limits
Trifluorotoluene (TFT)		1	2.74	mg/Kg	1	2.00	137	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1	2.92	mg/Kg	1	2.00	146	38.4 - 157

Report Date: May 5, 2011 114-6400872

Work Order: 11042205 COG/Skelly 942

Page Number: 8 of 41 Eddy Co., NM

Sample: 264389 - AH-1 1-1.5'

Laboratory: Analysis:

Parameter

Chloride

Midland

Chloride (Titration)

Flag

QC Batch: 80726 Prep Batch: 68435

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-04-27 Sample Preparation: 2011-04-27

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RLResult Units Dilution RL643 4.00 mg/Kg 50

Sample: 264389 - AH-1 1-1.5'

Laboratory:

Midland

Analysis: TPH DRO - NEW QC Batch: 80739

Cert

Analytical Method: S 8015 D Date Analyzed: 2011-04-27 Prep Method: N/A Analyzed By: kg kg

Prep Batch: 68529

2011-04-27 Sample Preparation:

Prepared By:

RLCert Dilution Parameter Flag Result Units RLDRO 291 mg/Kg 50.0 ì

Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits n-Tricosane 100 124 70 - 130 124 mg/Kg $\overline{1}$ ı

Sample: 264389 - AH-1 1-1.5'

Laboratory:

Midland

Analysis: TPH GRO QC Batch: 80731

Analytical Method: Date Analyzed:

S 8015 D 2011-04-27 Prep Method: S 5035 Analyzed By: ME

Prepared By:

Prep Batch: 68516 Sample Preparation:

2011-04-27

RLParameter Flag Cert Result Units Dilution RLGRO 99.6 mg/Kg 2.00 1

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT))	2.44	mg/Kg	1	2.00	122	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1	2.76	mg/Kg	1	2.00	138	42 - 159

114-6400872

Work Order: 11042205 COG/Skellv 942

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Eddy Co., NM

Sample: 264390 - AH-1 2-2.5'

Laboratory:

Midland

Analysis:

Chloride (Titration)

OC Batch: 80726 Prep Batch: 68435

Analytical Method:

SM 4500-Cl B Date Analyzed: 2011-04-27 Sample Preparation: 2011-04-27

Prep Method: N/A

Analyzed By: ARPrepared By: AR.

RL

Cert Result Units Dilution RLParameter Flag Chloride <200 4.00 mg/Kg 50

Sample: 264391 - AH-1 3-3.5'

Laboratory:

Chloride

Midland

Analysis: Chloride (Titration) QC Batch:

80726 Prep Batch: 68435 Analytical Method:

Date Analyzed:

SM 4500-Cl B 2011-04-27 Sample Preparation: 2011-04-27

Prep Method: N/A

Analyzed By: AR. Prepared By: AR

RLParameter Flag Cert

Result Units 343 mg/Kg Dilution RL50 4.00

Sample: 264392 - AH-2 0-1'

Laboratory:

Midland

Analysis: BTEX QC Batch: 80636 Prep Batch: 68447

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-04-25 2011-04-25 Prep Method: S 5035 Analyzed By: ME

ME

Prepared By:

RLFlag Cert Result Dilution RLParameter Units Benzene 22.1mg/Kg 0.0200 10 Toluene 138 mg/Kg 10 0.0200Ethylbenzene 102 mg/Kg 10 0.0200Xylene 127 mg/Kg 10 0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	10.6	mg/Kg	10	10.0	106	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1	30.9	mg/Kg	10	10.0	309	38.4 - 157

Report Date: May 5, 2011 Work Order: 11042205 114-6400872 COG/Skelly 942

Sample: 264392 - AH-2 0-1' Laboratory: Midland Chloride (Titration) Prep Method: Analysis: Analytical Method: SM 4500-Cl B N/A Analyzed By: ARQC Batch: 80726 2011-04-27 Date Analyzed: 2011-04-27 Prepared By: AR Prep Batch: 68435 Sample Preparation: RLParameter Flag Cert Result Units Dilution RLChloride <200 mg/Kg 50 4.00

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Eddy Co., NM

Sample: 264392 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: 80646 Date Analyzed: 2011-04-25 Analyzed By: kg Prep Batch: 68456 Sample Preparation: 2011-04-25 Prepared By: kg

Dilution RLFlag Cert Result Units Parameter 4390 50.0 DRO mg/Kg 5 Spike Percent Recovery Limits Surrogate Flag Cert Result Units Dilution Amount Recovery n-Tricosane 330 mg/Kg 5 100 330 70 - 130

RL

Sample: 264392 - AH-2 0-1'

Laboratory: Midland

TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analysis: QC Batch: 80637 Analyzed By: MEDate Analyzed: 2011-04-25 Prep Batch: 68447 Sample Preparation: 2011-04-25 Prepared By: ME

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1105	1	10.5	mg/Kg	10	10.0	105	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1	46.5	mg/Kg	10	10.0	465	42 - 159

114-6400872

Work Order: 11042205 COG/Skelly 942

Page Number: 11 of 41 Eddy Co., NM

Sample: 264393 - AH-2 1-1.5'

Laboratory:

Midland

Analysis:

BTEX 80811

Analytical Method:

S 8021B

2011-04-28

Analyzed By:

Prep Method: S 5035 ME

QC Batch: Prep Batch:

68585

Date Analyzed: Sample Preparation:

2011-04-28

Prepared By: ME

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	48.5	mg/Kg	50	0.0200
Toluene		1	171	m mg/Kg	50	0.0200
Ethylbenzene		1	110	mg/Kg	50	0.0200
Xylene		1	128	mg/Kg	50	0.0200

						Spike	Percent	Recovery
Surrogate '	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	48.0	mg/Kg	50	50.0	96	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1	75.9	mg/Kg	50	50.0	152	38.4 - 157

Sample: 264393 - AH-2 1-1.5'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch:

80726

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-04-27

Prep Method: N/A Analyzed By: AR

Prep Batch: 68435 Sample Preparation: 2011-04-27

Prepared By: AR.

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			<200	mg/Kg	50	4.00

Sample: 264393 - AH-2 1-1.5'

Laboratory:

Midland

Analysis: QC Batch: 80739 Prep Batch: 68529

TPH DRO - NEW

Analytical Method: Date Analyzed: Sample Preparation:

S 8015 D 2011-04-27 2011-04-27 Prep Method: N/A Analyzed By: kg Prepared By: kg

RL

Parameter Dilution Flag Cert Result Units RLDRO 1940 mg/Kg 50.0

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		1	335	mg/Kg	1	100	335	70 - 130

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Work Order: 11042205 COG/Skelly 942

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Eddy Co., NM

Sample: 264393 - AH-2 1-1.5'

Laboratory: Midland

Analysis: QC Batch:

TPH GRO 80812

Analytical Method: Date Analyzed:

S 8015 D 2011-04-28 2011-04-28 Prep Method: S 5035Analyzed By: ME Prepared By: ME

Prep Batch: 68585

Trifluorotoluene (TFT)

RLParameter Cert Flag

Flag

Result

Units

mg/Kg

mg/Kg

Dilution RL2.00

GRO

Surrogate

3580

Result

44.7

80.9

Cert

1

Sample Preparation:

mg/Kg 50 Spike

Amount

50.0

50.0

Units

Dilution

50

50

Percent Recovery Recovery Limits 48.5 - 152 89 162 42 - 159

Sample: 264394 - AH-2 2-2.5'

4-Bromofluorobenzene (4-BFB)

Laboratory: Midland

Analysis: BTEX QC Batch: 80945

Analytical Method: Date Analyzed:

S 8021B 2011-05-04 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

Prep Batch:

68707

Sample Preparation: 2011-05-04

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	76.7	mg/Kg	20	0.0200
Toluene		1	181	mg/Kg	20	0.0200
Ethylbenzene		1	103	mg/Kg	20	0.0200
Xylene		1	113	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)		1	22.4 45.7	mg/Kg mg/Kg	20 20	20.0 20.0	112 228	52.8 - 137 38.4 - 157
4-Dromondorobenzene (4-Dr D)		1	40.7	mg/ng	20	20.0	220	00.4 - 101

Sample: 264394 - AH-2 2-2.5'

Laboratory:

Prep Batch:

Midland

68435

Analysis: QC Batch: 80726

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-04-27

Prep Method: N/A Analyzed By: AR Prepared By: AR

Sample Preparation: 2011-04-27

continued ...

Report Date: May 5, 2011 114-6400872

Work Order: 11042205 COG/Skelly 942

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sample 264394 continued ...

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
	•		RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			<200	mg/Kg	50	4.00

Sample: 264394 - AH-2 2-2.5'

Laboratory:

Midland

Analysis: QC Batch:

TPH DRO - NEW

80908 Prep Batch: 68670 Analytical Method:

Date Analyzed:

Sample Preparation: 2011-05-03

S 8015 D 2011-05-03 Prep Method: N/A Analyzed By:

kg Prepared By: kg

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO		1	724	mg/Kg	1	50.0
				Spike	Percent	Recovery

Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		1	210	mg/Kg	1	100	210	70 - 130

Sample: 264394 - AH-2 2-2.5'

Laboratory:

Midland

Analysis: TPH GRO QC Batch: 80946 Prep Batch: 68707

Analytical Method: Date Analyzed:

Sample Preparation:

S 8015 D 2011-05-04 2011-05-04

Prep Method: S 5035 Analyzed By: ME Prepared By: ME

RLFlag Units Dilution RLParameter Cert Result GRO 3590 mg/Kg 20 2.00

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	21.6	mg/Kg	20	20.0	108	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1	59.5	mg/Kg	20	20.0	298	42 - 159

Work Order: 11042205 Page Number: 14 of 41 Report Date: May 5, 2011 Eddy Co., NM 114-6400872 COG/Skelly 942 Sample: 264395 - AH-2 3-3.5'

Laboratory: Midland BTEX Analysis:

QC Batch: 80945 Prep Batch: 68707 Analytical Method: S 8021BDate Analyzed: 2011-05-04 Sample Preparation: 2011-05-04 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	0.789	mg/Kg	10	0.0200
Toluene		j	25.4	mg/Kg	10	0.0200
Ethylbenzene		1	28.0	mg/Kg	10	0.0200
Xylene		1	30.2	mg/Kg	10	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	10.0	mg/Kg	10	10.0	100	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1	16.5	mg/Kg	10	10.0	165	38.4 - 157

Sample: 264395 - AH-2 3-3.5'

Laboratory: Midland

Prep Batch: 68435

Chloride (Titration) Analysis: QC Batch: 80726

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-04-27 2011-04-27

Prep Method: N/A Analyzed By: ARPrepared By: AR

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			507	mg/Kg	50	4.00

Sample: 264395 - AH-2 3-3.5'

Laboratory: Midland

TPH DRO - NEW Analysis: QC Batch: 80908 Prep Batch: 68670

Analytical Method: Date Analyzed:

S 8015 D 2011-05-03 Sample Preparation: 2011-05-03 Prep Method: N/A Analyzed By: kg Prepared By: kg

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO		1	279	mg/Kg	1	50.0

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		1	129	mg/Kg	1	100	129	70 - 130

114-6400872

Work Order: 11042205 COG/Skelly 942

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Eddy Co., NM

Sample: 264395 - AH-2 3-3.5'

Laboratory: Midland

Analysis:

TPH GRO

Analytical Method:

S 8015 D

Prep Method: S 5035 ME

QC Batch:

80946

Date Analyzed:

2011-05-04

Analyzed By:

Prep Batch: 68707

Sample Preparation: 2011-05-04

Prepared By: ME

RL

			~ (144			
Parameter	Flag	Cert	Result	Units	Dilution	RL
GRO		1	903	mg/Kg	10	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1	9.71	nig/Kg	10	10.0	97	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1	21.3	mg/Kg	10	10.0	213	42 - 159

114-6400872

Work Order: 11042205 COG/Skelly 942

Page Number: 16 of 41 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 80636

QC Batch:

80636

Date Analyzed: 2011-04-25 Analyzed By: ME

Prepared By: ME

Prep Batch: 68447

QC Preparation:

2011-04-25

MDL RLFlag Cert Result Units Parameter Benzene < 0.0118 mg/Kg 0.02 1 Toluene < 0.00600 mg/Kg 0.02 ì Ethylbenzene < 0.00850 mg/Kg 0.02mg/Kg < 0.00613 0.02Xylene

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	2.08	mg/Kg	1	2.00	104	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1	2.23	mg/Kg	1	2.00	112	55.4 - 124

Method Blank (1)

QC Batch: 80637

QC Batch: Prep Batch: 68447

80637

Date Analyzed: QC Preparation: 2011-04-25

2011-04-25

Analyzed By: ME

Prepared By: ME

MDL Flag Result Cert

Units RLParameter < 0.753 2 $\overline{\text{GRO}}$ mg/Kg

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	2.02	mg/Kg	1	2.00	101	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1	1.93	mg/Kg	1	2.00	96	52.4 - 130

Method Blank (1)

QC Batch: 80646

QC Batch: 80646 Prep Batch: 68456 Date Analyzed: QC Preparation:

2011-04-25 2011-04-25 Analyzed By: kg Prepared By: kg

114-6400872

Work Order: 11042205 COG/Skelly 942 Page Number: 17 of 41

Eddy Co., ${\rm NM}$

Parameter		Fle	ıg	Cert	M Res	DL sult	Units	RL
DRO		1				.5.7	mg/Kg	50
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		1	104	mg/Kg	1	100	104	70 - 130

Method Blank (1)

QC Batch: 80726

QC Batch: 80

80726

Date Analyzed: 2011-04-27

Analyzed By: AR

Units

mg/Kg

Prep Batch:

68435

QC Preparation:

2011-04-25

Prepared By: AR.

RL

4

 $\begin{array}{c|ccccc} & & & & & & & & & & \\ Parameter & Flag & Cert & Result & & & & \\ \hline Chloride & & & & & & & \\ \hline \end{array}$

Method Blank (1)

QC Batch: 80730

QC Batch: 80730 Prep Batch: 68516 Date Analyzed: QC Preparation:

2011-04-27 2011-04-27 Analyzed By: ME Prepared By: ME

MDL Parameter Cert Result Units RLFlag Benzene < 0.0118 mg/Kg 0.02 Toluene < 0.00600 mg/Kg 0.02Ethylbenzene < 0.00850 mg/Kg 0.02 nig/Kg < 0.00613 0.02Xylene

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	$\mathbf{A}\mathbf{mount}$	Recovery	Limits
Trifluorotoluene (TFT)		1	1.89	mg/Kg	1	2.00	94	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1	1.85	mg/Kg	1	2.00	92	55.4 - 124

Method Blank (1)

QC Batch: 80731

QC Batch: 80731 Prep Batch: 68516 Date Analyzed: 2011-04-27 QC Preparation: 2011-04-27 Analyzed By: ME Prepared By: ME

114-6400872

Work Order: 11042205

COG/Skelly 942

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Eddy Co., NM

Parameter	Flag		Cert		$rac{ ext{MDL}}{ ext{Result}}$		Units	RL	
GRO		1			< 0.753	mg/Kg		2	
						Spike	Percent	Recovery	
Surrogate	Flag	Cert	Result	Units	Dilution	${f Amount}$	Recovery	Limits	
Trifluorotoluene (TFT)		1	1.74	mg/Kg	1	2.00	87	67.6 - 150	
4-Bromofluorobenzene (4-BFB)		1	1.59	mg/Kg	1	2.00	80	52.4 - 130	

Method Blank (1)

QC Batch: 80739

Flag

QC Batch: 80739 Date Analyzed:

2011-04-27

MDL

Result

Analyzed By: kg Prepared By: kg

Prep Batch: 68529

Parameter

QC Preparation: 2011-04-27

> Units RL

DRO				1 <15.7			mg/Kg	50
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		1	101	mg/Kg	1	100	101	70 - 130

Cert

Method Blank (1)

QC Batch: 80811

QC Batch: 80811 Prep Batch: 68585 Date Analyzed: QC Preparation:

2011-04-28 2011-04-28

Analyzed By: ME Prepared By: ME

MDL Parameter Flag Cert Units RLResult Benzene < 0.0118 mg/Kg 0.02 Toluene mg/Kg 0.02 < 0.00600 Ethylbenzene mg/Kg < 0.00850 0.02Xylene < 0.00613 mg/Kg 0.02

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	2.03	mg/Kg	1	2.00	102	-66.6 - 122
4-Bromofluorobenzene (4-BFB)		1	2.25	mg/Kg	1	2.00	112	55.4 - 124

114-6400872	011		V	Vork Order: COG/Ske				Page Number: 19 of 41 Eddy Co., NM		
Method Blank (1)	QC B	atch: 80812								
QC Batch: 80812			Date A	nalyzed:	2011-04-2	28		Analyze	d By: ME	
Prep Batch: 68585			QC Pr	eparation:	2011-04-2	28		Prepare	d By: ME	
						MDL				
Parameter		Flag		Cert		Result		Units	RI	
GRO				1		< 0.753		mg/Kg	2	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	-	Recovery	Limits	
Triffuorotoluene (TFT)		<u> </u>	1	1.83	mg/Kg	1	2.00	92	67.6 - 150	
4-Bromofluorobenzene ((4-BFB)		1	1.90	mg/Kg	1	2.00	95	52.4 - 130	
Method Blank (1)	QC B	atch: 80908								
QC Batch: 80908	QC B	atch: 80908		Analyzed: reparation:	2011-05- 2011-05-			Analyz Prepar		
QC Batch: 80908	QC B	atch: 80908				03				
QC Batch: 80908 Prep Batch: 68670	QC B			reparation:		03 MDL		Prepar	ed By: kg	
QC Batch: 80908 Prep Batch: 68670 Parameter	QC B	atch: 80908 Flag				03		Prepar Units		
QC Batch: 80908 Prep Batch: 68670 Parameter	QC B			reparation:		03 MDL Result		Prepar Units mg/Kg	ed By: kg RI 50	
QC Batch: 80908 Prep Batch: 68670 Parameter DRO		Flag	QC Pı	reparation:	2011-05-	03 MDL Result <15.7		Prepar Units mg/Kg Percent	ed By: kg	
QC Batch: 80908 Prep Batch: 68670 Parameter DRO Surrogate	QC B			Cert	2011-05-	03 MDL Result <15.7	Spike	Prepar Units mg/Kg	ed By: kg RI 50 Recovery	
QC Batch: 80908 Prep Batch: 68670 Parameter DRO Surrogate n-Tricosane	Flag	Flag Cert	QC Pi	Cert 1 Units	2011-05-	MDL Result <15.7	Spike Amount	Prepar Units mg/Kg Percent Recovery	ed By: kg RI 50 Recovery Limits	
QC Batch: 80908 Prep Batch: 68670 Parameter DRO Surrogate	Flag	Flag Cert	QC Pr	Cert 1 Units	2011-05-	MDL Result <15.7	Spike Amount	Prepar Units mg/Kg Percent Recovery	ed By: kg RI 50 Recovery Limits 70 - 130	

QC Batch: 80945	Date Analyzed:			2011-05-0)4	Analyze	l By: ME	
Prep Batch: 68707	68707 QC Prepara		eparation:	2011-05-0)4		l By: ME	
					MDL			
Parameter	Flag		Cert		Result		Units	RL
Benzene			1		< 0.0118		mg/Kg	0.02
Toluene			1		< 0.00600		mg/Kg	0.02
Ethylbenzene			1		< 0.00850		mg/Kg	0.02
Xylene			1		< 0.00613		mg/Kg	0.02
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	1.84	mg/Kg	1	2.00	92	66.6 - 122

continued ...

114-6400872

Work Order: 11042205 COG/Skelly 942

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Eddy Co., NM

method blank continued								
Commercial de	131	Qt	D14	TInita	Dilution	Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB)		I	1.76	mg/Kg	1	2.00	88	55.4 - 124

Method Blank (1)

QC Batch: 80946

 QC Batch:

80946

Date Analyzed:

2011-05-04

Analyzed By: ME Prepared By: ME

Prep Batch: 68707

QC Preparation: 2011-05-04

			MDL		
Parameter	Flag	Cert	Result	Units	RL
GRO		1	< 0.753	mg/Kg	2

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	1.80	mg/Kg	1	2.00	90	67.6 - 150
4-Bromofluorobenzene (4-BFB)		ı	1.60	mg/Kg	1	2.00	80	52.4 - 130

Report Date: May 5, 2011 Work Order: 11042205

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 80636 Date Analyzed: Prep Batch: 68447

2011-04-25 QC Preparation: 2011-04-25 Analyzed By: ME Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.64	mg/Kg	1	2.00	< 0.0118	82	81.9 - 108
Toluene		1	1.98	mg/Kg	1	2.00	< 0.00600	99	81.9 - 110
Ethylbenzene		3	2.09	mg/Kg	1	2.00	< 0.00850	104	78.4 - 115
Xylene		1	6.30	mg/Kg	1	6.00	< 0.00613	105	79.1 - 116

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

			LCSD			$_{ m Spike}$	Matrix		${ m Rec.}$		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.68	mg/Kg	1	2.00	< 0.0118	84	81.9 - 108	2	20
Toluene		1	2.10	mg/Kg	1	2.00	< 0.00600	105	81.9 - 110	6	20
Ethylbenzene		1	2.06	mg/Kg	1	2.00	< 0.00850	103	78.4 - 115	1	20
Xylene		1	6.40	mg/Kg	1	6.00	< 0.00613	107	79.1 - 116	2	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	2.10	2.11	mg/Kg	1	2.00	105	106	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1	2.38	2.41	mg/Kg	1	2.00	119	120	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 80637 Analyzed By: ME Date Analyzed: 2011-04-25 Prep Batch: 68447 QC Preparation: 2011-04-25 Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
GRO		1	17.0	mg/Kg	1	20.0	< 0.753	. 85	60.9 - 95.4

Work Order: 11042205 Page Number: 22 of 41 Report Date: May 5, 2011 114-6400872 COG/Skelly 942 Eddy Co., NM control spikes continued . . . LCSD Spike Matrix Rec. RPD Param F \mathbf{C} Result Units Dil. Amount Result Rec. Limit RPD Limit LCSD Spike Matrix Rec. RPD F \mathbf{C} Result Dil. Amount Result Rec. Limit RPD Limit Param Units 20.0 < 0.753 60.9 - 95.4 2 20 GRO 84 16.7 mg/Kg Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCS LCSD Spike LCS LCSD Rec. Result Dil. Amount Rec. Limit Surrogate Result Units Rec. 2.00 98 61.9 - 142 Trifluorotoluene (TFT) 1.95 mg/Kg 104 2.07 1 2.00 68.2 - 132 4-Bromofluorobenzene (4-BFB) 2.09 2.00 mg/Kg 1 104 100

Laboratory Control Spike (LCS-1)

QC Batch: 80646 Prep Batch: 68456

Date Analyzed: 2011-04-25 QC Preparation: 2011-04-25 Analyzed By: kg Prepared By: kg

LCS Spike Matrix Rec. Param \mathbf{F} \mathbf{C} Result Units Dil. Amount Result Limit Rec 250 DRO 218 mg/Kg <15.7 87 47.5 - 144.1 1

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

LCSD Rec. RPD Spike Matrix Param F \mathbf{C} Result Dil. Amount Result Rec. Limit RPD Limit Units DRO 213 250 85 47.5 - 144.1 2 20 < 15.7mg/Kg

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	$_{ m Units}$	Dil.	Amount	Rec.	Rec.	$_{ m Limit}$
n-Tricosane	.1	106	106	mg/Kg	1	100	106	106	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 80726 Prep Batch: 68435 Date Analyzed: 2011-04-27 QC Preparation: 2011-04-25 Analyzed By: AR Prepared By: AR

LCS Spike Matrix Rec. Param F \mathbf{C} Units Dil Amount Result Limit Result Rec. Chloride 97.0 mg/Kg 100 <3.85 97 85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			101	mg/Kg	1	100	< 3.85	101	85 - 115	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: 80730 Date Analyzed:

2011-04-27

Analyzed By: ME

Prep Batch:

68516

QC Preparation: 2011-04-27

Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	2.06	mg/Kg	1	2.00	< 0.0118	103	81.9 - 108
Toluene		1	2.07	mg/Kg	1	2.00	< 0.00600	104	81.9 - 110
Ethylbenzene		1	2.07	mg/Kg	1	2.00	< 0.00850	104	78.4 - 115
Xylene		i	6.23	mg/Kg	1	6.00	< 0.00613	104	79.1 - 116

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	2.12	mg/Kg	1	2.00	< 0.0118	106	81.9 - 108	3	20
Toluene		1	2.13	mg/Kg	1	2.00	< 0.00600	106	81.9 - 110	3	20
Ethylbenzene		j	2.14	mg/Kg	1	2.00	< 0.00850	107	78.4 - 115	3	20
Xylene		1	6.43	mg/Kg	1	6.00	< 0.00613	107	79.1 - 116	3	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	2.05	1.84	mg/Kg	1	2.00	102	92	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1	2.11	1.93	${ m mg/Kg}$	1	2.00	106	96	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 80731 Prep Batch: 68516 Date Analyzed: QC Preparation: 2011-04-27

2011-04-27

Analyzed By: ME Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
GRO		1	13.5	mg/Kg	1	20.0	< 0.753	68	60.9 - 95.4

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Eddy Co., NM

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Г	1		mg/Kg		20.0	< 0.753		60.9 - 95.4		20

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

		LCS	LCSD			$_{ m Spike}$	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	1.90	1.77	mg/Kg	1	2.00	95	88	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1	1.83	1.73	mg/Kg	1	2.00	92	86	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch:

80739

Date Analyzed:

2011-04-27

Analyzed By: kg

Prep Batch: 68529

QC Preparation: 2011-04-27

Prepared By: kg

			LCS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	222	mg/Kg	1	250	<15.7	89	47.5 - 144.1

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	246	mg/Kg	1	250	<15.7	98	47.5 - 144.1	10	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	115	120	mg/Kg	1	100	115	120	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68585

Date Analyzed:

2011-04-28 QC Preparation: 2011-04-28 Analyzed By: ME Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.04	mg/Kg	1	2.00	< 0.0118	102	81.9 - 108
Toluene		1	2.16	mg/Kg	1	2.00	< 0.00600	108	81.9 - 110
Ethylbenzene		1	2.22	mg/Kg	1	2.00	< 0.00850	111	78.4 - 115
Xylene		1	6.68	mg/Kg	1	6.00	< 0.00613	111	79.1 - 116

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Eddy Co., NM

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2 21.2 (3020)	1	2.07	mg/Kg	1	2.00	< 0.0118	104	81.9 - 108	1	20
Toluene		1	2.21	mg/Kg	1	2.00	< 0.00600	110	81.9 - 110	2	20
Ethylbenzene		1	2.28	mg/Kg	1	2.00	< 0.00850	114	78.4 - 115	3	20
Xylene		1	6.88	mg/Kg	1	6.00	< 0.00613	115	79.1 - 116	3	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	2.01	1.93	mg/Kg	1	2.00	100	96	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1	2.41	2.28	mg/Kg	1	2.00	120	114	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68585

80812

Date Analyzed:

2011-04-28

Analyzed By: ME

QC Preparation: 2011-04-28

Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	15.8	mg/Kg	1	20.0	< 0.753	79	60.9 - 95.4

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	15.3	mg/Kg	1	20.0	< 0.753	76	60.9 - 95.4	3	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	$_{ m Units}$	Dil.	Amount	Rec.	Rec.	${f Limit}$
Trifluorotoluene (TFT)	t	1.67	1.91	mg/Kg	1	2.00	84	96	61.9 - 142
4-Bromofluorobenzene (4-BFB)	. 1	1.82	2.06	mg/Kg	1	2.00	91	103	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch:

80908

Date Analyzed:

2011-05-03

Analyzed By: kg

Prep Batch: 68670

QC Preparation: 2011-05-03

Prepared By: kg

			LCS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	${f Amount}$	Result	Rec.	$_{ m Limit}$
DRO		1	208	mg/Kg	1	250	<15.7	83	47.5 - 144.1

114-6400872

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
DRO		1	221	mg/Kg	1	250	<15.7	88	47.5 - 144.1	6	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	1	124	128	mg/Kg	1	100	124	128	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68707

80945

Date Analyzed:

2011-05-04 QC Preparation: 2011-05-04 Analyzed By: ME

Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.84	mg/Kg	1	2.00	< 0.0118	92	81.9 - 108
Toluene		1	1.99	mg/Kg	1	2.00	< 0.00600	100	81.9 - 110
Ethylbenzene		1	2.07	mg/Kg	1	2.00	< 0.00850	104	78.4 - 115
Xylene		1	6.19	mg/Kg	1	6.00	< 0.00613	103	79.1 - 116

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene		1	1.78	mg/Kg	1	2.00	< 0.0118	89	81.9 - 108	3	20
Toluene		1	1.91	mg/Kg	1	2.00	< 0.00600	96	81.9 - 110	4	20
Ethylbenzene		Ł	2.00	mg/Kg	1	2.00	< 0.00850	100	78.4 - 115	3	20
Xylene		1	5.97	mg/Kg	1	6.00	< 0.00613	100	79.1 - 116	4	20

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

		$_{ m LCS}$	LCSD			$_{ m Spike}$	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	1.78	1.65	mg/Kg	1	2.00	89	82	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1	1.81	1.70	mg/Kg	1	2.00	90	85	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch:

80946

Date Analyzed:

2011-05-04

Analyzed By: ME

Prep Batch: 68707

QC Preparation: 2011-05-04

Prepared By: ME

114-6400872

Work Order: 11042205 COG/Skelly 942

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			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	13.1	mg/Kg	1	20.0	< 0.753	66	60.9 - 95.4

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

			LCSD			$_{ m Spike}$	Matrix		$\mathrm{Rec}.$		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	13.5	mg/Kg	1	20.0	< 0.753	68	60.9 - 95.4	3	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	1.81	1.85	mg/Kg	1	2.00	90	92	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1	1.70	1.74	mg/Kg	1	2.00	85	87	68.2 - 132

Matrix Spike (MS-1) Spiked Sample: 264496

QC Batch: 80636

Date Analyzed:

2011-04-25

Analyzed By: ME Prepared By: ME

Prep Batch: 68447

QC Preparation: 2011-04-25

MS Matrix Rec. Spike Param F \mathbf{C} Dil. Result Limit Result Units Amount Rec. Benzene 1.67 mg/Kg 1 2.00 < 0.0118 80.5 - 112 Toluene 2.12 mg/Kg 1 2.00 < 0.00600 106 82.4 - 113 83.9 - 114 Ethylbenzene 2.31 mg/Kg 2.00 < 0.00850 116 1 84 - 114 Xylene 7.01 < 0.00613 117 mg/Kg 1 6.00

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}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene		1	1.50	mg/Kg	1	2.00	< 0.0118	75	80.5 - 112	11	20
Toluene		1	1.93	mg/Kg	1	2.00	< 0.00600	96	82.4 - 113	9	20
Ethylbenzene		1	2.11	mg/Kg	1	2.00	< 0.00850	106	83.9 - 114	9	20
Xylene		1	6.40	mg/Kg	1	6.00	< 0.00613	107	84 - 114	9	20

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	2.40	2.08	mg/Kg	1	2	120	104	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1	2.64	2.31	mg/Kg	1	2	132	$\overline{116}$	35.5 - 129

114-6400872

Work Order: 11042205 COG/Skelly 942

QC Preparation: 2011-04-25

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Eddy Co., NM

Matrix Spike (MS-1)

Spiked Sample: 264479

QC Batch: Prep Batch: 68447

80637

Date Analyzed:

2011-04-25

Analyzed By: ME

Prepared By: ME

-	LOP	-Datoli.	00111

MS	

Matrix

Rec. Limit

Param GRO

F Result 15.0

MSD

Result

17.0

Units Dil. Amount mg/Kg 20.0 1

Spike

Result Rec. < 0.753 75

61.8 - 114

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

Param	F	C
GRO		1

Spike Matrix Dil. Amount Result 20.0 < 0.753

Rec. Rec. Limit 85 61.8 - 114

RPD 12

RPD Limit 20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1	2.16	2.32	mg/Kg	1	2	108	116	50 - 162
4-Bromofluorobenzene (4-BFB)	1	2.22	2.37	mg/Kg	1	2	111	118	50 - 162

Units

mg/Kg

Matrix Spike (MS-1)

Spiked Sample: 264479

QC Batch:

80646

Date Analyzed:

2011-04-25

Analyzed By: kg

Prep Batch: 68456

Prepared By: kg

QC Preparation: 2011-04-25

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit
DRO		1	208	mg/Kg	1	250	<15.7	83	11.7 - 152.3

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		7	236	mg/Kg	1	250	<15.7	94	11.7 - 152.3	13	20

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	1	102	110	mg/Kg	1	100	102	110	70 - 130

114-6400872

Work Order: 11042205 COG/Skelly 942

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Matrix Spike (MS-1)

Spiked Sample: 264397

QC Batch:

80726

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch:

68435

QC Preparation: 2011-04-25

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	С	Result	$_{ m Units}$	Dil.	Amount	Result	Rec.	Limit
Chloride			21300	mg/Kg	100	10000	11400	99	80 - 120

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}	$^{\mathrm{C}}$	Result	\mathbf{Units}	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride			22000	mg/Kg	100	10000	11400	106	80 - 120	3	20

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

Matrix Spike (MS-1)

Spiked Sample: 264497

QC Batch:

80730

Date Analyzed:

2011-04-27

Analyzed By: ME

Prep Batch: 68516

QC Preparation: 2011-04-27

Prepared By: ME

			MS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Benzene		1	2.18	mg/Kg	1	2.00	< 0.0118	109	80.5 - 112
Toluene		1	2.20	mg/Kg	1	2.00	0.166	102	82.4 - 113
Ethylbenzene		ì	2.26	mg/Kg	1	2.00	0.1608	105	83.9 - 114
Xylene			6.78	mg/Kg	1	6.00	0.4904	105	84 - 114

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	$\overline{\text{Amount}}$	Result	${ m Rec.}$	\mathbf{Limit}	RPD	Limit
Benzene		1	2.10	mg/Kg	1	2.00	< 0.0118	105	80.5 - 112	4	20
Toluene		1	2.14	mg/Kg	1	2.00	0.166	99	82.4 - 113	3	20
Ethylbenzene		1	2.22	mg/Kg	1	2.00	0.1608	103	83.9 - 114	2	20
Xylene		1	6.70	mg/Kg	1	6.00	0.4904	103	84 - 114	1	20

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate	F	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	2.25 -	2.43	mg/Kg	1	2	112	122	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1	2.25	2.48	mg/Kg	1	2	112	124	35.5 - 129

114-6400872

Work Order: 11042205 COG/Skelly 942

Page Number: 30 of 41 Eddy Co., NM

Matrix Spike (MS-1)

Spiked Sample: 264383

QC Batch:

80731

Date Analyzed:

2011-04-27

Analyzed By: ME

Prep Batch: 68516

QC Preparation: 2011-04-27

Prepared By: ME

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	15.6	mg/Kg	1	20.0	< 0.753	78	61.8 - 114

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	15.4	mg/Kg	1	20.0	< 0.753	77	61.8 - 114	1	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)	1	2.37	2.14	mg/Kg	1	2	118	107	50 - 162
4-Bromofluorobenzene (4-BFB)	1	2.23	2.10	mg/Kg	1	2	112	105	50 - 162

Matrix Spike (MS-1) Spiked Sample: 264455

QC Batch:

80739

Prep Batch: 68529

Date Analyzed:

2011-04-27

Prepared By: kg

Analyzed By: kg

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
DRO		1	233	mg/Kg	1	250	<15.7	93	11.7 - 152.3

QC Preparation: 2011-04-27

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}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	224	mg/Kg	1	250	<15.7	90	11.7 - 152.3	4	20

Comment		MS	MSD	TT '4	ויכו	Spike	MS	MSD	Rec.
Surrogate		Result	Result	\mathbf{Units}	Dil.	Amount	$\mathrm{Rec}.$	Rec.	\mathbf{Limit}
n-Tricosane	1	103	106	mg/Kg	1	100	103	106	70 - 130

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Matrix Spike (MS-1)

Spiked Sample: 263391

QC Batch: Prep Batch:

80811 68585 Date Analyzed:

2011-04-28

Analyzed By: ME

QC Preparation: 2011-04-28

Prepared By: ME

.	-	~	MS	TT	77.11	Spike	Matrix		Rec.
Param	F.	C	Result	$_{ m Units}$	Dil.	Amount	Result	Rec .	${f Limit}$
Benzene		1	1.87	mg/Kg	1	2.00	< 0.0118	94	80.5 - 112
Toluene		1	2.04	$_{ m mg/Kg}$	1	2.00	< 0.00600	102	82.4 - 113
Ethylbenzene		1	2.18	mg/Kg	1	2.00	< 0.00850	109	83.9 - 114
Xylene		1	6.59	mg/Kg	1	6.00	< 0.00613	110	84 - 114

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.98	mg/Kg	1	2.00	< 0.0118	99	80.5 - 112	6	20
Toluene		1	2.14	mg/Kg	1	2.00	< 0.00600	107	82.4 - 113	5	20
Ethylbenzene		1	2.31	mg/Kg	1	2.00	< 0.00850	116	83.9 - 114	6	20
Xylene		1	7.60	mg/Kg	1	6.00	< 0.00613	127	84 - 114	14	20

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

		MS	MSD			$_{ m Spike}$	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	\mathbf{Limit}
Trifluorotoluene (TFT)	1	2.23	2.50	mg/Kg	1	2	112	125	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1	2.65	3.04	mg/Kg	1	2	132	152	35.5 - 129

Matrix Spike (MS-1)

Spiked Sample: 264393

QC Batch:

80812

Date Analyzed:

2011-04-28

Analyzed By: ME

Prep Batch: 68585

QC Preparation: 2011-04-28

Prepared By:

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	4900	mg/Kg	50	1000	3580	132	61.8 - 114

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
GRO.		1.	5720	.mg/Kg	. 50 .	1000	. 3580 .	. 214.	61.8 - 114	15	20

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

 $continued \dots$

Report Date: May 5, 2011 114-6400872

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matrix spikes continued									
•		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	54.2	57.4	mg/Kg	50	50	108	115	50 - 162
4-Bromoffuorobenzene (4-BFB)	1	100	80.9	mg/Kg	50	50	200	162	50 - 162

Matrix Spike (MS-1) Spiked Sample: 264395

QC Batch: 80908 Prep Batch: 68670 Date Analyzed: 2011-05-03 QC Preparation: 2011-05-03 Analyzed By: kg Prepared By: kg

			MS			$_{ m Spike}$	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	690	mg/Kg	1	250	279	164	11.7 - 152.3

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}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	731	mg/Kg	1	250	279	181	11.7 - 152.3	6	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.	$_{ m Limit}$
n-Tricosane	1	170	161	mg/Kg	1	100	170	161	70 - 130

Matrix Spike (MS-1) Spiked Sample: 264395

QC Batch: 80945 Prep Batch: 68707 Date Analyzed: 2011-05-04 QC Preparation: 2011-05-04 Analyzed By: ME Prepared By: ME

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		١	10.4	mg/Kg	10	10.0	0.7887	96	80.5 - 112
Toluene		1	43.7	nıg/Kg	10	10.0	25.387	183	82.4 - 113
Ethylbenzene		1	46.4	mg/Kg	10	10.0	27.9864	184	83.9 - 114
Xylene		1	69.7	mg/Kg	10	30.0	30.1963	132	84 - 114

114-6400872

Ethylbenzene

Xylene

Work Order: 11042205 COG/Skelly 942

RPD MSD Spike Matrix Rec. Param \mathbf{F} С Result Units Dil. Amount Result Rec. Limit RPD Limit Benzene 9.64 mg/Kg 10 10.0 0.7887 88 80.5 - 112 8 20 Toluene 37.8 mg/Kg 10 10.0 25.387 124 82.4 - 113 14 20

10

10

10.0

30.0

27.9864

30.1963

152

122

83.9 - 114

84 - 114

mg/Kg

mg/Kg

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

43.2

66.7

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	11.3	11.0	mg/Kg	10	10	113	110	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1	20.3	19.4	mg/Kg	10	10	203	194	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 264394

QC Batch: Prep Batch: 68707

80946

Date Analyzed:

2011-05-04 QC Preparation: 2011-05-04 Analyzed By: ME

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7

Eddy Co., NM

20

20

Prepared By: ME

MS Spike Matrix Rec. Param F \mathbf{C} Result Units Dil. Amount Result Rec. Limit 61.8 - 114 GRO 3220 20 400 3215.2 mg/Kg 1

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}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	3320	mg/Kg	20	400	3215.2	1	61.8 - 114	3	20

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	20.8	23.0	mg/Kg	20	20	104	115	50 - 162
4-Bromofluorobenzene (4-BFB)	1	45.8	48.4	mg/Kg	20	20	229	242	50 - 162

114-6400872

Work Order: 11042205 COG/Skelly 942

Calibration Standards

Standard (CCV-2)

QC Batch: 80636

Date Analyzed: 2011-04-25

Analyzed By: ME

Page Number: 34 of 41

Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		ı	mg/Kg	0.100	0.0806	81	80 - 120	2011-04-25
Toluene		i	$_{ m mg/Kg}$	0.100	0.100	100	80 - 120	2011-04-25
Ethylbenzene		1	mg/Kg	0.100	0.105	105	80 - 120	2011-04-25
Xylene		1	mg/Kg	0.300	0.318	106	80 - 120	2011-04-25

Standard (CCV-3)

QC Batch: 80636

Date Analyzed: 2011-04-25

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0853	85	80 - 120	2011-04-25
Toluene		1	mg/Kg	0.100	0.105	105	80 - 120	2011-04-25
Ethylbenzene		1	$_{ m mg/Kg}$	0.100	0.109	109	80 - 120	2011-04-25
Xylene		1	mg/Kg	0.300	0.327	109	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80637

Date Analyzed: 2011-04-25

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	$_{ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
GRO	 	1	mg/Kg	1.00	0.898	90	80 - 120	2011-04-25

Standard (CCV-3)

QC Batch: 80637

Date Analyzed: 2011-04-25

Analyzed By: ME

114-6400872

Work Order: 11042205 COG/Skelly 942 Page Number: 35 of 41

Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.08	108	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80646

Date Analyzed: 2011-04-25

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	${ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	230	92	80 - 120	2011-04-25

Standard (CCV-3)

QC Batch: 80646

Date Analyzed: 2011-04-25

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	229	92	80 - 120	2011-04-25

Standard (ICV-1)

QC Batch: 80726

Date Analyzed: 2011-04-27

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2011-04-27

Standard (CCV-1)

QC Batch: 80726

Date Analyzed: 2011-04-27

Analyzed By: AR

114-6400872

Work Order: 11042205 COG/Skelly 942 Page Number: 36 of 41

Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride	- 2 200		mg/Kg	100	101	101	85 - 115	2011-04-27

Standard (CCV-1)

QC Batch: 80730

Date Analyzed: 2011-04-27

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/Kg	0.100	0.107	107	80 - 120	2011-04-27
Toluene		1	mg/Kg	0.100	0.108	108	80 - 120	2011-04-27
Ethylbenzene		i	mg/Kg	0.100	0.108	108	80 - 120	2011-04-27
Xylene		1	mg/Kg	0.300	0.328	109	80 - 120	2011-04-27

Standard (CCV-2)

QC Batch: 80730

Date Analyzed: 2011-04-27

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/Kg	0.100	0.103	103	80 - 120	2011-04-27
Toluene		j	mg/Kg	0.100	0.103	103	80 - 120	2011-04-27
Ethylbenzene		1	mg/Kg	0.100	0.102	102	80 - 120	2011-04-27
Xylene		11	mg/Kg	0.300	0.308	103	80 - 120	2011-04-27

Standard (CCV-1)

QC Batch: 80731

Date Analyzed: 2011-04-27

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	0.935	94	80 - 120	2011-04-27

Report Date: May 5, 2011 114-6400872

Work Order: 11042205 COG/Skelly 942 Page Number: 37 of 41 Eddy Co., NM

Standard (CCV-2)

QC Batch: 80731

Date Analyzed: 2011-04-27

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.01	101	80 - 120	2011-04-27

Standard (CCV-3)

QC Batch: 80739

Date Analyzed: 2011-04-27

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	274	110	80 - 120	2011-04-27

Standard (CCV-4)

QC Batch: 80739

Date Analyzed: 2011-04-27

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	277	111	80 - 120	2011-04-27

Standard (CCV-1)

QC Batch: 80811

Date Analyzed: 2011-04-28

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent		
				True	Found	Percent	Recovery	Date	
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		1	mg/Kg	0.100	0.105	105	80 - 120	2011-04-28	
Toluene		1	mg/Kg	0.100	0.109	109	80 - 120	2011-04-28	
Ethylbenzene		1	mg/Kg	0.100	0.111	111	80 - 120	2011-04-28	
Xylene		1	mg/Kg	0.300	0.338	113	80 - 120	2011-04-28	

114-6400872

Work Order: 11042205

Page Number: 38 of 41 COG/Skelly 942 Eddy Co., NM

Standard (CCV-2)

QC Batclı: 80811

Date Analyzed: 2011-04-28

Analyzed By: ME

		CCVs CC			CCVs	CCVs	Percent		
				True	Found	Percent	Recovery	Date	
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		1	mg/Kg	0.100	0.104	104	80 - 120	2011-04-28	
Toluene		i	mg/Kg	0.100	0.107	107	80 - 120	2011-04-28	
Ethylbenzene		i	mg/Kg	0.100	0.109	109	80 - 120	2011-04-28	
Xylene		1	mg/Kg	0.300	0.331	110	80 - 120	2011-04-28	

Standard (CCV-1)

QC Batch: 80812

Date Analyzed: 2011-04-28

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	Data
Danama	171	Clamb	T T : 4	True	Found	Percent	Recovery Limits	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	0.916	92	80 - 120	2011-04-28

Standard (CCV-2)

QC Batch: 80812

Date Analyzed: 2011-04-28

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				${f True}$	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.03	103	80 - 120	2011-04-28

Standard (CCV-1)

QC Batch: 80908

Date Analyzed: 2011-05-03

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	218	87	80 - 120	2011-05-03

114 - 6400872

Work Order: 11042205 COG/Skelly 942 Page Number: 39 of 41 Eddy Co., NM

Standard (CCV-2)

QC Batch: 80908

Date Analyzed: 2011-05-03

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	222	89	80 - 120	2011-05-03

Standard (CCV-1)

QC Batch: 80945

Date Analyzed: 2011-05-04

Analyzed By: ME

				$\frac{\text{CCVs}}{\text{True}}$	${ m CCVs}$ Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	Cert	${ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	, , , , , , , , , , , , , , , , , , , ,	1	mg/Kg	0.100	0.0912	91	80 - 120	2011-05-04
Toluene		1	mg/Kg	0.100	0.0980	98	80 - 120	2011-05-04
Ethylbenzene		ı	mg/Kg	0.100	0.102	102	80 - 120	2011-05-04
Xylene		1	mg/Kg	0.300	0.306	102	80 - 120	2011-05-04

Standard (CCV-2)

QC Batch: 80945

Date Analyzed: 2011-05-04

Analyzed By: ME

				CCVs	CCVs	CVs CCVs Percent			
				True	Found	Percent	Recovery	Date	
Param	Flag	Cert	$\mathbf{U}\mathbf{nits}$	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		1	mg/Kg	0.100	0.0903	90	80 - 120	2011-05-04	
Toluene		1	mg/Kg	0.100	0.0963	96	80 - 120	2011-05-04	
Ethylbenzene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-05-04	
Xylene		1	mg/Kg	0.300	0.301	100	80 - 120	2011-05-04	

Standard (CCV-1)

QC Batch: 80946

Date Analyzed: 2011-05-04

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	0.855	86	80 - 120	2011-05-04

Report Date: May 5, 2011 114-6400872

Work Order: 11042205

COG/Skelly 942

Page Number: 40 of 41 Eddy Co., NM

Standard (CCV-2)

QC Batch: 80946

Date Analyzed: 2011-05-04

Analyzed By: ME

				CCVs	CCVs	CCV_{S}	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.07	107	80 - 120	2011-05-04

Work Order: 11042205 Report Date: May 5, 2011

Page Number: 41 of 41

Eddy Co., NM

114-6400872 COG/Skelly 942

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
C	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

- Description
- Analyte detected in the corresponding method blank above the method detection
- Analyzed out of hold time
- 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.
- Qc Calibration check outside of laboratory limits.
- 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.

XWO #: 11042205

An	Analysis Request of Chain of Custody Record						1		PAGE: OF:																								
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CONTACT:																																	

Summary Report

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

Report Date: September 7, 2011

Page Number: 1 of 1

Work Order: 11090220

Project Location: Eddy Co., NM

Project Name: COG/Skelly Unit 942 Tank Battery

Project Number: 114-6400872

			Date	Time	Date	
Sample	Description	Matrix	Taken	Taken	Received	
276412	T-1 (Area of AH-2) 4.0' Bottom Hole	soil	2011-08-30	00:00	2011-09-02	

	BTEX							
	Benzene	Toluene	Ethylbenzene	Xylene				
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)				
276412 - T-1 (Area of AH-2) 4.0' Bottom Hole	< 0.0200	< 0.0200	< 0.0200	< 0.0200				



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 800 • 378 • 1296 888 • 588 • 3443

915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

817 • 201 • 5260

FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com

Certifications

HUB NCTRCA DBE NELAP DoD LELAP WBE Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: September 7, 2011

Work Order: 11090220

Project Location: Eddy Co., NM

Project Name:

COG/Skelly Unit 942 Tank Battery

Project Number:

114-6400872

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
276412	T-1 (Area of AH-2) 4.0' Bottom Hole	soil	2011-08-30	00.00	2011-09-02

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 9 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

Analytical Report 4 Sample 276412 (T-1 (Area of AH-2) 4.0' Bottom Hole) 4 Method Blanks 5 QC Batch 84489 - Method Blank (1) 5 Laboratory Control Spikes 6
QC Batch 84489 - Method Blank (1)
I sharetery Control Spikes
Laboratory Control Spikes
QC Batch 84489 - LCS (1)
QC Batch 84489 - MS (1)
Calibration Standards 8
QC Batch 84489 - CCV (2)
QC Batch 84489 - CCV (3)
Appendix 9
Laboratory Certifications
Standard Flags
Attachments

Case Narrative

Samples for project COG/Skelly Unit 942 Tank Battery were received by TraceAnalysis, Inc. on 2011-09-02 and assigned to work order 11090220. Samples for work order 11090220 were received intact at a temperature of 5.8 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
$\overline{\mathrm{BTEX}}$	S 8021B	71750	2011-09-04 at 16:18	84489	2011-09-05 at 10:30

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 11090220 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 7, 2011 114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 4 of 9 Eddy Co., NM

Analytical Report

Sample: 276412 - T-1 (Area of AH-2) 4.0' Bottom Hole

Laboratory: Midland

Analysis: BTEX QC Batch: 84489Prep Batch: 71750

Analytical Method: S 8021BDate Analyzed: Sample Preparation:

2011-09-05 2011-09-04 Prep Method: S 5035 Analyzed By: AGPrepared By: AG

RLFlag Result Parameter Cert Units Dilution RLBenzene < 0.0200 mg/Kg 1 0.0200 U Toluene 0.0200< 0.0200 mg/Kg 1 U mg/Kg Ethylbenzene 1 0.0200< 0.0200 \mathbf{u} Xylene < 0.0200 mg/Kg1 0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	${f Amount}$	Recovery	Limits
Trifluorotoluene (TFT)			2.23	mg/Kg	1	2.00	112	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.05	mg/Kg	1	2.00	102	70.6 - 179

Report Date: September 7, 2011

114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 5 of 9 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 84489

QC Batch: Prep Batch: 71750

84489

Date Analyzed: QC Preparation:

2011-09-05 2011-09-04 Analyzed By: AG

Prepared By: AG

MDLParameter Flag Cert Result Units RLBenzene < 0.0118 mg/Kg 0.02 mg/Kg0.02Toluene < 0.00600 mg/Kg Ethylbenzene < 0.008500.02Xylene < 0.00613 mg/Kg 0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	48.4 - 123.1

Report Date: September 7, 2011 114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 6 of 9 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

84489

Date Analyzed:

2011-09-05

Analyzed By: AG

Prep Batch: 71750

QC Preparation: 2011-09-04

Prepared By: AG

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	${f Amount}$	Result	Rec.	\mathbf{Limit}
Benzene		1	1.95	mg/Kg	1	2.00	< 0.0118	98	77.4 - 121.7
Toluene		1	1.93	mg/Kg	1	2.00	< 0.00600	96	88.6 - 121.6
Ethylbenzene		1	1.88	$_{ m mg/Kg}$	1	2.00	< 0.00850	94	74.3 - 117.9
Xylene		1	5.64	mg/Kg	1	6.00	< 0.00613	94	73.4 - 118.8

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.92	mg/Kg	1	2.00	< 0.0118	96	77.4 - 121.7	2	20
Toluene		1	1.91	mg/Kg	1	2.00	< 0.00600	96	88.6 - 121.6	1	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	< 0.00850	94	74.3 - 117.9	0	20
Xylene		1	5.64	mg/Kg	1	6.00	< 0.00613	94	73.4 - 118.8	0	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.89	1.88	mg/Kg	1	2.00	94	94	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.90	1.83	mg/Kg	1	2.00	95	92	56.2 - 132.1

Matrix Spike (MS-1) Spiked Sample: 275973

QC Batch: 84489 Prep Batch: 71750 Date Analyzed: 2011-09-05 QC Preparation: 2011-09-04 Analyzed By: AG Prepared By: AG

			MS			Spike	Matrix		Rec.
Param	F	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.98	mg/Kg	1 .	2.00	< 0.0118	99.	69.4 - 123.6
Toluene		1	2.04	mg/Kg	1	2.00	< 0.00600	102	75.4 - 134.3
Ethylbenzene		1	2.12	mg/Kg	1	2.00	< 0.00850	106	58.8 - 133.7
Xylene		1	6.31	mg/Kg	1	6.00	< 0.00613	105	57 - 134.2

Report Date: September 7, 2011 114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 7 of 9 Eddy Co., NM

Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.05	mg/Kg	1	2.00	< 0.0118	102	69.4 - 123.6	4	20
Toluene		1	2.11	mg/Kg	1	2.00	< 0.00600	106	75.4 - 134.3	3	20
Ethylbenzene		1	2.20	mg/Kg	1	2.00	< 0.00850	110	58.8 - 133.7	4	20
Xylene		1	6.56	mg/Kg	1	6.00	< 0.00613	109	57 - 134.2	4	20

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.12	2.16	mg/Kg	1	2	106	108	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.07	2.12	mg/Kg	1	2	104	106	71 - 167

Report Date: September 7, 2011 114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 8 of 9 Eddy Co., NM

Calibration Standards

Standard (CCV-2)

QC Batch: 84489

Date Analyzed: 2011-09-05

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0965	96	80 - 120	2011-09-05
Toluene		i	mg/Kg	0.100	0.0953	95	80 - 120	2011-09-05
Ethylbenzene		1	mg/Kg	0.100	0.0928	93	80 - 120	2011-09-05
Xylene		1	mg/Kg	0.300	0.275	92	80 - 120	2011-09-05

Standard (CCV-3)

QC Batch: 84489

Date Analyzed: 2011-09-05

Analyzed By: AG

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/Kg	0.100	0.0967	97	80 - 120	2011-09-05
Toluene		1	mg/Kg	0.100	0.0958	96	80 - 120	2011-09-05
Ethylbenzene		1	mg/Kg	0.100	0.0924	92	80 - 120	2011-09-05
Xylene		1	mg/Kg	0.300	0.276	92	80 - 120	2011-09-05

Report Date: September 7, 2011 114-6400872

Work Order: 11090220 COG/Skelly Unit 942 Tank Battery Page Number: 9 of 9 Eddy Co., NM

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- 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.
- Qc Calibration check outside of laboratory limits.
- 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.

x wo #: 11090220

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TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946			05 (Ext. to C35)	Cd Cr Pb Hg Se									TDS		
CLIENT NAME: SITE MANAGER:	PRESERVATI		TX1005	8 8	1		0/624	8270/625					S, PH,		
(OG Operations LLC I Ke Tavarez PROJECT NO.: PROJECT NAME: 14-640 0872 Skelly Voit 942 Tank Battery LABID. Eddy (ounty, Nm)	(Y/N)		5 MOD.	als Ag As	illes	Volatiles	. 8240/826	mi. Vol. 82	308 308	Jac.	(Air)	stos)	ns/Cation		
NUMBER DATE TIME HE WOOD SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS FILTERED (Y/N) HCL HNO3 ICE OPHERS NONE	BTEX 8021B	TPH 8015 PAH 8270	RCRA Metals Ag	TCLP Voiatiles	TCLP Semi Volatiles	GC.MS Vol. 8240/8260/624	GC.MS Semi, Vol. 8	PCB's 8080/60 Pest. 808/808	Chloride Gamma St	Alpha Beta (Air)	PLM (Asbestos)	Major Anlons/Cations, pH, TDS		
276412 930/11 S /T-1 (All-2) 4.0'80400 Hole	1													\prod	
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Report Date: September 14, 2011 Work Order: 11090219 Page Number: 1 of 2

Summary Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705

Report Date: September 14, 2011

Work Order: 11090219

Project Location: Eddy Co., NM

Project Name:

COG/Skelly Unit 942 Tank Battery

Project Number: 114-6400872

			Date	Time	Date
Sample	Description	${f Matrix}$	Taken	Taken	Received
276406	CS-1 North Wall	soil	2011-08-30	00:00	2011-09-02
276407	CS-1 South Wall	soil	2011-08-30	00:00	2011-09-02
276408	CS-1 West Wall	soil	2011-08-30	00:00	2011-09-02
276409	CS-2 South Wall	soil	2011-08-30	00:00	2011-09-02
276410	CS-2 North Wall	soil	2011-08-30	00:00	2011-09-02
276411	CS-2 East Wall	soil	2011-08-30	00:00	2011-09-02

Sample: 276406 - CS-1 North Wall

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 276407 - CS-1 South Wall

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 276408 - CS-1 West Wall

Param	Flag	Result	Units	RL
Chloride		1570	mg/Kg	4

Report Date: Sept	te: September 14, 2011 Work Order: 11090219		Pa	Page Number: 2 of 2		
Sample: 276409	- CS-2 South Wall					
Param	Flag	Result	Units	RL		
Chloride		393	mg/Kg	4		
Sample: 276410	- CS-2 North Wall					
Param	Flag	Result	Units	RL		
Chloride		565	mg/Kg	4		
Sample: 276411	- CS-2 East Wall					
Param	Flag	Result	Units	RL		
Chloride		<200	mg/Kg	4		



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

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

Report Date: September 14, 2011

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

E-Mail: lab@traceanalysis.com

Certifications

NELAP DoD LELAP Kansas Oklahoma ISO 17025 WBE HUB NCTRCA DBE

Analytical and Quality Control Report

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

Work Order: 11090219

Project Location: Eddy Co., NM

Project Name:

COG/Skelly Unit 942 Tank Battery

Project Number: 114-6400872

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

			Date	Time	$_{ m Date}$
Sample	Description	Matrix	Taken	Taken	Received
276406	CS-1 North Wall	soil	2011-08-30	00:00	2011-09-02
276407	CS-1 South Wall	soil	2011-08-30	00:00	2011-09-02
276408	CS-1 West Wall	soil	2011-08-30	00:00	2011-09-02
276409	CS-2 South Wall	soil	2011-08-30	00:00	2011-09-02
276410	CS-2 North Wall	soil	2011-08-30	00:00	2011-09-02
276411	CS-2 East Wall	soil	2011-08-30	00:00	2011-09-02

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

Michael april

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

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Sample 276410 (CS-2 North Wall)	
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Case Narrative

Samples for project COG/Skelly Unit 942 Tank Battery were received by TraceAnalysis, Inc. on 2011-09-02 and assigned to work order 11090219. Samples for work order 11090219 were received intact at a temperature of 5.8 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	71786	2011-09-07 at 09:50	84674	2011-09-13 at 16:24
Chloride (Titration)	SM 4500-Cl B	71786	2011-09-07 at 09:50	84675	2011-09-13 at 16:24

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 11090219 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.

Page Number: 5 of 11 Work Order: 11090219 Report Date: September 14, 2011 Eddy Co., NM 114-6400872 COG/Skelly Unit 942 Tank Battery

Analytical Report

Sample: 276406 - CS-1 North Wall

Midland Laboratory:

Chloride (Titration) Analysis:

QC Batch: 84674 Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-09-13

Prep Method: N/A AR Analyzed By:

Prep Batch: 71786

Sample Preparation: 2011-09-07 Prepared By: AR.

RL

Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	υ		< 200	mg/Kg	50	4.00

Sample: 276407 - CS-1 South Wall

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 84674 Prep Batch: 71786 Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-09-13 Sample Preparation: 2011-09-07

Prep Method: N/A Analyzed By: AR

Prepared By:

AR.

RLFlag Parameter Result Units Dilution RLCert Chloride <200 mg/Kg 50 4.00

Sample: 276408 - CS-1 West Wall

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 84675

Prep Batch: 71786

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2011-09-13 2011-09-07

Prep Method: N/A Analyzed By: ARPrepared By: AR

RLParameter Flag Cert Result Units Dilution RLChloride 1570 50 4.00 mg/Kg

Report Date 114-6400872	e: September 14, 2011			ork Order: 11090219 Page Number: Eddy Unit 942 Tank Battery Eddy Co		
Sample: 27	6409 - CS-2 South Wall					
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 84675 71786	Date Aı	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2011-09-13 2011-09-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR
			RL			
Parameter Chloride	Flag	Cert	Result 393	Units mg/Kg	Dilution 50	RL 4.00
Sample: 27	6410 - CS-2 North Wall					
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 84675 71786	Date Ar	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2011-09-13 2011-09-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR
			RL			
Parameter Chloride	Flag	Cert	Result 565	Units mg/Kg	Dilution 50	RL 4.00
Sample: 27	6411 - CS-2 East Wall					
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 84675 71786	Date Ar	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2011-09-13 2011-09-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	1 198	Cert	<200	mg/Kg	50	4.00

Report Date: September 14, 2011 114-6400872

Work Order: 11090219 COG/Skelly Unit 942 Tank Battery Page Number: 7 of 11 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 84674

QC Batch: 84674 Date Analyzed: 2011-09-13 Analyzed By: AR

Prep Batch: 71786

QC Preparation: 2011-09-07

Prepared By: AR.

MDL

Parameter Flag Cert Result Units RL $\overline{\text{Chloride}}$ < 3.85 mg/Kg 4

Method Blank (1)

QC Batch: 84675

QC Batch: 84675 Date Analyzed: 2011-09-13 Analyzed By: AR

Prep Batch: 71786

2011-09-07 QC Preparation:

Prepared By:

MDL

Units Parameter Flag Cert Result RLChloride < 3.85 mg/Kg 4

Report Date: September 14, 2011 114-6400872

Work Order: 11090219 COG/Skelly Unit 942 Tank Battery Page Number: 8 of 11 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

84674

Date Analyzed:

2011-09-13

Analyzed By: AR.

Prep Batch: 71786

QC Preparation: 2011-09-07

Prepared By: AR.

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			97.3	mg/Kg	1	100	< 3.85	97	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	7	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:

84675

Date Analyzed:

2011-09-13

Analyzed By: AR

Prep Batch: 71786

QC Preparation: 2011-09-07

Prepared By: AR.

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	$_{ m Units}$	Dil.	Amount	Result	Rec.	Limit
Chloride			97.3	mg/Kg	1	100	<3.85	97	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			106	mg/Kg	1	100	< 3.85	106	85 - 115	9	20

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

Matrix Spike (MS-1)

OC Batch: 84674 Prep Batch: 71786 Spiked Sample: 276407

Date Analyzed: 2011-09-13 QC Preparation: 2011-09-07 Analyzed By: AR Prepared By: AR Report Date: September 14, 2011

Work Order: 11090219 COG/Skelly Unit 942 Tank Battery Page Number: 9 of 11 Eddy Co., NM

114-6400872

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			10500	mg/Kg	100	10000	<385	105	79.4 - 120.6

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

			MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			11200	mg/Kg	100	10000	<385	112	79.4 - 120.6	6	20

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

Matrix Spike (MS-1)

Spiked Sample: 276411

QC Batch:

84675

Date Analyzed:

2011-09-13

Analyzed By: AR

Prep Batch: 71786

Prepared By: AR

QC Preparation: 2011-09-07

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			10400	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			11300	mg/Kg	100	10000	<385	111	79.4 - 120.6	8	20

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

Report Date: September 14, 2011 114-6400872

Work Order: 11090219 COG/Skelly Unit 942 Tank Battery Page Number: 10 of 11 Eddy Co., NM

Calibration Standards

Standard (ICV-I)	(ICV-1)	Standard
------------------	---------	----------

QC Batch: 84674

Date Analyzed: 2011-09-13

Analyzed By: AR.

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-09-13

Standard (CCV-1)

QC Batch: 84674

Date Analyzed: 2011-09-13

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2011-09-13

Standard (ICV-1)

QC Batch: 84675

Date Analyzed: 2011-09-13

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.4	99	85 - 115	2011-09-13

Standard (CCV-1)

QC Batch: 84675

Date Analyzed: 2011-09-13

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-09-13

Report Date: September 14, 2011 Work Order: 11090219 114-6400872 COG/Skelly Unit 942 Tank Battery Page Number: 11 of 11

Eddy Co., NM

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- 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.
- Qc Calibration check outside of laboratory limits.
- 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.

່ ໄພຈ #∶∖ໄວງວລເງ Analysis Request of Chain of Custody Record PAGE: OF: ANALYSIS REQUEST (Circle or Specify Method No.) TETRA TECH to C35) S S 1910 N. Big Spring St. 운 모 Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 GC.MS Semi. Vol. 8270/625 CLIENT NAME: GC.MS Vol. 8240/8260/624 SITE MANAGER: **PRESERVATIVE** COG Operating LLC **METHOD** Ike Tavarez RCRA Metals Ag As TCLP Metals Ag As TCLP Semi Volatiles PROJECT NO .: PROJECT NAME: PCB's 8080/608 Pest. 808/608 Chloride Skelly Unit 942 Tank Battery Edder au Nout NUMBER OF CON FILTERED (Y/N) 114-640 0872 Alpha Beta (Air) Gamma Spec. TCLP Volatile BTEX 8021B MATRIX COMP. LAB I.D. SAMPLE IDENTIFICATION ICE NONE DATE TIME HN03 GRAB NUMBER 호 1276406 8/3911 North Wall 457 83911 408 | 8130/11 409 18/30/11 18/30/11 410 8/30/11 RELINOUSHED/BY: (Signature) Date: SAMPLED BY: (Print & Initial) Date: 50 P.M Time: RELINQUISHED BY: (Signature) Date: SAMPLE SHIPPED BY: (Circle) AIRBILL #: FEDEX Time. OTHER: HAND DELIVERED UPS RELINQUISHED BY: (Signature) RECEIVED BY: (Signature) TETRA TECH CONTACT PERSON: Results by: RECEIVING LABORATORY: RECEIVED BY: (Signature) 1Kt laware RUSH Charges ADDRESS:

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

TIME:

CONTACT:

SAMPLE CONDITION WHEN RECEIVED:

PHONE:

REMARKS:

DATE:

Authorized: