

# Highlander Environmental Corp.

Midland, Texas

August 10, 2007

20#1391

Mr. Larry Johnson **Environmental Engineer Specialist** Oil Conservation Division- District I 1625 N. French Drive Hobbs, New Mexico 88240

# Assessment and Closure Report for the Cimarex Energy Company of Colorado (Gruy), Re: Cooper 49 SWD, Located in Unit Letter C, Section 4, Township 20 South, Range 37 East, Lea County, New Mexico. 30.015 55 194

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Cimarex Energy Company of Colorado (Cimarex) to investigate a spill at the Cooper 4-1 SWD (Site) located in Unit Letter C, Section 4, Township 20 South, Range 37 East, Lea County, New Mexico. The Site is shown on Figure 1.

# Background

The spill occurred on February 12, 2007, when the gun barrel leg plugged, causing the tank to overflow and spilled approximately 43 barrels of oil and produced water. A total of 43 barrels was recovered with a vacuum truck. The spill ran east on and off the tank battery pad. Copies of the New Mexico Oil Conservation Division (NMOCD) Forms C-141 (Initial and Final) are included in Appendix C. The spill area is shown on Figure 2.

# **Groundwater and Regulatory**

According to the New Mexico Office of the State Engineer, WATERS database, the reported average depth to groundwater in Sections 4 and 5, T-20-S, R-37-E is 22' and 38', respectively. In T-19-S, R-37-E, the reported depths to groundwater is 29' (Section 32), 32' (Section 33) and 22 (Section 34.) The State of New Mexico Well Reports are included in Appendix A.

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 mg/kg and 50 mg/kg for total BTEX (sum of benzene, toluene, ethylbenzene and xylene). Based upon the apparent regional depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

# Assessment

On February 28, 2007, Highlander personnel inspected the facility. A total of five (5) auger holes (AH) were installed in the spill area. One auger hole (AH-5) was installed on the tank battery pad and advanced to a depth of 5.5' below surface. This area of the spill measured approximately 10'x 30'. The remaining auger holes (AH-1, AH-2, AH-3 and AH-4) were placed off the tank battery pad in areas where the water and oil had runoff, which measured approximately 25' x 120'. Prior to sampling, the area off the pad had been excavated to a depth of approximately 8" and stockpiled onsite on plastic. Selected samples were analyzed for TPH by method EPA 8015 Modified, BTEX by method 8021B and chloride by method EPA 300.0. The sample locations are shown on Figure 2. The results of the sampling are summarized in Table 1.

Referring to Table 1, no impact was noted in AH-1. The TPH concentrations in the samples from 0-1' from all AH-2, AH-3, AH-4 and AH-5 were above the RRAL of 100 mg/kg. The deeper samples at 1-1.5' were all below the TPH RRAL. Two (2) samples (AH-4 and AH-5) with the highest TPH were selected for BTEX analyses. AH-5 exceeded the total BTEX RRAL at 0-1', but decreased below the RRAL at 1-1.5' below surface. Elevated chloride concentrations were detected in the AH-5, showing declining concentrations with depth from a high of 3,960 mg/kg (1-1.5') to 217 mg/kg (5-5.5') below surface.

# **Remediation Activities**

Based on the results, the area of AH-5 was excavated to a depth of 7.0' below surface. The remaining areas of (AH-2, AH-3 and AH-4) were also excavated to a depth of 1.0' to 1.5' below surface. On June 14, 2007, Highlander collected confirmation samples and stockpile samples. The four sample points (SP-1 through SP-4) were all below the RRAL for TPH and below 250 mg/kg chlorides. The sample points are shown on Figure 3. The results of sampling are summarized in Table 2. Copies of the laboratory reports are included in Appendix B.

# Conclusion

Based on the analytical data, the hydrocarbon and chloride impact at the Site has been removed below the RRAL. The excavation will be backfilled with clean fill material. The excavated soil (stockpiles) will be hauled to proper disposal. Based upon the work performed and results of sampling, Cimarex requests closure of this site.

If you have any question or comments concerning the assessment activities performed or work plan at the Site, please call me at (432) 682-4559.

Respectfully submitted. Highlander Environmental Corp.

Timothy M. Reed, P.G. Vice President

cc:

Evan Wauhob - Cimarex Bob Jennings - Cimarex

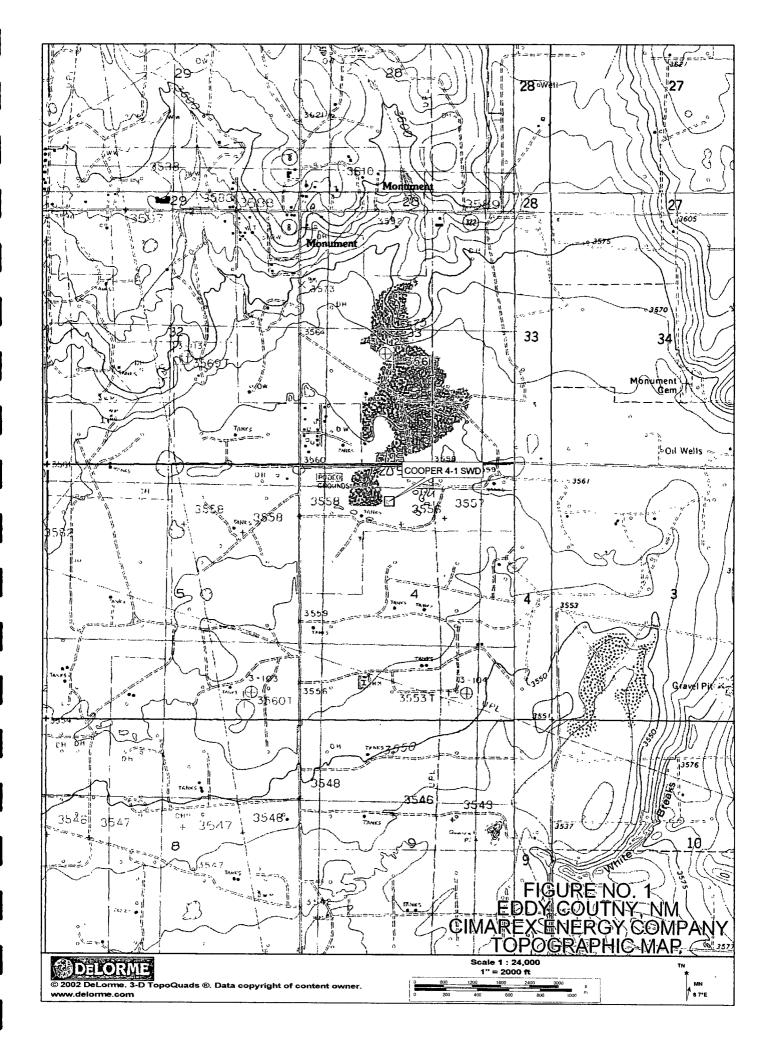


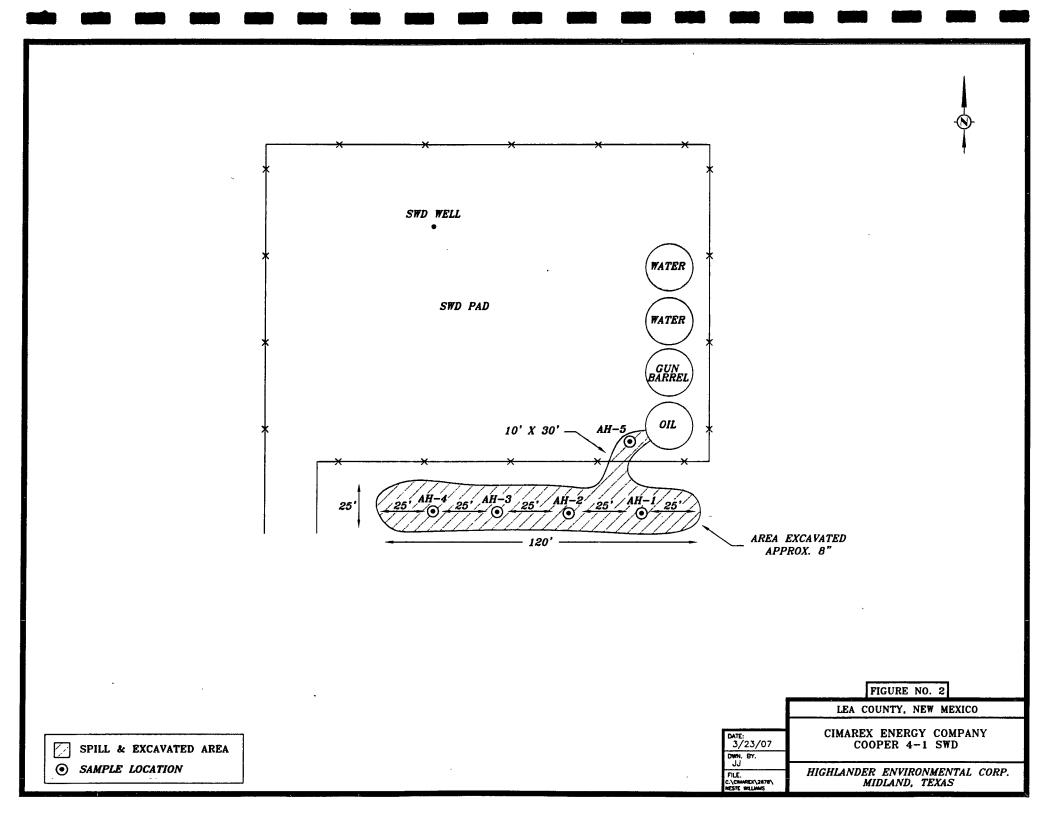
# SITE INFORMATION

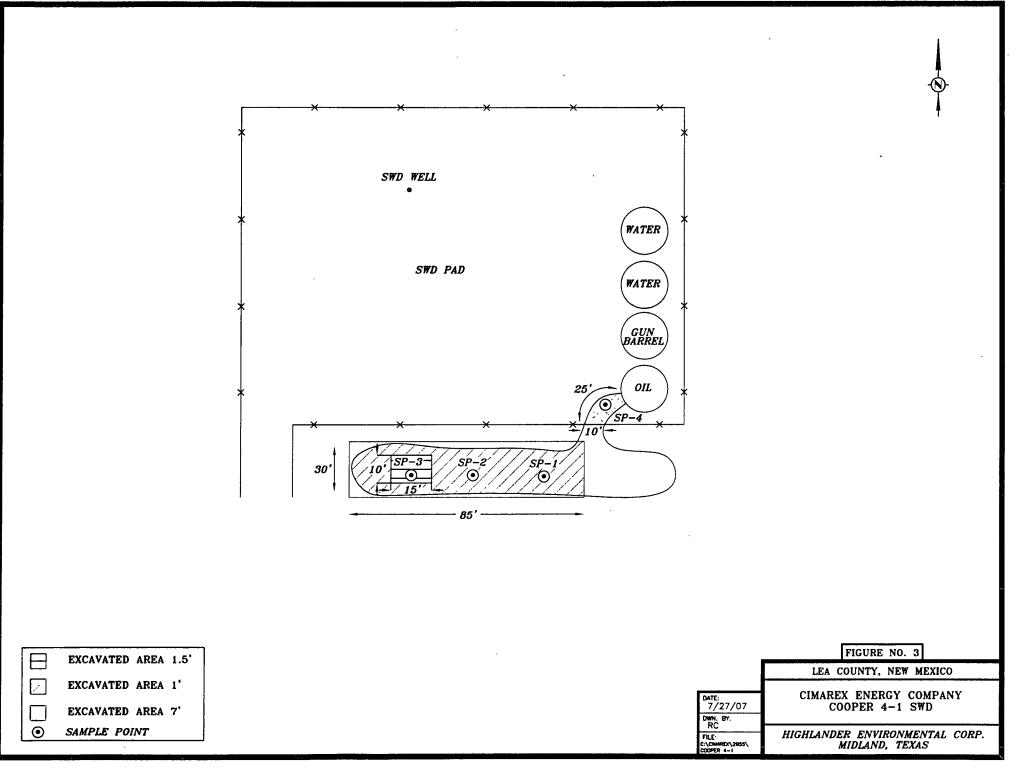
REPORT TYPE: Closure Report Report Date: August 10, 2007

General Sile Information:       Cooper 4-1 SWD         Company:       Cimarex Energy Company         Section, Township and Range Section 4, T20S, R37E       Unit Letter:         County:       Lease Number:         County:       Lease Number:         GPS:       32° 36'.447'', 103'' 57'.539''         Surface Owner:       Jimmy Cooper         Mineral Owner:       Dimmy Cooper         Directions:       From Monument, New Mexico go 1.2 miles south on 18, turn left (east) into lease and go 0.3 miles, turn left (north) go 1.0 miles to facility.         Date Released:       2/12/2007         Type Released:       2/12/2007         Type Released:       2/12/2007         Type Released:       2/12/2007         Type Released:       43 barrels         Fluid Released:       43 barrels         Fluid Released:       43 barrels         Fluid Released:       1910 Nags pring         Floor number:       Company:         Company:       Cimarex (Gruy)         Cimarex Reney Company       Hiphlander Environmental Corp.         Address:       568 W. Watl St. Suite 600       300 Texas Ave.         Floor number:       [505) 571-7800       [505) 394-6617       [432 682-9456]         Fax:       (505) 571-7800			Report	t Date: August 1	0, 2007	
Site:       Cooper 4-1 SWD         Company:       Cimares Energy Company         Section, Township and Range       Section 4, T20S, R37E         Jnit Leiter:       C         cases Number:       -         Country:       Lea         SPS:       32° 36' 447', 103° 57' 539"         Surface Owner:       Jimmy Cooper         Jimetel Owner:       -         Directions:       From Monument, New Mexico go 1.2 miles south on 18, turn left (east) into lease and         Directions:       go 0.3 miles, turn left (north) go 1.0 miles to facility.         Surface Outer:       -         go 0.3 miles, turn left (north) go 1.0 miles to facility.         Sate Release:       Oil and produced water         Source of Contamination:       SWD - Lank overflow         Tuid Released:       43 barrels         Fluids Recovered:       43 barrels         Organy:       Cimarex (Gruy)         Cimarex (Gruy)       Cimarex Energy Company         Yer       Highlander Environmental Corp.         Address:       S08 W. Wall St. Suite 600       300 reas Ave.         One number:       (505) 571-7800       (505) 384-0617       (432) 682-394         City:       Midland, Texas       Eunice. New Mexico       Midland, Texas <th>eneral Site Info</th> <th>ormation:</th> <th></th> <th></th> <th></th> <th></th>	eneral Site Info	ormation:				
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Official@Communication         Hugo Naegele         Ike Tavarez           Name:         Evans Wauhob         Hugo Naegele         Ike Tavarez           Company:         Cimarex (Gruy)         Cimarex Energy Company         Highlander Environmental Corp.           Address:         508 W. Wall St. Suite 600         300 Texas Ave.         1910 N. Big Spring           P.O. Box         P.O. Box 1237         Image: Company         Image: Company           City:         Midland, Texas         Eunice, New Mexico         Midland, Texas           Phone number:         (505) 571-7830         (505) 394-0613         (432) 692-4559           Fax:         (505) 571-7832         (505) 394-0613         (432) 682-3946           Email:         ewauhob@cimarex.com         Inaegele@cimarex.com         Itavarez@hec-enviro.com           Ranking:Criteria         Evance         Ste Data         50.671         20         Average Depth <50 BS	luid Released:	````	43 barrels			
OfficialECommunication         Hugo Naegele         Ike Tavarez           Name:         Evans Wauhob         Hugo Naegele         Ike Tavarez           Company:         Cimarex (Gruy)         Cimarex Energy Company         Highlander Environmental Corp.           Address:         508 W. Wall St. Suite 600         300 Texas Ave.         1910 N. Big Spring           P.O. Box         P.O. Box 1237         Image: City:         Midland, Texas           Phone number:         (505) 571-7800         (505) 394-0617         (432) 692-4559           Fax:         (505) 571-7832         (505) 394-0613         (432) 682-3946           Email:         ewauhob@cimarex.com         hnaegele@cimarex.com         itavarez@hec-enviro.com           Ranking:Critenia         file Data         600         Stite Data         500 91 ft           >100 ft.         0         0         Stite Data         500 95           Valided Protection:         Ranking Score         Site Data         Site Data           Water Source <1,000 ft., Private <200 ft.	Juids Recovered	1:	43 barrels		· · · · · · · · · · · · · · · · · · ·	nnen (
Name:         Evans Wauhob.         Hugo Naegele         Ike Tavarez           Company:         Cimarex (Gruy)         Cimarex Energy Company         Highlander Environmental Corp.           Address:         508 W. Wall St. Suite 600         300 Texas Ave.         1910 N. Big Spring           P.O. Box         P.O. Box         1910 N. Big Spring         20           City:         Midland, Texas         Eunice, New Mexico         Midland, Texas           Phone number:         (505) 571-7800         (505) 394-0617         (432) 682-3946           Fax:         (505) 571-7832         (505) 394-0613         (432) 682-3946           Email:         ewauhob@cimarex.com         Inaegele@cimarex.com         Itavarez@hec-enviro.com           RankingsCriteria         ewauhob@cimarex.com         Itavarez@chec-enviro.com           RankingsCriteria         20         Average Depth <50 BS						
Name:         Evans Wauhob.         Hugo Naegele         Ike Tavarez           Company:         Cimarex (Gruy)         Cimarex Energy Company         Highlander Environmental Corp.           Address:         508 W. Wall St. Suite 600         300 Texas Ave.         1910 N. Big Spring           P.O. Box         P.O. Box         1910 N. Big Spring         2000 Texas Ave.         1910 N. Big Spring           City:         Midland, Texas         Eunice, New Mexico         Midland, Texas         2000 Texas Ave.         1910 N. Big Spring           P.O. Box         (505) 571-7800         (505) 394-0617         (432) 682-4959         2000 Texas         2002 Ats259         2000 Texas         200 Texas <t< td=""><td>Micial Commu</td><td>nication</td><td>and the second states and as</td><td>A MARKEN AND A MARKEN STORE</td><td>sp 7</td><td></td></t<>	Micial Commu	nication	and the second states and as	A MARKEN AND A MARKEN STORE	sp 7	
Company:         Cimarex (Gruy)         Cimarex Energy Company         Highlander Environmental Corp.           Address:         508 W. Wall St. Suite 600         300 Texas Ave.         1910 N. Big Spring           P.O. Box         P.O. Box 1237         City:         Midland, Texas           Phone number:         (505) 571-7800         (505) 394-0617         (432) 692-4559           Fax:         (505) 571-7832         (505) 394-0613         (432) 682-3946           Email:         ewauhob@cimarex.com         Inaegele@cimarex.com         Itavarez@hec-enviro.com           RankingsCriteria         20         Average Depth <50 BS						
Address:       508 W. Wall St. Suite 600       300 Texas Ave.       1910 N. Big Spring         P.O. Box       P.O. Box 1237       Intervention of the second se		and the second s			npanv	
P.O. Box       P.O. Box 1237       Nidland, Texas         City:       Midland, Texas       Eunice, New Mexico       Midland, Texas         Phone number:       (505) 571-7800       (505) 394-0617       (432) 682-3946         Fax:       (505) 571-7832       (505) 394-0613       (432) 682-3946         Email:       ewauhob@cimarex.com       hnaegele@cimarex.com       itavarez@hec-enviro.com         Ranking:       ewauhob@cimarex.com       hnaegele@cimarex.com       itavarez@hec-enviro.com         Ranking:       ewauhob@cimarex.com       hnaegele@cimarex.com       itavarez@hec-enviro.com         Ranking:       20       Average Depth <50 BS						
City:         Midland, Texas         Eunice, New Mexico         Midland, Texas           Phone number:         (505) 571-7800         (505) 394-0617         (432) 692-4559           Fax:         (505) 571-7832         (505) 394-0613         (432) 682-3946           Email:         ewauhob@cimarex.com         hnaeqele@cimarex.com         itavarez@hec-enviro.com           Ranking/Eniteria         ewauhob@cimarex.com         hnaeqele@cimarex.com         itavarez@hec-enviro.com           Ranking/Eniteria         20         Average Depth < 50 BS		1000 FT. FTail C		and the second sec		
Phone number:       (505) 571-7800       (505) 394-0617       (432) 692-4559         Fax:       (505) 571-7832       (505) 394-0613       (432) 682-3946         Email:       ewauhob@cimarex.com       itavarez@hec-enviro.com         RankingsEritenia       ewauhob@cimarex.com       itavarez@hec-enviro.com         RankingsEritenia       20       Average Depth <50 BS	the second s	Midland Teva	e			Midland Toxas
Fax:       (505) 571-7832       (505) 394-0613       (432) 682-3946         Email:       ewauhob@cimarex.com       itavarez@hec-enviro.com         Ranking:Criteria       ewauhob@cimarex.com       itavarez@hec-enviro.com         Bepth to Groundwater:       Ranking Score       Site Data         <50 ft						
Email:       ewauhob@cimarex.com       hnaegele@cimarex.com       itavarez@hec-enviro.com         Ranking:Critteria       Ranking Score       Site Data         >So ft       20       Average Depth <50 BS	and the second					
Ranking/Eniteria         Ranking Score         Site Data           <50 ft					V OOM	
50-99 ft       10         >100 ft.       0         WellHead Protection:       Ranking Score       Site Data         Water Source <1,000 ft., Private <200 ft.       20       None         Water Source >1,000 ft., Private >200 ft.       0       0         Surface Body of Water:       20       None         <200 ft.       20       None         200 ft.       10       None         200 ft.       10       None         >1,000 ft.       0       10         Total Ranking Score:       20       20		vater:				
>100 ft.       0         WellHead Protection:       Ranking Score       Site Data         Water Source <1,000 ft., Private <200 ft.						Average Depth <50 BS
WellHead Protection:         Ranking Score         Site Data           Water Source <1,000 ft., Private <200 ft.						
Water Source         <1,000 ft., Private         200         None           Water Source         >1,000 ft., Private         200         None         3           Surface Body of Water:         Ranking Score         Site Data           <200 ft.	100 ft.			0		
Water Source         <1,000 ft., Private         200         None         3           Water Source         >1,000 ft., Private         200 ft.         0         3         <				<u> </u>		
Water Source >1,000 ft., Private >200 ft.         0           Surface Body of Water:         Ranking Score         Site Data           <200 ft.						
Surface Body of Water:         Ranking Score         Site Data           <200 ft.						None
200 ft.         20         None           200 ft.         10         None           1,000 ft.         0         0	Vater Source >1,0	000 ft., Private >.	200 ft	0		11-11-11-11-11-11-11-11-11-11-11-11-11-
200 ft.         20         None           200 ft.         10         None           1,000 ft.         0         0						- · · ·
200 ft - 1,000 ft.         10         None           1,000 ft.         0         0           Total Ranking Score:         20		Vater:				
1,000 ft.     0       Total Ranking Score:       20						None
Total Ranking Score: 20						None
	1,000 ft.			0		
Acceptable Soil RRAL (mg/kg) 34 Benzene Total BTEX TPH 10 50 100	Tota	I Ranking Sco	ore:	20		
Benzene     Total BTEX     TPH       10     50     100						_
Benzene Total BTEX TPH 10 50 100 50 50 50 50 50 50 50 50 50 50 50 50 5			Accepta	ble Soil RRAL (mg	/kg)	
			Benzene			14,15161/ 7870.
			10	50	100	
(Construction of the second se						

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# Table 1 Cimarex Energy - Cooper 4-1 SWD Lea County, New Mexico

Sample	Date	Sample		TPH (mg/kg	<u>g)</u>	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled	Depth (ft)	DRO	GRO	Total .	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
 AH-1	2/28/2007	0-1	<50.0	3.39	3.39			-	<u> </u>	21.6
		1-1.5	-	-			-			17.7
 AH-2	2/28/2007	0-1	<50.0	164	164	-	-	-		116
		1-1.5	<50.0	<1.0	<50.0			-		23.4
AH-3	2/28/2007	0-1	88.5	335	423.5	-	-	-		104
		1-1.5	<50.0	. <1.0	<50.0		-	- (		12.8
<u>A</u> H-4	2/28/2007	0-1	553	428	981	< 0.05	0.757	1.49	5.53	680 ·
		1-1.5	<50.0	1.16	1.16	-		-		40.7 .
AH-5	2/28/2007	0-1	1,590	1,370	2,960	9.39	139	76.2	368	2,350
		1-1.5	<50.0	11.7	11.7	<0.01	< 0.01	< 0.01	0.0452	3,960
		2-2.5		-	_	-		-		2,090
······		3-3.5	-	-	_		-	-	<u> </u>	2,340
		4-4.5	-	-	-		-			1,050
		5-5.5	-	-	_	-		-		217
Stockpile (east)	2/28/2007	composite	3,980	2,000	5,980	-		-		2,950
Stockpile (west)	2/28/2007	composite	4,230	728	4,958		**	-		4,090

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# Table 2 Cimarex Energy - Cooper 4-1 SWD Lea County, New Mexico

Sample	Date	Sample		TPH (mg/kg	g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled	Depth (ft)	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg) '	(mg/kg)	(mg/kg)
SP#1 0-1.0' BEB	6/14/2007	1.0'	<50.0	1.51	1.51	<0.0100	<0.0100	<0.0100	<0.0100	93.4
SP#2 0-1.0' BEB	6/14/2007	1.0'	<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	147
SP#3 0-1.0' BEB	6/14/2007	1.5'	<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	95.8
SP#4 0-1.0' BEB	6/14/2007	7.0'	<50.0	19.4	19.4	<0.0100	<0.0100	0.127	0.132	103
Stockpile Pasture #1	6/14/2007	Composite	682	26.5	708.5	-		-	-	1 <b>,52</b> 0
Stockpile Pasture #2	6/14/2007	Composite	1,270	38.1	1,308.1	-		-		1,250
Stockpile Pad #1	6/14/2007	Composite	503	14.2	517.2	-		-	-	785
Stockpile Pad #2	6/14/2007	Composite	50.1	11.5	61.6			-		636
Stockpile Pad #3	6/14/2007	Composite	161	10.4	171.4	-	-	-	-	664

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(-) Did not Analyze

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# Water Well Data Average Depth to Groundwater (ft) Cimarex - Cooper 4-1 SWD, Lea County, New Mexico

	19 S	outh	3	6 East				19	So	uth		37	East					19 S	outh	38	East	
3	5	4	3	2	1	6	50	5	ŀ	4 <b>3</b>	9 3	41	2	1 34			6	5	4	3 Hobi	2 S	1
7	8	9	10	11	12	7	43	8	42	9	10		11	12	63		7	8	9	10	11	12
											43		22									ļ
18	17	16	15	14	13	18		17		16	15		14	13			18	17	16	15	14	13
						53		65		39	46		20	46								
9	20	21	22	23	24	19		20		21	22		23	24			19	20	21	22	23	24
						48				33	38	_		48								
30	29	<b>2</b> 8	27	26	25	30	20 N	29 I <b>on</b> i	um	28 30	27 <b>29</b>		26	25			30	29	28	27	26	25
1	32	33	34	35	36	31		32			34		35	36			31	32	33	34	35	36
						24				32	22											[
	20 S	South		36 East	<b></b>			20	So	uth		37	' East					20 S	outh	38	East	
	5	4	3	2	1	6	37				3		2	1			6	5	4	3	2	1
32	28			92	40					4 22" SITE	1											
7	8	9	10	11	12	7	36	8	35		10	·	11	12			7	8	9	10	11	12
	33	38	ł	32	29								1				1					
18	17	16	15	14	13	18		17		16	15	· · · ·	14	13			18	17	16	15	14	13
34				45										78								
19	20	21	22	23	24	19		20		21	22		23	24			19	20	21	22	23	24
						35		ļ													1	
30	29	28	27	26 106	25	30		29		28	27	·	26	25		1	30	29	28	27	26	25
				170						40								1			1	
31	32	33	34	35	36	31		32		33	34		35	36		1	31	32	33	34	35	36
I	170			122				[		198						· ·	1		ļ		ł.	
وبرا يودينا فالمتلا	21 9	South		35 East				21	l Sc	outh		36	3 East	ł			1999 - Hanseller Hanseller	21 5	South	37	'East	وي والمركب المركب الم
6	5	4	3	2	1	6		5	_	4	3		2	1		1	6 <b>73</b>	5		3	2	1
7	- 8	9	10	11	12	7		8		9	10		11	12	!	1	7	8	9	10	11	12
4.0		16	15	14	13	18		17		16	20		14	13		1		147	- 40	45	<u> </u>	
18	17	10	15	14	13			$\Gamma'$			115		14	13	•		18	17	16	15	14	13
10	20	21	22	23	24	<b>10</b> 19	_	20		<b>195</b> 21	22		2313	2 24		ł	19	71	70			1
19	20	21	22	23	24	19		20		21 ·	22			, 1 <sup>24</sup>	•		19	20	21	22	23	24
20					25	30		20		20	27		<b>150</b> 26			1	20	98 29	003234	53	200	
30	29	28	27	26	25	30		29		28	121		1	25		1	30		202	27	26	25
24	- 20	- 122			20	31		120					150 35	14		-		85	7.1疑疑	76	19 19	
31	32	33	34	35	36	31		32 ,		33	34	ŀ	35	36	)		31	32	100 E	34 9 Unice/	5 35 8	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

34 NMOCD - Groundwater Data

New Mexico Office of the State Engineer

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		<i>lexico Off</i> OD Repo		S <i>tate Engi</i> ownloads	neer	
Township: 20	S Range	: 37E	Sections:			
NAD27 X:	Y:		Zone:		Search Radius:	
County:	Basin	1:			Number:	Suffix:
Owner Name: (First)		 (Last	) © All	an dana ng kana ng kana na m	○ Non-Domestic	⊖ Domestic
POD.	/ Surface Da	Water	Column Re	eport	to Water Report	כ
	Clear		IVALER		Help	

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AVERAGE DEPTH OF WATER REPORT 03/09/2007

							(Depth	Water in	Feet)
Bsn	Tws	Rng Sec	Zone	x	Y	Wells	Min	Max	Avg
$\mathbf{L}$	20S	37E 04				1	22	22	22
$\mathbf{L}$	20S	37E 05				7	32	46	38
L	20S	37E 06				8	35	40	37
L	20S	37E 07				4	34	38	36
$\mathbf{L}$	20S	37E 08			•	10	30	38	35
L	20S	37E 13				2	70	85	78
$\mathbf{F}$	20S	37E 19				6	35	35	35
L	20S	37E 28				2	40	40	40
L	20S	37E 33				2	120	275	198

Record Count: 42

Page 1 d	of 2	
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Township: 1	19S Range: 3	B7E Sections:		
NAD27 X:	Y:	Zone:	Search Radius:	
County:	Basin:		Number:	Suffix:
Owner Name: (First)		(Last) @All	○ Non-Domestic	() Domestic
POD	) / Surface Data	Report	Avg Depth to Water Report	
	Clear For	m iWATER	S Menu Help	

AVERAGE DEPTH OF WATER REPORT 03/09/2007

							(Depth	Water in	Feet)
Bsn	Tws	Rng Sec	Zone	х	Y	Wells	Min	Max	Avg
L	19S	37E 01				4	32	35	34
$\mathbf{L}$	19S	37E 03				3	40	42	41
L	19S	37E 04				7	23	65	39
L	19S	37E 06				2	50	50	50
L	19S	37E 07				6	35	50	43
L	19S	37E 08				2	42	42	42
L	19S	37E 10 .				8	26	35	33
L	19S	37E 11				1	22	22	22
L	19S	37E 12				2	63	63	63
L	19S	37E 13				2	27	65	46
L	19S	37E 14				2	20	20	20
L	19S	37E 15				6	44	50	46
L	19S	37E 16				5	20	45	39
L	19S	37E 17				1	65	65	65
$\mathbf{L}$	19S	37E 18				2	35	70	53
L	19S	37E 19				3	40	52	48
L	19S	37E 21				8	22	47	33
L	19S	37E 22.				4	35	40	38
L	19S	37E 24				2	48	48	48
L	19S	37E 27				3	18	35	29
L	19S	37E 28				3	30	31	30
L	19S	37E 29				8	18	22	20
L	195	37E 30				9	20	23	20
L	19S	37E 31				2	20	27	24
L	195	37E 32				6	25	35	29
L	19S	37E 33				20	13	43	32
L	19S	37E 34				5	20	25	22

Record Count: 126

Report Date: March 9, 2007 2955

Work Order: 7030135 Cooper 4-1 SWD Page Number: 1 of 3 Lea County, NM

# **Summary Report**

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Project Location:Lea County, NMProject Name:Cooper 4-1 SWDProject Number:2955

Report Date: March 9, 2007

Work Order: 7030135

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
117856	AH-1 0-1	soil	2007-02-28	00:00	2007-03-01
117857	AH-1 1-1.5	soil	2007-02-28	00:00	2007-03-01
117859	AH-2 0-1	soil	2007-02-28	00:00	2007-03-01
117860	AH-2 1-1.5	soil	2007-02-28	00:00	2007-03-01
117862	AH-3 0-1	soil	2007-02-28	00:00	2007-03-01
117863	AH-3 1-1.5	soil	2007-02-28	00:00	2007-03-01
117865	AH-4 0-1	soil	2007-02-28	00:00	2007-03-01
117866	AH-4 1-1.5	soil	2007-02-28	00:00	2007-03-01
117868	AH-5 0-1	soil	2007-02-28	00:00	2007-03-01
117869	AH-5 1-1.5	soil	2007-02-28	00:00	2007-03-01
117870	AH-5 2-2.5	soil	2007-02-28	00:00	2007-03-01
117871	AH-5 3-3.5	soil	2007-02-28	00:00	2007-03-01
117872	AH-5 4-4.5	soil	2007-02-28	00:00	2007-03-01
117873	AH-5 5-5.5	soil	2007-02-28	00:00	2007-03-01
117874	Stockpile East	soil	2007-02-28	00:00	2007-03-01
117875	Stockpile West	soil	2007-02-28	00:00	2007-03-01

		]	BTEX		MTBE	TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE (	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
117856 - AH-1 0-1						<50.0	3.39
117859 - AH-2 0-1				j		<50.0	164
117862 - AH-3 0-1				[	(	88.5	335
117865 - AH-4 0-1	< 0.0500	0.757	1.49	5.53		553	428
117868 - AH-5 0-1	9.39	139	76.2	368		1590	1370
117869 - AH-5 1-1.5						< 50.0	11.7
117874 - Stockpile East						3980	2000
117875 - Stockpile West			•			4230	728

Sample: 117856 - AH-1 0-1

Param	Flag	$\operatorname{Result}$	Units	RL
Chloride		21.6	mg/Kg	1.00

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

Report Date: March 9, 2007 2955		Work Order: 7030135 Cooper 4-1 SWD	Number: 2 of 3 a County, NM	
Sample: 117857 -	- AH-1 1-1.5			
Param	Flag	$\operatorname{Result}$	Units	$\operatorname{RL}$
Chloride		17.7	mg/Kg	1.00
Sample: 117859 -	- AH-2 0-1			
Param	$\mathbf{Flag}$	$\operatorname{Result}$	Units	$\operatorname{RL}$
Chloride		116	mg/Kg	1.00
Sample: 117860 ·	- AH-2 1-1.5			
Param	$\operatorname{Flag}$	Result	Units	$\operatorname{RL}$
Chloride		23.4	mg/Kg	1.00
Sample: 117862	- AH-3 0-1			
Param	Flag	Result	Units	RL
Chloride	O	104	mg/Kg	1.00
	Flag	Result 12.8	Units mg/Kg	RL 1.00
Sample: 117863 Param Chloride				
Sample: 117865	- AH-4 0-1			
Param	Flag	$\operatorname{Result}$	Units	$\operatorname{RL}$
Chloride	T lag	<u>680</u>	mg/Kg	1.00
Sample: 117866	- AH-4 1-1.5			
Param	Flag	Result	Units	$\operatorname{RL}$
Chloride		40.7	mg/Kg	1.00
Sample: 117868	- AH-5 0-1			
Param	Flag	Result	Units	$\operatorname{RL}$
Chloride	<u></u>	2350	mg/Kg	1.00
Sample: 117869	- AH-5 1-1.5			
Sample: 117869 Param	- AH-5 1-1.5 Flag	Result	Units	RL

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

Report Date: March 9, 2007 2955		Work Order: 7030135 Cooper 4-1 SWD	. I	Page Number: 3 of 3 Lea County, NM
Sample: 117870	- AH-5 2-2.5			
Param	Flag	Result	Units	$\operatorname{RL}$
Chloride		2090	mg/Kg	1.00
Sample: 117871	- AH-5 3-3.5			
Param	Flag	Result	Units	$\operatorname{RL}$
Chloride		2340	mg/Kg	1.00
		J		
Sample: 117872	- AH-5, 4-4.5			
Param	Flag	Result	Units	RL
Chloride		1050	mg/Kg	1.00
Sample: 117873 Param Chloride	- AH-5 5-5.5 Flag	Result 217	Units mg/Kg	
Param	Flag		Units mg/Kg	
Param Chloride Sample: 117874	Flag - Stockpile East	217	mg/Kg	1.00
Param Chloride	Flag			
Param Chloride Sample: 117874 Param	Flag - Stockpile East Flag	217 Result	mg/Kg Units	1.00 RL
Param Chloride Sample: 117874 Param Chloride	Flag - Stockpile East Flag	217 Result	mg/Kg Units	1.00 RL

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

Lubbock Texas 79424 El Paso, Texas 79922 Midland Texas 7970's Ft Worth Texas 70132 E-Mail Jab@traceanalvsis.com

800+3/8+1296 888•588•3443

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# Analytical and Quality Control Report

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Project Location: Lea County, NM Project Name: Cooper 4-1 SWD Project Number: 2955

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
117856	AH-1 0-1	soil	2007-02-28	00:00	2007-03-01
117857	AH-1 1-1.5	soil	2007-02-28	00:00	2007 - 03 - 01
117859	AH-2 0-1	soil	2007-02-28	00:00	2007-03-01
117860	AH-2 1-1.5	soil	2007-02-28	00:00	2007-03-01
117862	AH-3 0-1	soil	2007-02-28	00:00	2007-03-01
117863	AH-3 1-1.5	soil	2007-02-28	00:00	2007-03-01
117865	AH-4 0-1	soil	2007-02-28	00:00	2007-03-01
117866	AH-4 1-1.5	soil	2007-02-28	00:00	2007-03-01
117868	AH-5 0-1	soil	2007-02-28	00:00	2007-03-01
117869	AH-5 1-1.5	soil	2007-02-28	00:00	2007-03-01
117870	AH-5 2-2.5	soil	2007-02-28	00:00	2007-03-01
117871	AH-5 3-3.5	soil	2007-02-28	00:00	2007-03-01
117872	AH-5 4-4.5	soil	2007-02-28	00:00	2007-03-01
117873	AH-5 5-5.5	soil	2007-02-28	00:00	2007-03-01
117874	Stockpile East	soil	2007-02-28	00:00	2007-03-01
117875	Stockpile West	soil	2007-02-28	00:00	2007-03-01

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

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Report Date: March 9, 2007

Work Order: 7030135 

Michael abel

Dr. Blair Leftwich, Director

# Standard Flags

 ${\bf B}\,$  - The sample contains less than ten times the concentration found in the method blank.

Page 2 of 27

# Analytical Report

# Sample: 117856 - AH-1 0-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	,
QC Batch:	35318	Date Analyzed:	2007 - 03 - 07	Analyzed By:	$\operatorname{AR}$
Prep Batch:	30650	Sample Preparation:	2007-03-06	Prepared By:	$\mathbf{AR}$
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	$\operatorname{RL}$
Chloride		21.6	mg/Kg	5	1.00

#### Sample: 117856 - AH-1 0-1

Analysis: QC Batch: Prep Batch:	TPH DRO 35177 30530		Analytical Me Date Analyze Sample Prepa	ed: 2	Aod. 80 2007-03- 2007-03-	02	Ртер М Analyz Prepar	U
			$\mathbf{RL}$					
Parameter	Fl	ag	$\operatorname{Result}$		Units	\$	Dilution	$\mathbf{RL}$
DRO	· · · · · · · · · · · · · · · · · · ·		< 50.0		mg/Kg	5	1	50.0
Surrogate	Flag	Result	Units	Diluti	on	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	ie	217	mg/Kg	1		150	145	32.9 - 167

#### Sample: 117856 - AH-1 0-1

Analysis: QC Batch: Prep Batch:	TPH GRO 35184 30535		Date Ana	l Method: lyzed: reparation:	S 8015B 2007-03-02 2007-03-02		Prep Me Analyzec Preparec	d By: ss
			$\mathbf{RL}$					
Parameter	Flag		Result		Units		Dilution	$\mathbf{RL}$
GRO			3.39		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover y Limits
Trifluorotolu	ene (TFT)		0.833	mg/Kg	1	1.00	83	52.4 - 123.7
4-Bromofluor	obenzene (4-BFB)		1.18	mg/Kg	1	1.00	118	67.5 - 140.3

#### Sample: 117857 - AH-1 1-1.5

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35318 30650	Analytical Method: Date Analyzed: Sample Preparation	2007-03-07	Prep Method: Analyzed By: Prepared By:	$\operatorname{AR}$
		$\operatorname{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		17.7	mg/Kg	5	1.00

# Sample: 117859 - AH-2 0-1

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35318 30650	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
		$\operatorname{RL}$			
Parameter	$\operatorname{Flag}$	$\operatorname{Result}$	Units	Dilution	$\operatorname{RL}$
Chloride		116	mg/Kg	5	1.00

# Sample: 117859 - AH-2 0-1

Analysis: QC Batch: Prep Batch:	TPH DRO 35177 30530		Analytical Me Date Analyzec Sample Prepa	1: 2007-03	3-02	Prep M Analyz Pıepar	0
Demonster	T1-	_	RL Descult	тг:	4.5	Dilution	DI
Parameter	Flag	r 5	Result	Uni		Dilution	RL
DRO			<50.0	mg/k	<u>g</u>	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	186	mg/Kg	1	150	124	32.9 - 167

#### Sample: 117859 - AH-2 0-1

Analysis: QC Batch: Prep Batch:	TPH GRO 35248 30595		Date Ana	l Method: lyzed: reparation:	S 8015B 2007-03-05 2007-03-05		Prep Me Analyzec Preparec	l By: ss
			$\operatorname{RL}$					
Parameter	Flag		$\operatorname{Result}$		Units		Dilution	$\operatorname{RL}$
GRO			164		mg/Kg		5	1.00
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		4.36	mg/Kg	5	5.00	87	52.4 - 123.7
4-Bromofluor	obenzene (4-BFB)		6.81	mg/Kg	5	5.00	136	67.5 - 140.3

# Sample: 117860 - AH-2 1-1.5

•

Analysis: QC Batch: P1ep Batch:	Chloride (IC) 35318 30650	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
		$\operatorname{RL}$			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	$\operatorname{RL}$
Chloride		23.4	mg/Kg	5	1.00

# Sample: 117862 - AH-3 0-1

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35318 30650	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	RL Result	Units	Dilution	$\operatorname{RL}$
Chloride		104	mg/Kg	5	1.00

# Sample: 117862 - AH-3 0-1

Analysis: QC Batch: Prep Batch:	TPH DRO 35177 30530		Analytical Me Date Analyze Sample Prepa	d: 2007	l. 8015B 7-03-02 7-03-01	-	1ethod: N/A ed By: WR ed By: WR
_			RL				
Parameter	Fla	r 5	$\operatorname{Result}$		Units	Dilution	$\operatorname{RL}$
DRO			88.5	m	g/Kg	1	50.0
Surrogate	Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan		197	mg/Kg	1	150	131	32.9 - 167

# Sample: 117862 - AH-3 0-1

Analysis: QC Batch: P1ep Batch:	TPH GRO 35248 30595		Date Ana	ll Method: llyzed: reparation:	S 8015B 2007-03-05 2007-03-05		Prep Me Analyzeo Prepareo	l By: ss
			$\operatorname{RL}$					
Parameter	Flag		$\mathbf{Result}$		$\mathbf{Units}$		Dilution	$\operatorname{RL}$
GRO			335		mg/Kg		10	1.00
Sumorata		Flag	Result	Units	Dilution	Spike	Percent	Recovery
Surrogate	(0)17(0)	riag				Amount	Recovery	Limits
Trifluorotolu	. ,		8.86	$\mathrm{mg/Kg}$	10	10.0	89	52.4 - 123.7
4-Bromofluor	robenzene (4-BFB)		14.2	_ mg/Kg	10	10.0	142	67.5 - 140.3

#### Sample: 117863 - AH-3 1-1.5

Analysis: Chloride (IC) QC Batch: 35319 Prep Batch: 30652		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Piepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride	B	12.8	mg/Kg	5	1.00

<sup>1</sup>High surrogate recovery due to peak interference.

4

# Sample: 117865 - AH-4 0-1

Analysis: QC Batch: Prep Batch:	BTEX 35249 30597		Analytical M Date Analyz Sample Prep	ved:	S 8021B 2007-03-05 2007-03-05		Prep Me Analyzec Preparec	l By:	S 5035 ss ss
			RL	i					
Parameter	Flag		Result	,	Units		Dilution		$\mathbf{RL}$
Benzene	2		< 0.0500	)	mg/Kg		5		0.0100
Toluene			0.757	,	mg/Kg		5		0.0100
Ethylbenzene	, ,		1.49	)	mg/Kg		5		0.0100
Xylene			5.53	l	mg/Kg		5		0.0100
						Spike	Percent	Re	covery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	$\mathbf{L}$	imits
Trifluorotolu	ene (TFT)		5.03	mg/Kg	5	5.00	101	26	- 117.8
4-Bromofluor	obenzene (4-BFB)	3	6.22	mg/Kg	5	5.00	124	51.1	- 119.1

#### Sample: 117865 - AH-4 0-1

Analysis:Chloride (IC)QC Batch:35364Prep Batch:30694		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-08 2007-03-07	Prep Method: Analyzed By: Prepared By:	ÁR
		$\operatorname{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\operatorname{RL}$
Chloride		680	mg/Kg	50	1.00

#### Sample: 117865 - AH-4 0-1

Analysis: QC Batch: Prep Batch:	TPH DRO 35177 30530		Analytical Me Date Analyze Sample Prepa	ed:	Mod. 80 2007-03 2007-03	-02	Prep M Analyz Prepar	ed By: WR
			$\operatorname{RL}$					
Parameter	FL	ag	$\operatorname{Result}$		Unit	s	Dilution	$\operatorname{RL}$
DRO			553		mg/K	g	1	50.0
Surrogate	Flag	Result	Units	Dilu	tion	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	203	mg/Kg	1		150	135	32.9 - 167

#### Sample: 117865 - AH-4 0-1

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	35291	Date Analyzed:	2007-03-06	Analyzed By:	SS '
Prep Batch:	30630	Sample Preparation:	2007-03-06	Prepared By:	SS

continued ...

 $^{2}$ Sample ran at dilution due to hydrocarbons with a retention time greater than xylene  $^{3}$ High surrogate recovery due to peak interference.

sample 117865 continued ...

			$\operatorname{RL}$					
Parameter	Flag		Result	<u> </u>	Units		Dilution	RL
			$\operatorname{RL}$			,		
Parameter	Flag		Result		Units		Dilution	$\operatorname{RL}$
GRO			428		mg/Kg		10	1.00
						Spike	Percent	Recovery
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			6.82	mg/Kg	10	10.0	68	52.4 - 123.7
4-Bromofluorobenzene (	4-BFB)	4	17.9	mg/Kg	10	10.0	179	67.5 - 140.3

# Sample: 117866 - AH-4 1-1.5

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	35319	Date Analyzed:	2007-03-07	Analyzed By:	$\mathbf{AR}$
Prep Batch:	30652	Sample Preparation:	2007-03-06	Prepared By:	$\mathbf{AR}$
		$\operatorname{RL}$			
Parameter	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Chloride		40.7	mg/Kg	5	1.00

# Sample: 117868 - AH-5 0-1

Analysis: BTEX QC Batch: 35249 Prep Batch: 30597		Analytical M Date Analyz Sample Prep	æd:	S 8021B 2007-03-05 2007-03-05		Prep Me Analyzec Preparec	l By: ss
		$\operatorname{RL}$					
Parameter Fla	ıg	Result		Units	Ι	Dilution	$\operatorname{RL}$
Benzene		9.39		mg/Kg		10	0.0100
Toluene		139		mg/Kg		10	0.0100
Ethylbenzene		76.2		mg/Kg		10	0.0100
Xylene		368	·····	mg/Kg		10	0.0100
					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		7.11	mg/Kg	10	10.0	71	26 - 117.8
4-Bromofluorobenzene (4-BFB)	5	26.6	mg/Kg	10	10.0	266	51.1 - 119.1

#### Sample: 117868 - AH-5 0-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	35319	Date Analyzed:	2007-03-07	Analyzed By:	AR
Prep Batch:	30652	Sample Preparation:	2007-03-06	Prepared By:	AR

continued ..

<sup>4</sup>High surrogate recovery due to peak interference. <sup>5</sup>High surrogate recovery due to peak interference

### sample 117868 continued ...

		$\operatorname{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	$\operatorname{RL}$
Chloride		2350	mg/Kg	100	1.00

# Sample: 117868 - AH-5 0-1

.

Analysis: QC Batch: Prep Batch:	TPH DRO 35179 30530		Analytical Me Date Analyze Sample Prepa	d: 2007-0	3-02	Analyz	fethod: N/A ed By: WR ed By: WR
			$\operatorname{RL}$				
Parameter	]	Flag	Result	Un	its	Dilution	$\operatorname{RL}$
DRO	· · · · · · · · · · · · · · · · · · ·		1590	mg/	Kg	1	50.0
					Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
n-Triacontane	e 6	471	mg/Kg	1	150	314	32.9 - 167

#### Sample: 117868 - AH-5 0-1

Analysis: QC Batch: Prep Batch:	TPH GRO 35291 30630		Analytica Date Ana Sample P		S 8015B 2007-03-06 2007-03-06		Ртер Ме Analyzec Preparec	l By: ss
			$\mathbf{RL}$					
Parameter	Flag		$\mathbf{Result}$		Units		Dilution	$\operatorname{RL}$
GRO			1370		mg/Kg		50	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		43.1	mg/Kg	50	50.0	86	52.4 - 123.7
4-Bromofluor	obenzene (4-BFB)		58.5	mg/Kg	50	50.0	117	67.5 - 140.3

#### Sample: 117869 - AH-5 1-1.5

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35319 30652	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\operatorname{RL}$
Chloride		3960	mg/Kg	500	1.00

<sup>6</sup>High surrogate recovery. Sample non-detect, result bias high.

# Sample: 117869 - AH-5 1-1.5

Analysis: QC Batch:	TPH DRO 35179	Analytical Method: Date Analyzed:	Mod. 8015B 2007-03-02	Prep Method: Analyzed By:	ŴR
Prep Batch:	30530	Sample Preparation:	2007-03-01	Prepared By:	WR
		$\operatorname{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\operatorname{RL}$
DRO		<50.0	mg/Kg	1	50.0

Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	${ m Spike} { m Amount}$	Percent Recovery	Recovery Limits
n-Triacontane		197	mg/Kg	1	150	131	32.9 - 167

# Sample: 117869 - AH-5 1-1.5

Analysis: QC Batch: Prep Batch:	TPH GRO 35185 30536		Date Ana	l Method: lyzed: reparation:	S 8015B 2007-03-02 2007-03-02		Prep Me Analyzec Preparec	l By: ss
			$\mathbf{RL}$					
Parameter	$\operatorname{Flag}$		$\operatorname{Result}$		Units		Dilution	$\operatorname{RL}$
GRO	B		11.7		mg/Kg		1	1.00
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		0.838	mg/Kg	1	1.00	84	52.4 - 123.7
4-Bromofluo	robenzene (4-BFB)		1.30	mg/Kg	1	1.00	130	67.5 - 140.3

#### Sample: 117870 - AH-5 2-2.5

Analysis: QC Batch:	Chloride (IC) 35319	Analytical Method: Date Analyzed:	E 300.0 2007-03-07	Prep Method: Analyzed By:	,
Prep Batch:		Sample Preparation:	2007-03-06	Prepared By:	
		$\operatorname{RL}$			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		2090	mg/Kg	100	1.00

#### Sample: 117871 - AH-5 3-3.5

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35321 30653	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0- 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	$\overline{AR}$
		$\operatorname{RL}$			
Parameter	Flag	Result	· Units	Dilution	$\mathbf{RL}$
Chloride		2340	mg/Kg	100	1.00

# Sample: 117872 - AH-5 4-4.5

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35321 30653	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
		$\operatorname{RL}$			
Parameter	$\operatorname{Flag}$	$\operatorname{Result}$	Units	Dilution	$\mathbf{RL}$
Chloride		1050	mg/Kg	50	1.00

#### Sample: 117873 - AH-5 5-5.5

Analysis: QC Batch:	Chloride (IC) 35321	Analytical Method: Date Analyzed:	${ m E}~300.0$ 2007-03-07	Prep Method: Analyzed By:	,
Prep Batch:	30653	Sample Preparation:	2007-03-06	Prepared By:	$\mathbf{AR}$
		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		217	mg/Kg	10	1.00
		1			

#### Sample: 117874 - Stockpile East

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	35321	Date Analyzed:	2007-03-07	Analyzed By:	AR
Prep Batch:	30653	Sample Preparation:	2007-03-06	Prepared By:	$\mathbf{AR}$
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		2950	mg/Kg	100	1.00

# Sample: 117874 - Stockpile East

Analysis: QC Batch: Prep Batch:	TPH DRO 35179 30530		Analytical Mo Date Analyze Sample Prepa	ed: 20	Iod. 8015B 007-03-02 007-03-01	Analyz	Iethod: N/A ed By: WR ed By: WR
			$\operatorname{RL}$				
Parameter	Fla	g	$\mathbf{Result}$		Units	Dilution	RL .
DRO			3980		mg/Kg	1	50.0
Surrogate	Flag	Result	Units	Dilutic	Spike on Amount	Percent Recovery	Recovery Limits
n-Triacontan	e 7	758	mg/Kg	1	150	505	32.9 - 167

#### Sample: 117874 - Stockpile East

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	35248	Date Analyzed:	2007-03-05	Analyzed By:	SS
Prep Batch:	30595	Sample Preparation:	2007-03-05	Prepared By:	SS

<sup>7</sup>High surrogate recovery due to peak interference.

		$\mathbf{RL}$					
Parameter Fla	g	Result		Units		Dilution	$\mathbf{RL}$
GRO		2000	·····	mg/Kg		50	1.00
					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		40.0	mg/Kg	50	50.0	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFE	3) <sup>8</sup>	83.4	mg/Kg	50	50.0	167	67.5 - 140.3

# Sample: 117875 - Stockpile West

Analysis: QC Batch: Prep Batch:	Chloride (IC) 35321 30653	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-03-07 2007-03-06	Prep Method: Analyzed By: Prepared By:	AR
		$\operatorname{RL}$			
Parameter	Flag	$\mathbf{Result}$	Units	Dilution	$\operatorname{RL}$
Chloride		4090	mg/Kg	500	1.00

### Sample: 117875 - Stockpile West

Analysis: QC Batch: Prep Batch:	TPH DRO 35179 30530		Analytical Me Date Analyze Sample Prepa	d: 2007-0	3-02	Analy	Method: N/A zed By: WR red By: WR
Parameter DRO	F	lag	RL <u>Result</u> 4230	Uni		Dilution	• RL 50.0
DRU			4230	mg/I	х <u>в</u>	I	
Surrogate	Flag	$\operatorname{Result}$	Units	Dilution	${ m Spike} \ { m Amount}$	Percent Recovery	Recoveı y Limits
n-Triacontan		769	mg/Kg	1	150	513	32.9 - 167

# Sample: 117875 - Stockpile West

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Analysis:TPH GROQC Batch:35291Prep Batch:30630		Date Ana	l Method: lyzed: reparation:	S 8015B 2007-03-06 2007-03-06		Prep Me Analyze Preparec	d By: ss
		$\mathbf{RL}$					
Parameter Flag		$\operatorname{Result}$		Units		Dilution	$\mathbf{RL}$
GRO		728		mg/Kg		20	1.00
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		15.6	mg/Kg	20	20.0	78	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)	10	30.1	mg/Kg	20	20.0	150	67.5 - 140.3

<sup>8</sup>High surrogate recovery due to peak interference. <sup>9</sup>High surrogate recovery due to peak interference. <sup>10</sup>High surrogate recovery due to peak interference.

Report Date: Mar 2955	rch 9, 2007			ork Order: Cooper 4-1				mber: 12 of 27 ea County, NM
Method Blank (	1) QC	Batch: 35177						
QC Batch: 3517	7		Date Anal	yzed: 20	07-03-02		Analy	zed By: WR
Prep Batch: 3053	80		QC Prepa	ration: 20	07-03-01		Prepa	red By: WR
				MDL				
Parameter		Flag		Result			iits	RL
DRO				<9.07		mg	/Kg	50
						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Result}$	Units	Dilu	tion	Amount	Recovery	Limits
n-Triacontane		186	mg/Kg	]		150	124	44.7 - 133.6
Method Blank ( QC Batch: 3511 Prep Batch: 3053	79	Batch: 35179	Date Ana QC Prepa		007-03-02 007-03-01			zed By: WR red By: WR
				MDL			r -	
Parameter		Flag		Result		U	nits	$\operatorname{RL}$
DRO				<9.07		mg	/Kg	50
						Spiles	Percent	Pagoyony
Surrogate	Flag	$\mathbf{Result}$	Units	Dilu	tion	Spike Amount	Recovery	Recovery Limits
n-Triacontane	1 1005	181	mg/Kg		1	150	121	44.7 - 133.6
Method Blank ( QC Batch: 351) Prep Batch: 305)	84	Batch: 35184	Date An QC Prep	paration:	2007-03-02 2007-03-02			alyzed By: ss pared By: ss
Parameter		Flag		MDI Result		TT	nits	$\operatorname{RL}$
GRO		Flag	····	<0.739			g/Kg	<u> </u>
Surrogate		Flag	Result	Units	Dilutio	Spike n Amount		Recovery Limits
Trifluorotoluene (	rft)	T. Iag	0.926	mg/Kg	1	1.00	Recovery 93	52.4 - 123.7
4-Bromofluoroben		B)	0.895	mg/Kg	1	1.00	90	67.5 - 140.3
Method Blank (	(1) QC	Batch: 35185						
QC Batch: 351 Prep Batch: 305			Date An QC Prep	paration:	2007-03-02 2007-03-02			alyzed By: ss epared By: ss
				MDI	1			
Deremotor		Flor		D		TI	nita	DT
Parameter GRO		Flag		Result			nits g/Kg	RL 1

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	riag	0.953	mg/Kg	<u>Dilution</u>	1.00	<u>95</u>	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.990	mg/Kg	1	1.00	99	67.5 - 140.3
Method Blank (1) QC E	Batch: 35248						
QC Batch: 35248		Date A	nalyzed:	2007-03-05		Ana	lyzed By: ss
Prep Batch: 30595			~	2007-03-05			pared By: ss
				_			
	-		MDI				Dr
Parameter	Flag		Resul		Uni		RL
GRO			1.04	4	mg/	Кд	1
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.929	mg/Kg	1	1.00	93	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)	)	0.999	mg/Kg	1	1.00	100	67.5 - 140.3
Method Blank (1) QC H QC Batch: 35249 Prep Batch: 30597	Batch: 35249		nalyzed: paration:	2007-03-05 2007-03-05			llyzed By: ss pared By: ss
			М	IDL			
Parameter	Flag		Re	$\operatorname{sult}$	Un	its	$\operatorname{RL}$
Benzene			< 0.00	110	mg		0.01
Toluene			< 0.00		mg		0.01
Ethylbenzene			< 0.00			/Kg	0.01
Xylene			< 0.00	9410	mg	/Kg ·	0.01
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1 100	0.947	mg/Kg	1	1.00	95	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)	)	0.899	mg/Kg	1	1.00	90	53.9 - 125.1
Method Blank (1) QC I	Batch: 35291						

QC Batch: 35291 Prep Batch: 30630			•	2007-03-06 2007-03-06			lyzed By: ss pared By: ss
			MDL				
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Uni	ts	$\operatorname{RL}$
GRO			2.56		mg/	Kg	1
Surrogate	$\mathbf{Flag}$	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.897	mg/Kg	1	1.00	90	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.08	mg/Kg	1	1.00	108	67.5 - 140.3

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Report Date: March 9 2955	9, 2007	Work Orde Cooper 4		5 		Page Number: 14 Lea Count	
Matrix Blank (1)	QC Batch: 35318						
QC Batch: 35318 Prep Batch: 30650		Date Analyzed: QC Preparation:	2007-03-0 2007-03-0			Analyzed By: Prepared By:	$\begin{array}{c} \mathbf{AR} \\ \mathbf{AR} \end{array}$
Parameter	Flag	MI Res			Units		$\mathbf{RL}$
Chloride		2.	.24	····	mg/Kg		1
Matrix Blank (1)	QC Batch: 35319						
QC Batch: 35319 Prep Batch: 30652		Date Analyzed: QC Preparation:	2007-03-0 2007-03-0			Analyzed By: Prepared By:	AR AR
Parameter	Flag	MI Res	DL ult		Units		$\operatorname{RL}$
Chloride		2	.26		mg/Kg		1
Matrix Blank (1)	QC Batch: 35321						
QC Batch: 35321 Prep Batch: 30653		Date Analyzed: QC Preparation:	2007-03-0 2007-03-0			Analyzed By: Prepared By:	AR AR
Parameter	Flag	MI Res	DL		Units		RL
Chloride			.32		mg/Kg		1
Matrix Blank (1)	QC Batch: 35364						
QC Batch: 35364 Prep Batch: 30694		Date Analyzed: QC Preparation:	2007-03- 2007-03-			Analyzed By: Prepared By:	
			DL	*			
Parameter Chloride	Flag	Res	.32		Units mg/Kg		RL 1
Laboratory Contro	l Spike (LCS-1)					,	
QC Batch: 35177		Date Analyzed:	2007-03-0			Analyzed By:	WR
Ртер Batch: 30530		QC Preparation:	2007-03-0	Π		Prepared By:	WR
Param	Re	CS sult Units	Dil.	Spike Amount	Matrix Result	Rec. Li	.ec. mit
DRO	1	81 mg/Kg	1	250	< 9.07	72 47.5 -	- 144.1

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

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Param			LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.		Rec. Limit	RPD	]
DRO			192	mg/Kg	1	250	<9.07	77	47.5	5 - 144.1	6	
Percent reco	very is based	on the sp	ike result.	RPD is	based on	the spike	and spike o	luplicat	e resu	ılt.		
•		LCS	LCSD				Spike	LC	S	LCSD	]	Re
Surrogate		Result	Result		nits	Dil.	Amount	Rec		Rec.		in
n-Triacontar	ie	196	180	mg	/Kg	1	150	131	L	120	57.3	-
Laboratory	<sup>7</sup> Control S <sub>I</sub>	oike (LC	S-1)									
QC Batch: Prep Batch:	35179 30530			Date An QC Prej	alyzed: paration:	2007-03 2007-03					vzed By ared By:	
n					1	וימ	Spike		tiix	D		Re
Param DRO			Resu 224		Units 1g/Kg	1	Amount 250		sult ).07	Rec. 90	47.5	in -
	very is based	on the sp						•		<i>i</i>	11.0	
		<b>F</b>	LCSD			Spike	Matrix	•		Rec.		
Param			Result	Units	Dil.	Amount	Result	Rec.		Limit	RPD	
DRO			235	mg/Kg	1	250	< 9.07	94	47.5	5 - 144.1	5	
Surrogate	wery is based	on the sp LCS Result 176	ike result. LCSD Result 174	U	nits g/Kg	Dil.	Spike Amount 150	LC Rec 11	S c.	LCSD Rec. 116		Jin
Percent reco Surrogate n-Triacontai	-	LCS Result	LCSD Result	U	nits	Dil.	Spike Amount	LC Ree	S c.	LCSD Rec.	Ι	Jin
Surrogate n-Triacontar	-	LCS Result 176	LCSD Result 174	U	nits	Dil.	Spike Amount	LC Ree	S c.	LCSD Rec.	Ι	Jir
Surrogate n-Triacontar	1e 7 Control Sj 35184	LCS Result 176	LCSD Result 174	U mg Date A	nits	Dil. 1 2007-0	Spike Amount 150	LC Ree	S c.	LCSD Rec. 116 An	Ι	Lir - By
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch:	1e 7 Control Sj 35184	LCS Result 176	LCSD Result 174 S-1)	U mg Date A QC Pr	nits /Kg nalyzed: eparation	Dil. 1 2007-0 n: 2007-0	Spike Amount 150 3-02 3-02 Spike	LC Rec 11	S c 7	LCSD Rec. 116 An Pre	I 57.3 alyzed I epared I	By By Re
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param	1e 7 Control Sj 35184	LCS Result 176	LCSD Result 174 S-1) LC Resu	U Ma Date A QC Pr S	nits 5/Kg nalyzed: eparation Units	Dil. 1 2007-0	Spike Amount 150 3-02 3-02 Spike Amount	LC Rec 11 Ma Re	S 7 7 utrix sult	LCSD Rec. 116 An Pre Rec.	I 57.3 alyzed I epared I	By By By Re
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO	1e 7 Control Sj 35184	LCS Result 176 pike (LC	LCSD Result 174 S-1) LC: Resu 7.3	U my Date A QC Pr S tlt 1 n	nits s/Kg nalyzed: eparation Units 1g/Kg	Dil. 1 2007-0 1: 2007-0 Dil. 1	Spike Amount 150 93-02 93-02 Spike Amount 10.0	LC Rea 11 Ma Re <0	S 7 7 sult .739	LCSD Rec. 116 An Pre Rec. 73	I 57.3 alyzed I epared I	By By Re Lin
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent recc	ne 7 Control S 35184 30535	LCS Result 176 pike (LC	LCSD Result 174 S-1) LC: Resu 7.3 vike result. LCSD	U mg Date A QC Pr S ilt A n RPD is	nits s/Kg nalyzed: eparation Units ng/Kg based on	Dil. 1 2007-0 n: 2007-0 Dil. 1 the spike Spike	Spike Amount 150 3-02 3-02 Spike Amount 10.0 and spike Matrix	LC Rea 11 Ma Re <0 duplicat	S c. 7 7 sult .739 .e resu	LCSD Rec. 116 An Pre Rec. 73 ult. Rec.	I 57.3 alyzed J epared J J 57.7	By By:
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent reco	ne 7 Control S 35184 30535	LCS Result 176 pike (LC	LCSD Result 174 S-1) LC Resu 7.3 pike result. LCSD Result	U mg Date A QC Pr S Ilt A n RPD is Units	nits s/Kg eparation Units 1g/Kg based on Dil.	Dil. 1 2007-0 n: 2007-0 Dil. 1 the spike Amount	Spike Amount 150 3-02 3-02 Spike Amount 10.0 and spike Matrix Result	LC Rea 11 Ma Re <0 duplicat Rec.	S c. 7 7 sult .739 e rest	LCSD Rec. 116 An Pre Rec. 73 ult. Rec. Limit	I 57.3 alyzed J epared I 57.7 RPD	By By Re Lin
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent reco Param GRO	ne 7 Control Sj 35184 30535 wery is based	LCS Result 176 pike (LC	LCSD Result 174 S-1) LCC Resu 7.3 vike result. LCSD Result 7.66	U Date A QC Pr S Ilt RPD is Units mg/Kg	nits s/Kg eparation Units ng/Kg based on Dil. 1	Dil. 1 2007-0 1 Dil. 1 the spike Amount 10.0	Spike Amount 150 93-02 93-02 Spike Amount 10.0 and spike Matrix Result <0.739	LC Rea 11 Ma Re <0 duplicat Rec. 77	S c. 7 7 sult .739 ce rest 57.	LCSD <u>Rec.</u> 116 An Pre <u>Rec.</u> 73 ult. Rec. Limit 7 - 102.5	I 57.3 alyzed J epared J J 57.7	By By Re
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent reco Param GRO	ne 7 Control S 35184 30535	LCS Result 176 pike (LC	LCSD Result 174 S-1) LC: Resu 7.3 bike result. LCSD Result 7.66 bike result.	U Date A QC Pr S Ilt 4 n RPD is Units mg/Kg RPD is	nits s/Kg eparation Units 1g/Kg based on Dil. 1 based on	Dil. 1 2007-0 1 Dil. 1 the spike Amount 10.0	Spike Amount 150 93-02 93-02 Spike Amount 10.0 and spike Matrix Result <0.739 and spike	LC Rea 11 Ma Re <0 duplicat Rec. 77 duplicat	S c. 7 7 verrix sult .739 verrest 57. e rest	LCSD Rec. 116 An Pre Rec. 73 ult. Rec. Limit 7 - 102.5 ult.	I 57.3 alyzed J epared I 57.7 RPD 4	By By Re
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent reco Param GRO	10 2 Control Sp 35184 30535 wery is based	LCS Result 176 pike (LC	LCSD Result 174 S-1) LCC Resu 7.3 vike result. LCSD Result 7.66	U Date A QC Pr S It A n RPD is Units mg/Kg RPD is LC It Res	nits s/Kg analyzed: eparation Units ng/Kg based on Dil. 1 based on SD sult	Dil. 1 2007-0 1: 2007-0 Dil. 1 the spike Amount 10.0 the spike	Spike Amount 150 93-02 93-02 Spike Amount 10.0 and spike Matrix Result <0.739 and spike Spike Spike Amount	LC Rea 11 Ma Re <0 duplicat Rec. 77	S c. 7 7 sult .739 ce rest 57.	LCSD Rec. 116 An Pre Rec. 73 ult. Rec. Limit 7 - 102.5 ult. LCSD Rec.	I 57.3 alyzed J epared J 57.7 RPD 4	By By Ref Lin
Surrogate n-Triacontar Laboratory QC Batch: Prep Batch: Param GRO Percent reco Surrogate	10 2 Control Sp 35184 30535 wery is based	LCS Result 176 pike (LC	LCSD Result 174 S-1) LCC Resu 7.3 bike result. LCSD Result 7.66 bike result. LCS Result	U Date A QC Pr S It A n RPD is Units mg/Kg RPD is LC It Res	nits s/Kg analyzed: eparation Units ng/Kg based on Dil. 1 based on SD sult	Dil. 1 2007-0 1 2007-0 Dil. 1 the spike Amount 10.0 the spike Units	Spike Amount 150 93-02 93-02 Spike Amount 10.0 and spike Matrix Result <0.739 and spike Spike Matrix Result	LC Rea 11 Ma Re <0 duplicat Rec. 77 duplicat pike ount	S c. 7 7 7 8 8 8 8 7 7 9 8 9 7 7 9 9 9 9 7 7 9 9 9 9	LCSD Rec. 116 An Pre Rec. 73 ult. Rec. Limit 7 - 102.5 ult. LCSD Rec.	I 57.3 alyzed J epared J 57.7 <u>RPD</u> 4	By Rain R

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# Laboratory Control Spike (LCS-1)

QC Batch: 35185		Date Analyze						alyzed E	
Prep Batch: 30536		QC Preparat	ion: 2007-0	)3-02			Рте	pared B	By: ss
	LCS			Spike	Ma	atrix		1	Rec.
Param	Result	t Units	Dil.	Amount	Re	$\operatorname{sult}$	Rec.	L	limit
GRO	8.46	mg/Kg	1	10.0	1	.25	72	57.7	- 102.8
Percent recovery is based on the	e spike result. H	RPD is based	on the spike	e and spike o	luplicat	e result			`
	LCSD		Spike	Matrix		R	lec.		RPE
Param		Units Dil.			Rec.		imit	RPD	Limi
GRO	7.60 1	mg/Kg 1	10.0	1.25	64	57.7	- 102.5	11	20
Percent recovery is based on th	e spike result. I	RPD is based	on the spike	e and spike o	luplicat	e result	t.		
	LCS	LCSD		-	ike	LCS	LCSD		Rec.
Surrogate	Result		Units		ount	Rec.	Rec.		limit
Trifluorotoluene (TFT)	1.27	1.17	mg/Kg		00	127	117		- 152.
4-Bromofluorobenzene (4-BFB)	· 1.10	1.03	mg/Kg	1 1.	00	110	103	70	- 130
Prep Batch: 30595		QC Preparat	ion: 2007-	03-05			Pre	epared E	By: s
	LCS	•		Spike		atrix			Rec.
Param	Resul	t Units	Dil.	Spike Amount	Re	esult	Rec.	I	Rec. Limit
Param GRO	Result 7.76	t Units mg/Kg	Dil.	Spike Amount 10.0	Re 1	esult .04	Rec.	I	Rec. Limit
Prep Batch: 30595 Param GRO Percent recovery is based on th	Result 7.76	t Units mg/Kg	Dil.	Spike Amount 10.0	Re 1	esult .04 te resul	Rec.	I	Rec. Jimit 7 - 102.
Param GRO Percent recovery is based on th Param	Result 7.76 e spike result. I LCSD Result	t Units mg/Kg RPD is based Units Dil	Dil. 1 on the spike Spike . Amount	Spike Amount 10.0 e and spike Matrix ; Result	Re 1 duplica Rec.	esult .04 te resul F L	Rec. 67 t. Rec. imit	I	Rec. Limit 7 - 102. RPI
Param GRO Percent recovery is based on th Param	Result 7.76 e spike result. I LCSD Result	t Units mg/Kg RPD is based	Dil. 1 on the spike Spike	Spike Amount 10.0 e and spike Matrix	Re 1 duplica	esult .04 te resul F L	Rec. 67 t. Rec.	I 57.7	Rec. Limit 7 - 102. RPI
Param GRO Percent recovery is based on th Param GRO	Result 7.76 e spike result. I LCSD Result 7.08	t Units mg/Kg RPD is based Units Dil mg/Kg 1	Dil. 1 on the spike Spike . Amount 10.0	Spike Amount 10.0 e and spike Matrix Result 1.04	Re 1 duplica Rec. 60	esult .04 te resul F L 57.7	Rec. 67 t. Rec. imit - 102.5	I 57.7 RPD	Rec. Limit 7 - 102. RPI Limi
Param GRO Percent recovery is based on th Param GRO	Result 7.76 e spike result. I LCSD Result 7.08	t Units mg/Kg RPD is based Units Dil mg/Kg 1	Dil. 1 on the spike Spike . Amount 10.0	Spike Amount 10.0 e and spike Matrix Result 1.04 e and spike	Re 1 duplica Rec. 60	esult .04 te resul F L 57.7	Rec. 67 t. Rec. imit - 102.5	I 57.7 RPD 9	Rec. Limit 7 - 102. RPI Limi
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result	Dil. 1 on the spike Spike Amount 10.0 on the spike Units	Spike Amount 10.0 e and spike Matrix Result 1.04 e and spike Sp Dil. Am	Re 1 duplica Rec. 60 duplica sike ount	ssult .04 te resul F L 57.7 te resul LCS Rec.	Rec. 67 t. Rec. imit - 102.5 t. LCSD Rec.	I 57.7 RPD 9	Rec. Limit 7 - 102. RPI Limi 20 Rec. Limit
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT)	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg	Spike Amount 10.0 e and spike Matrix Result 1.04 e and spike Sp Dil. Am 1 1	Re 1 duplica Rec. 60 duplica sike ount .00	ssult .04 te resul F L 57.7 te resul LCS Rec. 117	Rec. 67 t. Rec. imit - 102.5 t. LCSD Rec. 84	I 57.7 RPD 9 I 36.8	Rec. 
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT)	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result	Dil. 1 on the spike Spike Amount 10.0 on the spike Units	Spike Amount 10.0 e and spike Matrix Result 1.04 e and spike Spil. Am 1 1	Re 1 duplica Rec. 60 duplica sike ount	ssult .04 te resul F L 57.7 te resul LCS Rec.	Rec. 67 t. Rec. imit - 102.5 t. LCSD Rec.	I 57.7 RPD 9 I 36.8	Rec. Limit 7 - 102. RPI Limi 20 Rec. Limit
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17 1.05	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg	Spike Amount 10.0 e and spike Matrix Result 1.04 e and spike Sp Dil. Am 1 1	Re 1 duplica Rec. 60 duplica sike ount .00	ssult .04 te resul F L 57.7 te resul LCS Rec. 117	Rec. 67 t. Rec. imit - 102.5 t. LCSD Rec. 84	I 57.7 RPD 9 I 36.8	Rec. 
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17 1.05	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839 1.07	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg mg/Kg	Spike Amount 10.0 e and spike of Matrix c Result 1.04 e and spike of Sp Dil. Am 1 1. 1 1	Re 1 duplica Rec. 60 duplica sike ount .00	ssult .04 te resul F L 57.7 te resul LCS Rec. 117	Rec. 67 t. Rec. imit - 102.5 t. LCSD Rec. 84 107	I 57.7 RPD 9 I 36.8 70	Rec. 
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17 1.05	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg mg/Kg ed: 2007-	Spike Amount 10.0 e and spike Matrix c Result 1.04 e and spike St Dil. Am 1 1. 1 1.	Re 1 duplica Rec. 60 duplica sike ount .00	ssult .04 te resul F L 57.7 te resul LCS Rec. 117	Rec. 67 t. lec. imit - 102.5 t. LCSD Rec. 84 107	I 57.7 RPD 9 I 36.8	Rec. 
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike ( QC Batch: 35249	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17 1.05	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839 1.07 Date Analyz	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg mg/Kg ed: 2007-	Spike Amount 10.0 e and spike of Matrix c Result 1.04 e and spike of Sp Dil. Am 1 1 1 1 03-05 03-05	Rec. 60 duplica bike ount .00 .00	ssult .04 te resul 57.7 te resul LCS Rec. 117 105	Rec. 67 t. lec. imit - 102.5 t. LCSD Rec. 84 107	I 57.7 RPD 9 I 36.8 70 alyzed I epared I	Rec. 
Param GRO Percent recovery is based on th Param GRO Percent recovery is based on th Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike ( QC Batch: 35249	Result 7.76 e spike result. I LCSD Result 7.08 e spike result. I LCS Result 1.17 1.05	t Units mg/Kg RPD is based Units Dil mg/Kg 1 RPD is based LCSD Result 0.839 1.07 Date Analyz QC Preparat	Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg mg/Kg ed: 2007-	Spike Amount 10.0 e and spike Matrix c Result 1.04 e and spike St Dil. Am 1 1. 1 1.	Rec. 60 duplica bike ount .00 .00 .00	ssult .04 te resul F L 57.7 te resul LCS Rec. 117	Rec. 67 t. lec. imit - 102.5 t. LCSD Rec. 84 107	I 57.7 RPD 9 I 36.8 70 alyzed I epared I	Rec. 

continued ...

0.952

0.968

0.972

mg/Kg

mg/Kg

mg/Kg

1

1

1

1.00

1.00

1.00

< 0.00110

< 0.00150

< 0.00160

95

97

97

68.6 - 123.4

74.6 - 119.3

72.3 - 126.2

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Benzene

Toluene

Ethylbenzene

control spikes continued ...

	LCS			Spike	Matrix		$\operatorname{Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Xylene	2.95	mg/Kg	1	3.00	< 0.00410	98	76.5 - 121.6

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

Param	$\begin{array}{c} { m LCSD} \\ { m Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.981	mg/Kg	1	1.00	<0.00110	98	68.6 - 123.4	3	20
Toluene	0.998	mg/Kg	1	1.00	< 0.00150	100	74.6 - 119.3	3	20
Ethylbenzene	1.01	mg/Kg	1	1.00	< 0.00160	101	72.3 - 126.2	4	20
Xylene	3.08	mg/Kg	1	3.00	< 0.00410	103	76.5 - 121.6	4	<b>20</b>

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	$\mathbf{Result}$	$\operatorname{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.900	0.900	mg/Kg	1	1.00	90	90	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.945	0.963	mg/Kg	1	1.00	94	96	68.7 - 125.8

#### Laboratory Control Spike (LCS-1)

QC Batch:	35291	Date Analyzed:	2007-03-06	Analyzed By:	SS
Prep Batch:	30630	QC Preparation:	2007-03-06	Prepared By:	SS

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\operatorname{Limit}$
GRO	9.39	mg/Kg	1	10.0	2.56	68	57.7 - 102.5

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

	LCSD			Spike	Matrix		Rec.		$\operatorname{RPD}$
Param	$\operatorname{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\operatorname{Limit}$	RPD	Limit
GRO	9.17	mg/Kg	1	10.0	2.56	66	57.7 - 102.5	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	$\mathbf{Result}$	$\operatorname{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	1.26	1.09	mg/Kg	1	1.00	126	109	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	1.14	1.10	mg/Kg	1	1.00	114	110	70 - 130

#### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	35318 30650		Analyzed: Preparation:		2007-03-07 2007-03-06			l By: AR By: AR
Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		13.8	mg/Kg	1	12.5	1.3013	100	90 - 110

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

2955			Cooper 4	Page Number: 18 of Lea County,					
Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14.0	mg/Kg	1	12.5	1.3013	102	90 - 110	1	
ercent recovery is based on the s	spike result.	RPD is ba	ased on t	he spike and	l spike dur	olicate re	sult.		
Laboratory Control Spike (L			, ,	0007 00 07					4.0
QC Batch: 35319 Prep Batch: 30652		Date Ana QC Prep		2007-03-07 2007-03-06				alyzed B epared B	•
Param	LC. Resu		Units	Dil.	Spike Amount	Mat Res		Rec.	Rec. Limit
Chloride	13.		ng/Kg	1	12.5	1.29			90 - 110
Percent recovery is based on the	spike result.	RPD is b	ased on t	he spike an	d spike duj	olicate re	esult.		
Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14.0	mg/Kg	1	12.5	1.2944	102	90 - 110	1	
QC Batch: 35321	CS-1)	Date Ana QC Prep		2007-03-07 2007-03-06				nalyzed B repared B	
QC Batch: 35321	<b>CS-1)</b> LC	QC Prep				Mat	Pr		
QC Batch: 35321 Prep Batch: 30653 Param	LC Resu	QC Prep S ult	aration: Units	2007-03-06 Dil.	Spike Amount	Res	Pr trix sult 1	repared B Rec.	y: AR Rec. Limit
QC Batch: 35321 Prep Batch: 30653 Param Chloride	LC Rest	QC Prep S ult 4 n	aration: Units ng/Kg	2007-03-06 Dil.	Spike Amount 12.5	Res 1.34	Pr trix sult 1 423	repared B	y: AR Rec. Limit
QC Batch: 35321 Prep Batch: 30653 Param Chloride	LC Rest 14. spike result.	QC Prep S ult 4 n	aration: Units ng/Kg	2007-03-06 Dil. 1 the spike an	Spike Amount 12.5 d spike du	Res 1.34	Pr trix sult 1 423 esult.	repared B Rec.	y: AR Rec. Limit 90 - 11
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the	LC Rest 14. spike result. LCSD	QC Prep S alt 4 n RPD is b	aration: Units ng/Kg ased on (	2007-03-06 Dil. 1 the spike an Spike	Spike Amount 12.5 d spike du Matrix	Res 1.34 plicate re	Pr trix sult 1 423 esult. Rec.	Rec	y: AR Rec. Limit 90 - 110 RPE
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param	LC Resu 14. spike result. LCSD Result	QC Prep S alt <u>4 n</u> RPD is b Units	aration: Units ng/Kg	2007-03-06 Dil. 1 the spike an Spike Amount	Spike Amount 12.5 d spike du Matrix Result	Res 1.34 plicate re Rec.	Pr trix sult 1 423 esult. Rec. Limit	Rec. Rec. RPD	y: AR Rec. Limit 90 - 110 RPI
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride	LC Resu 14. spike result. LCSD Result 15.0	QC Prep S ult 4 n RPD is b Units mg/Kg	Units ng/Kg ased on ( Dil. 1	2007-03-06 Dil. 1 the spike an Spike Amount 12.5	Spike Amount 12.5 d spike duy Matrix Result 1.3423	Res 1.34 plicate re Rec. 109	Pr sult 1 423 esult. Rec. Limit 90 - 110	Rec. Rec. RPD	y: AR Rec. Limit 90 - 11 RPI
Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L	LC Resu 14. spike result. LCSD Result 15.0 spike result.	QC Prep S alt 4 n RPD is b Units mg/Kg RPD is b	Units ng/Kg ased on f Dil. 1 ased on f	Dil. 1 the spike an Spike Amount 12.5 the spike an	Spike Amount 12.5 d spike du Matrix Result 1.3423 d spike du	Res 1.34 plicate re Rec. 109	Pr trix sult 1 423 esult. Rec. Limit 90 - 110 esult.	Rec. 104 RPD 4	y: AR Rec. Limit 90 - 11 RPI Limi
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364	LC Resu 14. spike result. LCSD Result 15.0 spike result.	QC Prep S ult 4 n RPD is b Units mg/Kg	aration: Units ng/Kg ased on f Dil. 1 ased on f alyzed:	2007-03-06 Dil. 1 the spike an Spike Amount 12.5	Spike Amount 12.5 d spike duy Matrix Result 1.3423 d spike du	Res 1.34 plicate re Rec. 109	Pr trix sult 1 423 esult. Rec. Limit 90 - 110 esult. A	Rec. Rec. RPD	y: AR Rec. Limit 90 - 11 RPI Limi
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364 Prep Batch: 30694	LC Resu 14. spike result. LCSD Result 15.0 spike result.	QC Prep S alt 4 n RPD is b Units mg/Kg RPD is b Date Ana QC Prep	aration: Units ng/Kg ased on f Dil. 1 ased on f alyzed:	2007-03-06 Dil. 1 the spike an Spike Amount 12.5 the spike an 2007-03-08	Spike Amount 12.5 d spike duy Matrix Result 1.3423 d spike du	Rec. 109 plicate re Ma	Pr trix sult 1 423 esult. Rec. Limit 90 - 110 esult. A Pr trix	Rec. 104 RPD 4 nalyzed E	y: AR Rec. Limit 90 - 11 RPI Limi By: AR y: AR y: AR Rec.
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364 Prep Batch: 30694 Param	LC Resul spike result. LCSD Result 15.0 spike result. (CS-1)	QC Prep S ult 4 n RPD is b Units mg/Kg RPD is b Date An QC Prep S ult	Units ng/Kg ased on f Dil. 1 ased on f alyzed: paration:	2007-03-06 Dil. 1 the spike an Spike Amount 12.5 the spike an 2007-03-08 2007-03-07	Spike Amount 12.5 d spike du Matrix Result 1.3423 d spike du	Rec. 1.34 Dilicate re Rec. 109 plicate re Ma Res	Pr trix sult 1 423 esult. Rec. Limit 90 - 110 esult. A Pr trix	Rec. 104 4 nalyzed E repared B	y: AR Rec. Limit 90 - 11 RPI Limi By: AR y: AR y: AR Limit
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364 Prèp Batch: 30694 Param Chloride	LC Resu 14. spike result. LCSD Result 15.0 spike result. (CS-1) LC Resu 13.	QC Prep S ult 4 n RPD is b Units mg/Kg RPD is b Date An QC Prep S ult 7 n	Units ng/Kg ased on 0 Dil. 1 based on 0 alyzed: baration: Units ng/Kg	2007-03-06 Dil. 1 the spike an Spike Amount 12.5 the spike an 2007-03-08 2007-03-07 Dil. 1	Spike Amount 12.5 d spike duy Matrix Result 1.3423 d spike du spike du Spike Amount 12.5	Res 1.34 plicate re Rec. 109 plicate re Ma Res 1.3	Pr trix sult 1 423 esult. Rec. Limit 90 - 110 esult. A Pr trix sult 521	Rec. Rec. 104 RPD 4 nalyzed E repared B Rec.	y: AR Rec. Limit 90 - 11 RPI Limi By: AR y: AR y: AR Limit
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364 Prèp Batch: 30694 Param Chloride Percent recovery is based on the	LC Resu 14. spike result. LCSD Result 15.0 spike result. (CS-1) LC Resu 13. spike result. LCSD	QC Prep S ult 4 n RPD is b Units mg/Kg RPD is b Date An QC Prep S ult 7 n RPD is b	Units ng/Kg ased on f Dil. 1 ased on f alyzed: aration: Units ng/Kg based on	2007-03-06 Dil. 1 the spike an Spike Amount 12.5 the spike an 2007-03-08 2007-03-07 Dil. 1 the spike an Spike	Spike Amount 12.5 d spike duy Matrix Result 1.3423 d spike du spike du Spike Amount 12.5 d spike du Matrix	Res 1.34 plicate re Rec. 109 plicate re Ma Res 1.3 plicate re	Present of the second s	Rec. Rec. 104 RPD 4 nalyzed E repared B Rec. 99	y: AR Rec. Limit 90 - 11 RPI Limi By: AR y: AR y: AR Rec. Limit 90 - 11 RPI
QC Batch: 35321 Prep Batch: 30653 Param Chloride Percent recovery is based on the Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 35364	LC Resul 14. spike result. LCSD Result 15.0 spike result. (CS-1) LC Resu 13. spike result.	QC Prep S ult 4 n RPD is b Units mg/Kg RPD is b Date An QC Prep S ult 7 n	Units ng/Kg ased on 0 Dil. 1 based on 0 alyzed: baration: Units ng/Kg	2007-03-06 Dil. 1 the spike an Spike Amount 12.5 the spike an 2007-03-08 2007-03-07 Dil. 1 the spike an	Spike Amount 12.5 d spike duy Matrix Result 1.3423 d spike du spike du Spike Amount 12.5 d spike du	Res 1.34 plicate re Rec. 109 plicate re Ma Res 1.3	Present of the second s	Rec. 104 RPD 4 nalyzed E repared B Rec. 99 RPD	y: AR Rec. Limit 90 - 110 RPI Limi By: AR y: AR y: AR Limit 90 - 11

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#### Matrix Spike (MS-1) Spiked Sample: 117845 Analyzed By: WR QC Batch: 35177 Date Analyzed: 2007-03-02 Prep Batch: 30530 QC Preparation: 2007-03-01 Prepared By: WR MS Matrix Rec. Spike Result Units Dil. Amount Result Rec. Limit Param DRO 122 250 < 9.07 49 11.7 - 152.3 mg/Kg 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MSD Spike RPD Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit RPD Limit DRO 134mg/Kg 250 <9.07 54 11.7 - 152.3 20 1 9 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MSD MS MSD MS Spike Rec. Dil. Surrogate Result Result Units Amount Rec. Rec. Limit n-Triacontane 172 172mg/Kg 150115115 17 - 163.1 1 Matrix Spike (MS-1) Spiked Sample: 117869 QC Batch: Date Analyzed: 2007-03-02 Analyzed By: WR 35179 Prep Batch: 30530 QC Preparation: 2007-03-01 Prepared By: WR MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit DRO 242 250< 9.0797 11.7 - 152.3 mg/Kg 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MSD Spike RPD Matrix Rec. Result Units Dil. RPD Param Amount Result Rec. Limit Limit246 DRO 11.7 - 152.3 mg/Kg 1 250<9.07 98 $\overline{2}$ 20 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MS MSD MS MSD Spike Rec. Surrogate Result Result Dil. Limit Units Amount Rec. Rec. n-Triacontane 188 185 mg/Kg 1 150 125123 17 - 163.1 Matrix Spike (MS-1) Spiked Sample: 117844 QC Batch: Date Analyzed: 2007-03-02 Analyzed By: ss 35184 Prep Batch: 30535 QC Preparation: 2007-03-02 Prepared By: ss MS Spike Matrix Rec. Result Dil. Param Units Amount Result Rec. Limit GRO 11.3 mg/Kg 1 10.0< 0.73911310 - 141.5

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

Report Date: March 9, 2007 2955		Page Number: 20 of 27 Lea County, NM								
	MSD	TT .'	Sp		Matrix Result Rec.		Rec. Limit		RPI RPD Limi	
Param GRO		Units ng/Kg	$\frac{\text{Dil.}  \text{Amo}}{1  10}$		$\frac{\text{Result}}{<0.739}$	111		- 141.5	$\frac{RPD}{2}$	$\frac{11111}{20}$
							_			
Percent recovery is based on the s	pike result. R	PD is bas	ed on the s	oike and	i spike di	iplicate	e resul	lt.		
	MS	MSD			Spi	ke	MS	MSD		Rec.
Surrogate	$\operatorname{Result}$	Result	Units	Dil	. Amo	unt	Rec.	Rec.	I	Jimit
Trifluorotoluene (TFT)	0.659	0.660	mg/Kg	1	1		66	66		- 125.3
4-Bromofluorobenzene (4-BFB)	1.42	1.39	mg/Kg	1	1		142	139	86.7	- 144.
<b>Matrix Spike (MS-1)</b> Spiked QC Batch: 35185 Prep Batch: 30536		854 Date Ana QC Prepa		0 <b>7-03</b> -02 07-03-02					alyzed l epared H	
						/				
	MS				Spike	М	atrix			Rec.
Param	Result	Un	its Di	l	Amount	$\mathbf{R}$	$\operatorname{esult}$	Rec.		$\operatorname{Limit}$
GRO	6.58	mg/	/Kg 1		10.0	<	0.739	66	10	- 141
Percent recovery is based on the s	pike result. R	PD is bas	sed on the s	pike and	d spike di	$_{1}$ plicat	e resu	lt.		
				-	-					
D.	MSD	¥¥ •,	•	ike	Matrix	D		Rec.	DDD	
Param	Result	Units	Dil. Am	ike ount	Matrix Result	Rec.	]	Limit	RPD	Lim
GRO	Result 7.98 r	ng/Kg	Dil. Am 1 10	ike ount ).0	Matrix Result <0.739	80	10	Limit - 141.5	RPD 19	Lim
	Result 7.98 r	ng/Kg	Dil. Am 1 10	ike ount ).0	Matrix Result <0.739	80	10	Limit - 141.5		Lim
GRO	Result 7.98 r spike result. R	ng/Kg	Dil. Am 1 10	ike ount ).0	Matrix Result <0.739 d spike d	80 uplicat	10 e resu	Limit - 141.5 lt.	19	Lim 20
GRO Percent recovery is based on the s	Result 7.98 r	ng/Kg LPD is bas	$\begin{array}{ccc} \text{Dil.} & \text{Am} \\ \hline 1 & 10 \\ \text{sed on the s} \end{array}$	ike ount ).0	Matrix Result <0.739 d spike d Spi	80 uplicat ike	10	Limit - 141.5 lt. MSD	19	Lim
GRO	Result 7.98 r pike result. R MS	ng/Kg PD is bas MSD	Dil. Am <u>1</u> 10 sed on the s t Units	ike ount 0 pike and Dil	Matrix Result <0.739 d spike d Spi	80 uplicat ike ount	10 e resu MS	Limit - 141.5 lt. MSD	19	Lim 20 Rec. Limit
GRO Percent recovery is based on the s Surrogate	Result 7.98 r spike result. R MS Result	ng/Kg PD is bas MSD Result	Dil. Am <u>1</u> 10 sed on the s t Units	ike ount D.0 pike and Dil	Matrix Result <0.739 d spike d Spi Amo	80 uplicat ike ount	10 e resu MS Rec.	Limit - 141.5 lt. MSD Rec.	19 19 40	Lim 20 Rec. Limit - 125.:
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118	ng/Kg PD is bas MSD Result 0.670 1.15	Dil. Am 1 10 sed on the s t Units mg/Kg mg/Kg lyzed: 20	ike ount D.0 pike and Dil	Matrix Result <0.739 d spike d Spi . Amo	80 uplicat ike ount	10 e resu MS Rec. 77	Limit - 141.5 lt. MSD Rec. 67 115 An	19 19 40	Lim 20 Rec. Limit - 125.: 7 - 144 By: s
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118	ng/Kg PD is bas MSD Result 0.670 1.15 076 Date Ana QC Prepa	Dil. Am 1 10 sed on the s t Units mg/Kg mg/Kg lyzed: 20 aration: 20	ike <u>ount</u> .0 pike and Dil .1 .1 .1 07-03-0 07-03-0	Matrix Result <0.739 d spike d Spike 1 5 5 5 5	80 uplicat ke bunt	10 e resu MS Rec. 77 114	Limit - 141.5 lt. MSD Rec. 67 115 An Pre	19 40 86.7 alyzed	Limit - 125.3 7 - 144 By: ss By: ss By: ss Rec.
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595 Param	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118 MS Resu	ng/Kg PD is bas MSD Result 0.670 1.15 076 Date Ana QC Prepa	Dil. Am 1 10 sed on the s t Units mg/Kg mg/Kg lyzed: 20 aration: 20 nits E	ike ount .0 pike and Dil 1 1 1 07-03-0 07-03-0 il.	Matrix Result <0.739 d spike d Spike 1 5 5 5 5 5	80 uplicat bunt	10 e resu MS Rec. 77 114	Limit - 141.5 lt. MSD Rec. 67 115 An Pro Rec.	19 40 86.7 alyzed	Limi 20 Rec. Limit - 125.3 7 - 144 By: st By: st By: st Rec. Limit
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595 Param GRO	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118 MS Resul <sup>11</sup> 7.58	ng/Kg PD is bas Result 0.670 1.15 076 Date Ana QC Prepa It U mg	Dil. Am 1 10 sed on the s t Units mg/Kg lyzed: 20 g/Kg	ike <u>ount</u> .0 pike and .1 .1 .1 .1 .0 .0 .0 .1 .1 .0 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	Matrix Result <0.739 d spike d Spike 1 1 5 5 5 5 5 5 5 5 5 5	80 uplicat ke bunt	10 e resu MS Rec. 77 114 114	Limit - 141.5 lt. MSD Rec. 67 115 An Pro Rec. 0	19 40 86.7 alyzed	Lim 20 Rec. Limit - 125.: 7 - 144 By: s By: s By: s Rec. Limit
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595 Param	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118 MS Resu 11 7.58 spike result. F	ng/Kg PD is bas Result 0.670 1.15 076 Date Ana QC Prepa It U mg	Dil. Am 1 10 sed on the s t Units mg/Kg hyzed: 20 aration: 20 nits D 5/Kg sed on the s	ike ount .0 pike and Dil 1 1 07-03-0 07-03-0 07-03-0 il. 1 pike an	Matrix Result <0.739 d spike d Spike 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	80 uplicat ke bunt	10 e resu MS Rec. 77 114 114	Limit - 141.5 lt. MSD Rec. 67 115 An Pro- Rec. 0 lt.	19 40 86.7 alyzed	Lim 20 Rec. - imit - 125.3 7 - 144 By: s: By: s: By: s: Rec. Limit ) - 141
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595 Param GRO Percent recovery is based on the s	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118 MS Resu 11 7.58 spike result. F MSD	ng/Kg PD is bas MSD Result 0.670 1.15 076 Date Ana QC Prepa Lt U mg CPD is bas	Dil. Am 1 10 sed on the s t Units mg/Kg hyzed: 20 aration: 20 nits D c/Kg sed on the s S	ike <u>ount</u> .0 pike and Dil 1 .1 .1 .1 .1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	Matrix Result <0.739 d spike dr Spike Amount 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	80 uplicat ke ount K R uplicat	10 e resu MS Rec. 77 114 Atrix Result 7.58 e resu	Limit - 141.5 lt. MSD Rec. 67 115 An Pro- Rec. 0 lt. Rec.	19 40 86.7 alyzed epared	Limi 20 Rec. Limit - 125.3 7 - 144 By: ss By: ss By: ss Rec. Limit ) - 141 RPI
GRO Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 35248 Prep Batch: 30595 Param GRO	Result 7.98 r spike result. R MS Result 0.773 1.14 d Sample: 118 MS Result 11 7.58 spike result. F MSD Result	ng/Kg PD is bas Result 0.670 1.15 076 Date Ana QC Prepa It U mg	Dil. Am 1 10 sed on the s t Units mg/Kg mg/Kg lyzed: 20 aration: 20 mits D <u>5/Kg</u> sed on the s Dil. An	ike ount .0 pike and Dil 1 1 07-03-0 07-03-0 07-03-0 il. 1 pike an	Matrix Result <0.739 d spike d Spike 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	80 uplicat ke bunt	10 e resu MS Rec. 77 114 114 fatrix tesult 7.58 e resu	Limit - 141.5 lt. MSD Rec. 67 115 An Pro- Rec. 0 lt.	19 40 86.7 alyzed	Lim 20 Rec. 115.3 7 - 144 By: s By: s Rec. Limit ) - 141

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	$\operatorname{Result}$	$\operatorname{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.696	0.688	mg/Kg	1	, 1	70	69	40 - 125.3
								continued

<sup>11</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>12</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ....

	MS	MSD			$\mathbf{Spike}$	MS	MSD	Rec.
Surrogate	Result	Result	. Units	Dil.	$\operatorname{Amount}$	Rec.	Rec.	Limit
4-Bromofluorobenzene (4-BFB)	1.24	1.20	mg/Kg	1	1	124	120	86.7 - 144.5

#### Matrix Spike (MS-1) Spiked Sample: 118076

QC Batch:	35249	Date Analyzed:	2007-03-05	•	Analyzed By:	SS
Prep Batch:	30597	QC Preparation:	2007-03-05		Prepared By:	SS

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit
Benzene	13	1.17	mg/Kg	1	1.00	< 0.00110	117	64.4 - 115.7
Toluene		1.21	mg/Kg	1	1.00	< 0.00150	121	57.8 - 124.4
Ethylbenzene		1.24	mg/Kg	1	1.00	< 0.00160	124	64.8 - 125.8
Xylene	14	3.81	mg/Kg	1	3.00	0.1083	123	65.2 - 121.8

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

	MSD			Spike	Matrix		Rec.		RPD
Param	$\operatorname{Result}$	Units	Dil.	Amount	$\operatorname{Result}$	Rec.	Limit	RPD	$\operatorname{Limit}$
Benzene	1.01	mg/Kg	1	1.00	< 0.00110	101	64.4 - 115.7	15	20
Toluene	1.07	mg/Kg	1	1.00	< 0.00150	107	57.8 - 124.4	12	20
Ethylbenzene	1.10	mg/Kg	1	1.00	< 0.00160	110	64.8 - 125.8	12	20
Xylene	3.36	mg/Kg	1	3.00	0.1083	108	65.2 - 121.8	13	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	$\mathbf{Result}$	Result	Units	Dil.	$\operatorname{Amount}$	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.888	0.883	mg/Kg	1	1	89	88	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.970	0.939	mg/Kg	1	1	97	94	66.7 - 131.9

#### Matrix Spike (MS-1) Spiked Sample: 118078

QC Batch:	35291	Date Analyzed:	2007-03-06	Analyzed By:	ss
Prep Batch:	30630	QC Preparation:	2007-03-06	Prepared By:	SS

		MS			Spike	Matrix		Rec.
Param		$\mathbf{Result}$	Units	Dil.	$\operatorname{Amount}$	$\mathbf{Result}$	Rec.	Limit
GRO	15	258	mg/Kg	10	100	258	0	10 - 141.5

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

		MSD			Spike	Matrix		Rec.		RPD
Param		$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\operatorname{Limit}$
GRO	16	322	mg/Kg	10	100	258	0	10 - 141.5	22	20

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

<sup>&</sup>lt;sup>13</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>14</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>15</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>16</sup>Matrix spike recovery out of control limits due to matrix interference Use LCS/LCSD to demonstrate analysis is under control.

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	MS	м	ISD			Spik	e I	MS	MSD		Rec.
Surrogate	Resu		esult	Units	Dil.	Amou		lec.	Rec.		Limit
Trifluorotoluene (TFT)	8.08			mg/Kg	10	10		81	76		- 125.3
	17 12.2			mg/Kg	10	10		122	169		7 - 144.5
Matrix Spike (MS-1) Spiked S	Sample: 11	7862									
QC Batch: 35318		Date A	nalyzed:	2007-0	3-07				Ana	lyzed B	y: AR
Prep Batch: 30650		QC Pre	paration	: 2007-0	3-06				Prep	oared B	y: AR
	MS	5			1	Spike	Ma	trix			Rec.
Param	Resu	ılt	Units	Dil.	Α	mount	Res	sult	$\operatorname{Re}$	c.	Limit
Chloride	160	<b>3</b> 1	mg/Kg	5		62.5	103	.909	99	9	90 - 110
Percent recovery is based on the spi	ike result.	RPD is	based on	the spike	e and s	spike dup	olicate r	esult.			
	MSD			Spike		Matrix	_		lec.		RPD
Param Chloride	Result 162	Units mg/Kg	Dil.	Amour 62.5		Result 03.909	Rec. 93		mit - 110	$\frac{\text{RPD}}{2}$	Limit
									-		.—
Matrix Spike (MS-1) Spiked	ske result. Sample: 11	7863		_		spike dur	olicate r	esult.			4.7
Matrix Spike (MS-1) Spiked QC Batch: 35319		17863 Date Ar	based on nalyzed: eparation	2007-0	3-07	spike dur	olicate r	esult.	Ana	lyzed B pared B	
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652	Sample: 11	Date An QC Pre	nalyzed: eparation	2007-0 :: 2007-0	3-07 3-06	Spike	Ma	trix	Ana Prej	pared B	y: AR Rec.
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param	Sample: 11 MS Rest	Date Ar QC Pre	nalyzed: eparation Units	2007-0 :: 2007-0 Dil.	3-07 3-06	Spike	Ma Re	trix	Ana Prep Re	pared B	y: AR Rec. Limit
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride	Sample: 11 MS Rest	Date A Date A QC Pre	nalyzed: eparation Units mg/Kg	2007-0 :: 2007-0 	3-07 3-06 A	Spike mount 62.5	Ma Re 12.'	trix sult 7768	Ana Prep Re	pared B	y: AR Rec. Limit
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride	Sample: 11 MS Rest	Date A Date A QC Pre	nalyzed: eparation Units mg/Kg	2007-0 :: 2007-0 	3-07 3-06 A e and s	Spike mount 62.5	Ma Re 12.'	trix sult 7768 result.	Ana Prep Re	pared B	y: AR Rec.
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp	Sample: 11 MS Resu 71. ike result.	Date A Date A QC Pre	nalyzed: eparation Units mg/Kg	2007-0 :: 2007-0 Dil. 5 1 the spike	3-07 3-06 A e and s	Spike mount 62.5 spike dup	Ma Re 12.'	trix sult 7768 esult	Ana Prep Re	pared B	y: AR Rec. Limit 90 - 110
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param	Sample: 11 MS Rest 71. ike result. MSD	17863 Date Ar QC Pre Gult 5 RPD is Units	nalyzed: eparation Units mg/Kg based or Dil.	2007-0 :: 2007-0 Dil. 5 1 the spike Spike	3-07 3-06 A e and s e 1 nt 1	Spike mount 62.5 spike dup Matrix	Ma Re 12.' Dlicate r	utrix sult 7768 result. F	Ana Prep Re 9	pared B ec. 4	y: AR Rec. Limit 90 - 110 RPD
QC Batch: 35319	MS Resu 71. ike result. MSD Result 70.9	Date A QC Pre QC Pre It 5 RPD is Units mg/Kg	nalyzed: eparation <u>Units</u> mg/Kg based or Dil. g 5	2007-0 : 2007-0 Dil. 5 1 the spike Amoun 62.5	3-07 3-06 A e and s e 1 nt 1	Spike mount 62.5 spike dup Matrix Result 12.7768	Ma Re 12.' blicate r Rec. 93	utrix sult 7768 result. F Li 90	Ana Prep Rec. imit - 110	ec. 4 RPD	y: AR Rec. Limit 90 - 110 RPD
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp	MS Resu 71. ike result. MSD Result 70.9	Date Ar QC Pre C Pre It 5 RPD is Units mg/Kg RPD is	nalyzed: eparation <u>Units</u> mg/Kg based or Dil. g 5	2007-0 : 2007-0 Dil. 5 1 the spike Amoun 62.5	3-07 3-06 A e and s e 1 nt 1	Spike mount 62.5 spike dup Matrix Result 12.7768	Ma Re 12.' blicate r Rec. 93	utrix sult 7768 result. F Li 90	Ana Prep Rec. imit - 110	ec. 4 RPD	y: AR Rec. Limit 90 - 110 RPD
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked	Sample: 11 MS Resu 71. ike result. MSD Result 70.9 ike result.	17863 Date Ar QC Pre dit 5 RPD is Units mg/Kg RPD is	nalyzed: eparation <u>Units</u> mg/Kg based or <u>Dil.</u> g 5 based or	2007-0 : 2007-0 Dil. 5 1 the spike Amoun 62.5 1 the spike	3-07 3-06 e and s nt 1 1 e and s	Spike mount 62.5 spike dup Matrix Result 12.7768	Ma Re 12.' blicate r Rec. 93	utrix sult 7768 result. F Li 90	Ana Prep Rec. imit - 110	ec. 4 RPD 1	y: AR Rec. Limit 90 - 110 RPD Limit
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp	Sample: 11 MS Resu 71. ike result. MSD Result 70.9 ike result.	17863 Date Ar QC Pre Content Date An Date A	nalyzed: eparation <u>Units</u> mg/Kg based or Dil. g 5	2007-0 2007-0 Dil. 5 1 the spike Amoun 62.5 1 the spike 2007-0	3-07 3-06 A e and s nt 1 1 e and s	Spike mount 62.5 spike dup Matrix Result 12.7768	Ma Re 12.' blicate r Rec. 93	utrix sult 7768 result. F Li 90	Ana Prep Rec. imit - 110	ec. 4 RPD 1	y: AR Rec. Limit 90 - 110 RPD Limit
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 35321	Sample: 11 MS Resu 71. ike result. MSD Result 70.9 ike result. Sample: 11	17863 Date Ar QC Pre alt 5 RPD is <u>Units</u> RPD is 17874 Date A QC Pre	nalyzed: eparation <u>Units</u> mg/Kg based or <u>Dil.</u> g 5 based or nalyzed:	2007-0 2007-0 Dil. 5 1 the spike Amoun 62.5 1 the spike 2007-0	3-07 3-06 A e and s nt 1 1 e and s	Spike mount 62.5 spike dup Matrix Result 12.7768 spike dup	Ma Re 12.' blicate r Rec. 93 blicate r	trix sult 7768 esult. F Li 90 result.	Ana Prep Rec. imit - 110	ec. 4 RPD 1	y: AR Rec. Limit 90 - 110 RPD Limit Ey: AR y: AR
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 35321 Prep Batch: 30653	Sample: 11 MS Resu 71. ike result. MSD Result 70.9 ike result. Sample: 11	17863 Date Ar QC Pre Ilt 5 RPD is Units mg/Kg RPD is 17874 Date A QC Pre	nalyzed: eparation <u>Units</u> mg/Kg based or <u>Dil.</u> g 5 based or nalyzed: eparation	2007-0 2007-0 Dil. 5 1 the spike Amoun 62.5 1 the spike 2007-0 1: 2007-0	3-07 3-06 A e and s e 1 1 e and s 03-07 03-06	Spike mount 62.5 spike dup Matrix Result 12.7768 spike dup	Ma Re 12.' olicate r 93 olicate r	etrix sult 7768 esult. F Li 90 esult.	Ana Prep Rec. imit - 110 Ana Prej	RPD 1	y: AR Rec. Limit 90 - 110 RPD Limit Limit y: AR y: AR y: AR Rec.
Matrix Spike (MS-1) Spiked QC Batch: 35319 Prep Batch: 30652 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 35321 Prep Batch: 30653 Param	Sample: 11 MS Resu 71. ike result. MSD Result 70.9 ike result. Sample: 11	17863 Date Ar QC Pre Ilt 5 RPD is Units mg/Kg RPD is 17874 Date A QC Pre IS sult	nalyzed: eparation <u>Units</u> mg/Kg based or <u>Dil.</u> g 5 based or nalyzed:	2007-0 2007-0 Dil. 5 1 the spike Amoun 62.5 1 the spike 2007-0	3-07 3-06 A e and s e 1 1 e and s 03-07 03-06	Spike mount 62.5 spike dup Matrix Result 12.7768 spike dup	Ma Re 12.' olicate r 93 olicate r Ma Re	trix sult 7768 esult. F Li 90 result.	Ana Prep Rec. imit - 110 Ana Prep Re	ec. 4 RPD 1	y: AR Rec. Limit 90 - 110 RPD Limit Ey: AR y: AR

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

 <sup>&</sup>lt;sup>17</sup>High surrogate recovery due to peak interference.
 <sup>18</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

$\chi_g$ 5s based on theAnalyzed:20reparation:24Unitsmg/Kgs based on thets $\chi_g$ 5s based on the	AmountR $62.5$ $34$ $62.5$ $34$ $34$ spike and sp $007-03-08$ $007-03-07$ $007-03-07$ $S$ $Dil.$ Am $5$ $6$ $c$ spike and spSpikeMAmountR $62.5$ $29$ $c$ spike and sp $07-03-02$ $07-03-02$ $C0$ $C0$	riount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	Ana Prep esult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent		AR Rec. Limit 0 - 110 RPD Limit
Analyzed: 26 reparation: 26 Units mg/Kg s based on the ts Dil. 4 Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	e spike and sp 007-03-08 007-03-07 Spile An 5 6 spike and sp Spike M Amount R 62.5 29 spike and sp 07-03-02 CC Per	pike duplicate r Spike Ma mount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	Ana Prep atrix ssult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	lyzed By: pared By: ec. 45 9 RPD 77	AR Rec. Limit 0 - 110 RPD Limit
Analyzed: 26 reparation: 20 Units mg/Kg s based on the ts Dil. $A$ Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	007-03-08 007-03-07 S Dil. An 5 6 e spike and sp Spike M Amount R 62.5 29 e spike and sp 07-03-02 CC Per	Spike Ma mount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	Ana Prep esult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	2002 Pared By: 2002 Parent By:	AR Rec. Limit 0 - 110 RPD Limit
Units <u>mg/Kg</u> s based on the ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	007-03-07 S Dil. An 5 6 e spike and sp Spike M Amount R 62.5 29 e spike and sp 07-03-02 CC Per	mount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	Prep atrix asult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	2002 Pared By: 2002 Parent By:	AR Rec. Limit 0 - 110 RPD Limit
Units <u>mg/Kg</u> s based on the ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	007-03-07 S Dil. An 5 6 e spike and sp Spike M Amount R 62.5 29 e spike and sp 07-03-02 CC Per	mount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	Prep atrix asult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	2002 Pared By: 2002 Parent By:	AR Rec. Limit 0 - 110 RPD Limit
mg/Kg s based on the ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	Dil.     An       5     6       e spike and sp       Spike     M       Amount     R       62.5     29       e spike and sp       07-03-02       CC       CC	mount Re 62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	sult Re 0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	45 9 RPD 77	Limit 0 - 110 RPD Limit
mg/Kg s based on the ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	5       6         e spike and sp         Spike       M         Amount       R         62.5       29         e spike and sp         07-03-02         CC         Per	62.5 29. pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r	0917 24 esult. Rec. Limit 90 - 110 result. Anal Percent	45 9 RPD 77	0 - 110 RPD Limit
s based on the ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	e spike and sp Spike M Amount R 62.5 29 e spike and sp 07-03-02 CC Per	pike duplicate r Matrix Result Rec. 9.0917 83 pike duplicate r CVs	esult. Rec. Limit 90 - 110 result. Anal Percent	RPD 77	RPD Limit
ts Dil. A Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	Spike M Amount R 62.5 29 e spike and sp 07-03-02 CC Per	Matrix Result Rec. 9.0917 83 pike duplicate r	Rec. Limit 90 - 110 :esult. Anal Percent	77	Limit
Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	Amount         R           62.5         29           e spike and sp         9           07-03-02         CO           Per         Per	Result Rec. 9.0917 83 pike duplicate r CVs	Limit 90 - 110 result. Anal Percent	77	Limit
Kg 5 s based on the Analyzed: 200 CCVs Found Conc.	62.5 29 e spike and sp 07-03-02 CO Per	9.0917 83 pike duplicate r CVs	90 - 110 result. Anal Percent	77	
s based on the Analyzed: 200 CCVs Found Conc.	e spike and sp 07-03-02 C( Per	pike duplicate r CVs	result. Anal Percent		WR
Analyzed: 200 CCVs Found Conc.	07-03-02 C(	CVs	Anal Percent	lyzed By:	WR
Conc.			D	т	~ .
Conc.		rcent	Recovery	I	Date
245	Rec	covery	Limits		alyzed
	- (	98	85 - 115	200	7-03-02
Analyzed: 200	07-03-02		Anal	lyzed By:	WR
CCVs			Percent	_	
					Date alyzed
					7-03-02
Analyzed: 200	07-03-02		Ana	lyzed By:	WR
ICVs Found			Percent Recovery	I	Date
Conc.			Limits		alyzed
219		88	85 - 115		7-03-02
	CCVs Found Conc. 215 analyzed: 20 ICVs Found Conc. 219 interference. Us	Found     Per       Conc.     Red       215     215       analyzed:     2007-03-02       ICVs     I       Found     Per       Conc.     Red       219     219       interference.     Use       LCS/LCSD     t	CCVs       CCVs         Found       Percent         Conc.       Recovery         215       86         analyzed:       2007-03-02         ICVs       ICVs         Found       Percent         Conc.       Recovery         219       88         interference.       Use LCS/LCSD to demonstrate an         interference.       Use LCS/LCSD to demonstrate an	CCVs       CCVs       Percent         Found       Percent       Recovery         Limits       215       86       85 - 115         analyzed:       2007-03-02       Ana         ICVs       ICVs       Percent         Found       Percent       Recovery         Conc.       Recovery       Limits         219       88       85 - 115         interference.       Use LCS/LCSD to demonstrate analysis is under	CCVs     CCVs     Percent       Found     Percent     Recovery     I       Conc.     Recovery     Limits     An       215     86     85 - 115     200       Analyzed:     2007-03-02     Analyzed By:       ICVs     ICVs     Percent       Found     Percent     Recovery       Conc.     Recovery     I

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### Standard (CCV-1)

QC Batch:	35179		Date Ana	lyzed: 2007-03		Analy	zed By: WR
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	224	90	85 - 115	2007-03-02
Standard	(ICV-1)						
QC Batch:	35184		Date An	alyzed: 2007-0	)3-02	An	alyzed By: ss
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.14	114	85 - 115	2007-03-02
Standard	(CCV-1)						
QC Batch:	35184		Date An	alyzed: 2007-0	)3-02	An	alyzed By: ss
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO	·····	mg/Kg	1.00	1.07	107	85 - 115	2007-03-02
Standard	(ICV-1)						
QC Batch:	35185		Date An	alyzed: 2007-0	)3-02	An	alyzed By: ss
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.06	106	85 - 115	2007-03-02
Standard	(CCV-1)						
QC Batch:	35185		Date Ar	alyzed: 2007-	03-02	. An	alyzed By: ss
			CCVs	$\rm CCVs$	CCVs	Percent	
_			$\operatorname{True}_{\widehat{\alpha}}$	Found	Percent	Recover y	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.02	102	85 - 115	2007-03-02

QC Batch: 35248

Date Analyzed: 2007-03-05

Analyzed By: ss

Param       Flag         GRO       Standard (CCV-1)         QC Batch:       35248         Param       Flag         GRO       Standard (ICV-1)         QC Batch:       35249         Param       Benzene         Toluene       Ethylbenzene         Xylene       Standard (CCV-1)         QC Batch:       35249	Units mg/Kg Units mg/Kg Flag Units Flag Units mg/Kg mg/Kg mg/Kg mg/Kg	ICVs True Conc. 1.00 Date Anal CCVs True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100 0.300	ICVs Found Conc. 0.0961 0.0978 0.0980	CCVs Percent Recovery 100 3-05 ICVs Percent Recovery 96 98	Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-05 alyzed By: ss Date Analyzed 2007-03-05 alyzed By: ss Date Analyzed 2007-03-05
GRO Standard (CCV-1) QC Batch: 35248 Param Flag GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	Units mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	1.00 Date Anal CCVs True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	1.01 yzed: 2007-03 CCVs Found Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	101 CCVs Percent Recovery 100 3-05 ICVs Percent Recovery 96 98	85 - 115 Ana Percent Recovery Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	2007-03-05 alyzed By: ss Date Analyzed 2007-03-05 alyzed By: ss Date Analyzed
Standard (CCV-1)         QC Batch:       35248         Param       Flag         GRO       Standard (ICV-1)         QC Batch:       35249         Param       Benzene         Toluene       Ethylbenzene         Xylene       Standard (CCV-1)         QC Batch:       35249	Units mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	Date Anal CCVs True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	lyzed: 2007-03 CCVs Found Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	G-05 CCVs Percent Recovery 100 G-05 ICVs Percent Recovery 96 98	Ana Percent Recovery Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	alyzed By: ss Date <u>Analyzed</u> 2007-03-05 alyzed By: ss Date Analyzed
QC Batch: 35248 Param Flag GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	Units mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	CCVs True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	CCVs Found Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	CCVs Percent Recovery 100 3-05 ICVs Percent Recovery 96 98	Percent Recovery Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-05 alyzed By: ss Date Analyzed
Param Flag GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	CCVs True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	CCVs Found Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	CCVs Percent Recovery 100 3-05 ICVs Percent Recovery 96 98	Percent Recovery Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-03 alyzed By: ss Date Analyzed
GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	True Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	Found Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	Percent Recovery 100 3-05 ICVs Percent Recovery 96 98	Recovery Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	Analyzed 2007-03-03 alyzed By: ss Date Analyzed
GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	Conc. 1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	Conc. 1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	Recovery 100 3-05 ICVs Percent Recovery 96 98	Limits 85 - 115 Ana Percent Recovery Limits 85 - 115	Analyzed 2007-03-05 alyzed By: ss Date Analyzed
GRO Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg Flag Units mg/Kg mg/Kg mg/Kg	1.00 Date Anal ICVs True Conc. 0.100 0.100 0.100	1.00 lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	100 3-05 Percent Recovery 96 98	85 - 115 Ana Percent Recovery Limits 85 - 115	2007-03-03 alyzed By: ss Date Analyzed
Standard (ICV-1) QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	Flag Units mg/Kg mg/Kg mg/Kg	Date Anal ICVs True Conc. 0.100 0.100 0.100	lyzed: 2007-03 ICVs Found Conc. 0.0961 0.0978 0.0980	ICVs Percent Recovery 96 98	Ana Percent Recovery Limits 85 - 115	alyzed By: ss Date Analyzed
QC Batch: 35249 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	ICVs True Conc. 0.100 0.100 0.100	ICVs Found Conc. 0.0961 0.0978 0.0980	ICVs Percent Recovery 96 98	Percent Recovery Limits 85 - 115	Date Analyzed
Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	ICVs True Conc. 0.100 0.100 0.100	ICVs Found Conc. 0.0961 0.0978 0.0980	ICVs Percent Recovery 96 98	Percent Recovery Limits 85 - 115	Date Analyzed
Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	True Conc. 0.100 0.100 0.100	Found Conc. 0.0961 0.0978 0.0980	Percent Recovery 96 98	Recovery Limits 85 - 115	Analyzed
Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	True Conc. 0.100 0.100 0.100	Found Conc. 0.0961 0.0978 0.0980	Percent Recovery 96 98	Recovery Limits 85 - 115	Analyzed
Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	Conc. 0.100 0.100 0.100	Conc. 0.0961 0.0978 0.0980	Recovery 96 98	Limits 85 - 115	Analyzed
Benzene Toluene Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg mg/Kg	$0.100 \\ 0.100 \\ 0.100$	$0.0961 \\ 0.0978 \\ 0.0980$	96 98	85 - 115	
Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg mg/Kg	$\begin{array}{c} 0.100\\ 0.100\end{array}$	$0.0978 \\ 0.0980$			
Ethylbenzene Xylene Standard (CCV-1) QC Batch: 35249	mg/Kg	0.100	0.0980			2007-03-0
Xylene Standard (CCV-1) QC Batch: 35249				98	85 - 115	2007-03-0
Standard (CCV-1) QC Batch: 35249			0.298	99	85 - 115	2007-03-0
Daram		Date Ana				alyzed By: ss
Dorom		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
	Flag Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	mg/Kg	0.100	0.0954	<u>95</u>	85 - 115	2007-03-0
Toluene	mg/Kg	0.100	0.0979	98	85 - 115	2007-03-0
Ethylbenzene	mg/Kg	0.100	0.0965	96	85 - 115	2007-03-0
Xylene	mg/Kg	0.300	0.293	98	85 - 115	2007-03-0
	6/8					
Standard (ICV-1)						
QC Batch: 35291		Date Ana	lyzed: 2007-03	3-06	Ana	alyzed By: ss
		ICVs	ICVs	ICVs	Percent	-
D	тт •,	True	Found	Percent	Recovery	Date
Param Flag GRO	Units mg/Kg	<u>Conc.</u> 1.00	Conc. 1.06	Recovery 106	Limits 85 - 115	Analyzed 2007-03-0
Standard (CCV-1)			1.00			2001-00 0
QC Batch: 35291		Date Ana	lyzed: 2007-03	3-06	An	alyzed By: ss

Report Dat 2955	te: March 9, 2	007		ork Order: 7030 Cooper 4-1 SW			umber: 26 of 27 ea County, NM
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.07	107	85 - 115	2007-03-06
Standard	(ICV-1)						
QC Batch:	35318		Date Ana	lyzed: 2007-03	8-07	Anal	yzed By: AR
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	12.5	11.8	95	90 - 110	2007-03-07
Standard	(CCV-1)						
QC Batch:	35318		Date Ana	lyzed: 2007-03	3-07	Anal	yzed By: AR
			CCVs True	$\operatorname{CCVs}$ Found	$\operatorname{CCVs}$	Percent	Date
		Units	Conc.	Conc.	Recovery	Recovery Limits	Analyzed
Param	Flag				100001019	11111100	rinaryboa
Param Chloride Standard	Flag (ICV-1)	mg/Kg	12.5	11.8	94	90 - 110	
Chloride	(ICV-1)		12.5	11.8 Jyzed: 2007-03			
Chloride Standard	(ICV-1)		12.5 Date Ana ICVs	ılyzed: 2007-0; ICVs	3-07 ICVs	Anal Percent	2007-03-07 yzed By: AR
Chloride Standard QC Batch:	(ICV-1) 35319	mg/Kg	12.5 Date Ana ICVs True	ılyzed: 2007-0; ICVs Found	3-07 ICVs Percent	Anal Percent Recovery	2007-03-0 yzed By: AR Date
Chloride Standard QC Batch: Param	(ICV-1)	mg/Kg Units	12.5 Date Ana ICVs	ılyzed: 2007-0; ICVs	3-07 ICVs	Anal Percent	2007-03-0 yzed By: AR Date Analyzed
Chloride Standard QC Batch: Param Chloride	(ICV-1) 35319 Flag	mg/Kg	12.5 Date Ana ICVs True Conc.	lyzed: 2007-0; ICVs Found Conc.	3-07 ICVs Percent Recovery	Anal Percent Recovery Limits	2007-03-03 yzed By: AR Date Analyzed
Chloride Standard QC Batch: Param Chloride Standard	(ICV-1) 35319 Flag (CCV-1)	mg/Kg Units	12.5 Date Ana ICVs True Conc. 12.5	lyzed: 2007-0; ICVs Found Conc.	3-07 ICVs Percent Recovery 94	Anal Percent Recovery Limits 90 - 110	2007-03-07 yzed By: AR Date Analyzed 2007-03-0
Chloride Standard QC Batch: Param Chloride Standard	(ICV-1) 35319 Flag (CCV-1)	mg/Kg Units	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs	lyzed: 2007-03 ICVs Found Conc. 11.8 lyzed: 2007-03 CCVs	ICVs Percent Recovery 94 3-07 CCVs	Anal Percent Recovery Limits 90 - 110 Anal Percent	2007-03-07 yzed By: AR Date Analyzed 2007-03-0' yzed By: AR
Chloride Standard QC Batch: Param Chloride Standard QC Batch:	(ICV-1) 35319 Flag (CCV-1) 35319	Units mg/Kg	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs True	lyzed: 2007-03 ICVs Found Conc. 11.8 lyzed: 2007-03 CCVs Found	ICVs Percent Recovery 94 3-07 CCVs Percent	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery	2007-03-05 yzed By: AR Date Analyzed 2007-03-0' yzed By: AR Date
Chloride Standard QC Batch: Param Chloride Standard QC Batch: Param	(ICV-1) 35319 Flag (CCV-1)	Units mg/Kg Units	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs True Conc.	lyzed: 2007-03 Found Conc. 11.8 lyzed: 2007-03 CCVs Found Conc.	3-07 ICVs Percent Recovery 94 3-07 CCVs Percent Recovery	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	2007-03-07 yzed By: AR Date Analyzed 2007-03-07 yzed By: AR Date Analyzed
Chloride Standard QC Batch: Param Chloride Standard QC Batch: Param	(ICV-1) 35319 Flag (CCV-1) 35319	Units mg/Kg	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs True	lyzed: 2007-03 ICVs Found Conc. 11.8 lyzed: 2007-03 CCVs Found	ICVs Percent Recovery 94 3-07 CCVs Percent	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery	2007-03-05 yzed By: AR Date Analyzed 2007-03-0' yzed By: AR Date Analyzed
Chloride Standard QC Batch: Param Chloride Standard QC Batch: Param Chloride	(ICV-1) 35319 Flag (CCV-1) 35319 Flag	Units mg/Kg Units	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs True Conc.	lyzed: 2007-03 Found Conc. 11.8 lyzed: 2007-03 CCVs Found Conc.	3-07 ICVs Percent Recovery 94 3-07 CCVs Percent Recovery	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	2007-03-07 yzed By: AR Date Analyzed 2007-03-07 yzed By: AR Date Analyzed
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Chloride Standard QC Batch: Param Chloride Standard QC Batch: Param Chloride Standard	(ICV-1) 35319 Flag (CCV-1) 35319 Flag (ICV-1)	Units mg/Kg Units	12.5 Date Ana ICVs True Conc. 12.5 Date Ana CCVs True Conc. 12.5	lyzed: 2007-03 ICVs Found Conc. 11.8 lyzed: 2007-03 CCVs Found Conc. 11.8	3-07 ICVs Percent Recovery 94 3-07 CCVs Percent Recovery 94 3-07	Anal Percent Recover y Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal	2007-03-07 yzed By: AR Date Analyzed 2007-03-07 yzed By: AR Date Analyzed 2007-03-07

Report Date 2955	e: March 9, 20	007		rk Order: 7030 Cooper 4-1 SWI		0	umber: 27 of 27 Lea County, NM
Standard (	CCV-1)						
QC Batch:	35321		Date Anal	yzed: 2007-03	-07	Anal	yzed By: AR
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	$\operatorname{Limits}$	Analyzed
Chloride		mg/Kg	12.5	12.0	96	90 - 110	2007-03-07
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	12.5	12.0	96	90 - 110	2007-03-08
Standard (	(CCV-1)						
QC Batch:	35364		Date Ana	lyzed: 2007-03	3-08	Anal	yzed By: AR
			CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	12.5	11.4	91	90 - 110	2007-03-08

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Analysis Request and Chain of Custo	$\overline{\mathrm{d} \mathrm{v}}$	,	R	ec	ord								PAGE		2	)		OF:		2	
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<b>Midland, Texas 79705</b> (432) 682-4559 Fax	ε (4'	32	n F	587-	3946					2 2 5 5							2				
	· · · · ·		- <u>r</u> -		ERVAT			6	$\mathbf{V}$	3 3			16	825							
CLIENT NAME: Cimaret SITE MANAGER: I/ce Tavarez	INER				ETHOD			GOIS NOD		8 8		ţa.	Pan /	8270/625							
CLIENT NAME: Cimarex SITE MANAGER: I/ce Tavarez PROJECT NO.: 2955 PROJECT NAME: CINGREY / COOPER 4-1 SWD Leg county, NM	CONTA	(A/A)	lur.)				802			a Ag An	68.2	TCLP Semi Valatiles	8/0/8	Vol.	1_1	108 11 11 11 11 11 11 11 11 11 11 11 11 11		Alpha Beta (Air)	tos)		
Leg county, 1VM	ð						8020/602	418	022	<u>f</u> étal Intele	olati	E I	1vh	Serui	8080	308/1		Beta	(Asbestos)		
LAB I.D. NUMBER DATE TIME TIME SAMPLE IDENTIFICATION	NUMBER	0.3.4 11.5		BONH	ICE	TATOL	J XSILE	MILLE BUCO/BUC	PAH B	RCRA Hetals Ag	A dia	ICLP S	RCI Pr VIC	SC.MS	PCB's	Pest. 808/608	- inde	Alpha	I) MId		
1178662128107 S X AH-4 1'-1.5'	1				X											)	X				1
857   S X AH -4 2'-2.5'	1				X									1.							
868 SXAH-5 0-1.0'	1				X			Х	(							)	K				
869 SXAH-5 1'-1.5'					X			Х								)	<				
870 S X AH-5 2'-2.5'					Х											)	<				
871 S X AH-5 3'-3.5' 872 S X AH-5 4'-4.5'	1				X											_)	X				
872 S X AH-5 4'-4.5'	1				X											)	(				
873 S XAH-5 5'-5.5'	1				X												۲				
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SAMPLE CONDITION WHEN RECEIVED: MATRIX: W-Water A-Air SD-Solid C-Solid SL-Sludge 0-Other				REM	RKS: C	ul	ナ	est	· ۲	- //	e	Ð	æ	ind							

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Analysis Request	and Chain of Custo	dy	I	Red	or	d						4.5		AGE: SIS	7770	1	71	0	F.	7	
	ENVIRONMENTAL						-			(	Circ			peci				īo.)			
1910	) N. Big Spring St. land, Texas 79705				• 2-394	46			2001221	off da 20	Cr Pd Hg Se						6				
CLIENT NAME: Cinaret	SITE MANAGER: Ike Tavarez	NERS			ESERV METH	ATIVE OD			ADIS TODI	Ra Cd	3			80/824	320/02		Chloride				
PROJECT NO - PROJECT I	Lea county , NR	CONT	(M)				808,	808,		Ar As	Metals Ag As Ba	19	Volatiici	8340/85	Vol. 8	808/	H, TDS,	10 (11)	tos)		
LAB I.D. NUMBER DATE TIME XI REAL	LCA COUNTY INT SAMPLE DENTIFICATION	NUMBER OF	FILTERED (Y/N)	HCL	ICE	NONE	HEX BOZD/803		NP 418.1	PAH UNTU RCRA Metals An	TCLP Metals	TCLP Volatiles	TCLP Semi Volatiles Ref	GC.MS Vol. 8240/8280/824	GC.MS Somi. Vol. 8270/625	PCB's 8080/80 Pest. 808/809	BOD, 733, pH, TD3,	Genna Spec.	PLM (Asbeatos)		
2/28/07 S X A	H-1 0-1.0'	ł			X				X								X				
S X A	14-1 1'-1.5'				X												X				
5 X A	4-1 2'-2.5'	1			X																
5 X A	4-2 0-1.0'	1			X				X								X				
S X AI	1-2 1'-1.5'				<u> X</u>				_								X				
	4-2 2'-2.5'	1			X																
	4-3 0 -1.0'	1			X				X								X				
	4-3 1'-1.5'				X												X				
	4-3 2'-2.5'				X			_	_												
	4-4 0-1.0'				X				X								X				
				Date: Time:				1	4 )	ED I Tayl	5Y: (	l Ko	t & 1	Sign) Hart	ison			te:	3/1/	7	
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SAMPLE CONDITION WHEN RECEIVED:	MATRIX: W-Water A-Air SD-Solid S-Sol SL-Sludge 0-Other			REM	arks: n 3	DTE	× 1	21	h	iphe	<b>5</b> 4	T	РH	,							

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Analysis Request and Chain of Custo	dy 1	Record				PAGE:	2	OF:	2
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HIGHLANDER ENVIRONMENTAL 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 Fai		<b>RP.</b> ) 682-3946		2001227	ac ar ar ar			2	
CLIENT NAME: Cimaret SITE MANAGER: I/ce Tavarez	NERS	PRESERVATIVE METHOD		AUIS MODY	Ba Cd	1 180/624	Chlorides		
CLIENT NAME: Cimarch SITE MANAGER: I/ce Tavarcz PROJECT NO.: 2955 PROJECT NAME: Cinarcy / Cooper 4-1 SWD Leg county, IVM	DF CONTAI		0/602	18.1	TCIP Metals Ag As Ba Cd Cr. TCIP Volatiles	TCLP Semi Volatile# RCI GC.MS Vol. 8240/8280/824 CC NS Semi V-C 3200 /028	PCB's 8080/808 Pest. 808/808 Pest. 808/808 BOD, 755, pH. TDS, Chord	pac. ta (Atr)	cutou)
LAB I.D. NUMBER DATE TIME E SAMPLE IDENTIFICATION	NUMBER OF CO FILTERED (Y/N)	HCL HNO3 ICE NONE	STEX 8020/608 MTBE 8020/608	PAH 8270	TCLP Metals Ag	RCIP Sem RCI GC.MS Vol	PCB's 8080/80 Pcst. 808/808 Bob, 755, pH.	Gamma Spac. Alpha Beta (Air)	PLA (Asbestos)
2/28/07 S X AH-4 1'-1.5'	1	X					X		
S X AH -4 2'-2.5'		X							
S X AH-5 0-1.0'	1	X		X			X		
S X AH-5 1'-1.5'		X		X			I.X		
S X AH - 5 2' - 2.5'	1	X					X		
S X AH-5 3'-3.5'	1	X					X		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	X					X		
S X AH-5 5'-5.5'	1	Χ					X		
SX Stock Pile East		X		<u>X</u>			<u> </u>	/	
V SX Stock Pile West		X		X			X		
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SAMPLE CONDITION WHEN RECEIVED: U	i	REMARKS:	<u>l</u>						

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			N S	5				···		NO.	H	HCL	E		2	_	LUN I		RCRA	5	22	RG 1	ខ្ល	ប្លូន	Per la	BOI	<u>8</u> 8	PLU		
117852	2/28/07		5	X	AH-1		1.0'			1				X		X		X								X				
853			5	X	AH - 1	' <b>/</b> '-	1.5	1		1				X												X				
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ADDRESS: CITY: <u>M+C</u> CONTACT:	LIGNO		ATE: PHON		<u>/</u>	ZIP:		ATE: 3-/	-07	TIME:		1.	45				-	Τŀ	le	Ta	141	12					Autho Yea	rized:	No	
SAMPLE COND	ITION WHE				<u> </u>	ATRIX:	W-Wate		SD-Soli			R	EWAR	KS:																
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Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

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Analysis Request	and Chain of Custo	dy	Re	cord	-					4 37		GE: IIS RI	TOT	1	C	F:	2	
UICHIANDEL	ENVIRONMENTAL	<u> </u>	מו	ת				(	Circl			ecify	-		No.)			
	N. Big Spring St.							2	Se Se									
	land, Texas 79705						13(1005		R Hg									
(432) 682-4559		x (432	;) 68	32-3946	5			1 1	a bq									
CLIENT NAME: DUKE	SITE MANAGER: Ike TAUGrez	INKRS	P	RESERVA'			BOIS MOD.		Ba Cd			1280/624 8270/824		Chloride				
PROJECT NO.: 2883 PROJECT N Dulic	AME: 55-2 Line Leg county INM	DF CONTAINERS	h- /-			/603	1908 11 (80		5 Ag As	lea		8240/8		608 PH. TDS	.08	(ALr) ttos)		
LAB I.D. NUMBER DATE TIME XX	SAMPLE IDENTIFICATION	NUMBER OF		HN09 ICE	NONE	BTEX 8020/603	WTHE 8020/802	PAH 8870	TCLP Metals Ag As B	TCLP Volatiles	RCI	GC.MS Vol. 8240/8280/624	PCB's 8080/808	Peat. 808/608 BOD, 755, pH.	Gamma Spec.	Alpha Beta (Air) PLM (Asbestos)		
1178382/27/07 S X A	H-1 0-1.0'			X			X											
	4-1 1'-1.5'	1		X			X											
	1-1 2'-2.5'	1		X			X											
B41 SXAI	1-1 4'-4.5'	1		X			χ							X			-	
(342 S X A)	4-1 6'-6.5'	1		X			X							X				
843 S X AH	-2 0-1.0'	1		X			X							X				
844 S X AI	1-2 1'-1.5'	1		X			X							X				
845 S X AH	-2 2'-2.5'	1		X			χ											
846 S X AH	-2 3'-3.5'	1		X			χ											
	1-3 0-1.0	1		X			χ							X				
RELING BIRLEY BY: (Signature) Dat Tim			Date Tim			-	SAM	PLED Ur T	BY: ( 4 7/4	Print	R		h		late: _ lme: _	2/2	2.7/07	<u></u>
RELINQUISHED BY: (Signature) Dat Tim			Date Time				SAM FED	PLE S. EX	HÍPPE	D B	/: (Ci	rcle) BUS		AIR	3ILL #	Ŧ		
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RECEIVING LABORATORY: 17462	RECEIVED BY (Signature)	2	· ·					ILANDI 1							RUS	H Cha	ges	
ADDRESS:	ZIP; DATE: <u>3 - 1 - 07</u>	TDIE:	1.	45			41	ke	ju	097	01	_			Aut. Ye	borized R	No	
SAMPLE CONDITION WHEN RECEIVED:	MATRIX: W-Water A-Air SD-Solid S-Solid SL-Sludge 0-Other	!		uarks: 41 2	BĨĖ	<u>x</u>	2ei	ps!	est	1	P H	(						

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

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dy     Record       dy     Record       CORP.     (432)       6826,466     (432)       6826,466     (432)       6826,466     (432)       710,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (432)       100,100     (100,100)	Ucest and Chain of Custody Record     DER ENVIRONMENTAL CORP.       1910 N. Big Spring St.     Midland, Texas 79705       Fax (323) 662-3946     Fax (323) 662-3946       Sime MANDER: J.K. 7404.72     Fax (323) 662-3946       Sime MANDER: J.K. 7404.73     Fax (323) 662-3946       Sime MANDER: J.K. 7404.73     Fax (323) 662-3946       Sime MANDER: J.K. 7404.73     Fax (323) 662       Sime MANDER: J.K. 7404.73     Fax (323) 662       Sime MANDER: J.K. 7404.73     Fax (323) 662       Sime MANDER: J.K. 7404.74     Fax (323) 662       Sime MANDER: J.K. 7404.75     K       Sime MANDER: J.K. 7404.75     K       Sime MANDER: J.K. 7404.75     K       Sime MANDE     Fax (323) 662       Sime MANDE     Fax (323) 662	1	od No.)		9	Strold D	(4TF) .08 .201, ,Hd		4qtA	×							Date: 2/22/67	TIIRAIV	OTHER: Contraction and Contrac	RUSH Charges	Autorizeu: Yes No	
Ody Record       CORP.       CORP.       CORP.       CORP.       NONE       PRESERVATIVE	is Request and Chain of Custody Record HLANDER ENVIRONMENTAL CORP. 1910 N. Big Spring St. Midland, Texas 79705 Fax (432) 682-3946 2-4559 $Midland, Texas 79705$ Fax (432) 682-3946 $Du /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR MARGER: $\mathcal{L}k$ $\mathcal{T}av/r2$ MS PROBET MARGER: $\mathcal{D}u /l C$ SIR $\mathcal{L}r^{3} - 2 - 2 - 2 - 2 - 1 - 1 - 1 - 1 - 1 - 1$	PAGE: ANALYSIS RE	ircle or Specify	əs 8H	₽त ४२ दर ४२	90\934 HP CQ BF CQ	\608 1 Aoi: 61 6840\82 1 68 1 68 1 68 1 68 1 68 1 68 1 68 1 68	0000 8 10055 8 10055 8 10055 1005 10055 10	ЬСВ, К:ЭЭ К:ЭЭ К:ЭЭ К:СТБ LCTБ LCTБ LCTБ LCTБ LCTБ LCTБ LCTБ LCT	X	X	X	X				E J	ä	CHAND DELEVERATION UPP	HIGHLANDER CONTACT PERSON:	140212	
St and Chain of Custo SR ENVIRONMENTAL BIO N. Big Spring St. Aidland, Texas 79705 Fax and Chain of Custo Fax Big Spring St. AMENTAL Barne MAREN Fax AMAGEN: <i>Lkt Tauatra</i> SAMPLE DENTIFICATION AH - 3 /'-/.5' AH	Its Request and Chain of HILANDER ENVIRONMEN 1910 N. Big Spring St. Midland, Texas 79705       2-4559     Midland, Texas 79705       2-4559     Same MARGER: <i>fk 7 Du</i> / <i>lc</i> Same Levity 1.0.0 <i>Sf3</i> PRODECT NAME: SAMPLE DENTFORMON <i>Sf3 PRODECT NAME:</i> <i>Levity 1.0.0 Sf4 Levity 2.1.0.0 Sfaature Dutter Sfaature Dutter Sfaat</i>	dy Record	CORP	•	(432)	SHE	(N/.	त्र ह र) वत्रसः	NON ICE HINO HCT	X		X	X				Date:	Date: Time:	Date:			
St and Ch SR ENVIR 910 N. Big SI Aidland, Texa cr NAME: 2 Li (c / SS - 2 Li L c county L c c county L c c c c county L c c c c c c c c c c c c c c c c c c c	SHLANDER and Ch HLANDER ENVIR 1910 N. Big Si Midland, Texa 2-4559 2-4559 Du //c Signal Texa Du //c Signal Texa Du //c Signal Texa SAMPLE L SAMPLE L STR MANA STR STR MANA STR STR STR STR STR STR STR STR STR STR	of				the Tawar		, V, M DENTIFICATION		,-1.5'	12		-4.				RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)		ř	A-Air
	is Reque HLANDI HLANDI 11 11 11 11 11 11 11 11 11 1	1 1	ER ENVIR	910 N. Big Sp	didland, Texa	SITE WANAG	1			AH-3	AH - 3	AH - 3	AH - 3				Date: 7/1/07	Date:	Date:		t∱ ™	MATRIX:

Report Date: March 9, 2007 2955

# Summary Report

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Project Location: Lea County, NM

2955

Cooper 4-1 SWD

Project Name:

Project Number:

Report Date: March 9, 2007

Work Order: 7030135

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
117860	AH-2 1-1.5	soil	2007-02-28	00:00	2007-03-01
117863	AH-3 1-1.5	soil	2007-02-28	00:00	2007-03-01
117866	AH-4 1-1.5	soil	2007-02-28	00:00	2007-03-01

	TPH DRO	TPH GRO
	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)
117860 - AH-2 1-1.5	<50.0	<1.00
117863 - AH-3 1-1.5	<50.0	< 1.00
117866 - AH-4 1-1.5	$<\!50.0$	1.16

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

 6701
 Aberdeen Avenue
 Suite 9
 Lubbook
 Texes 70434

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 Fass, Sunset Hoad, Some F
 Et Paso, 1exas 79927

 5002
 Hasin Street, Suite A1
 Mithand Texas 79703

 6015
 Harins Parkway, Suite 110
 Et Worth Texas 76132

Lubbock Texas 7/14/34 800+378+1296 Et Paso, 1exas 7/922 868+588+3443 Mittiand Texas 7/9703 T Worth Texas 7/6132 E-Mail Tab/@tracearialysis.com

5 806 • 794 • 1296 F7 3 915 • 585 • 3443 F7 432 • 689 • 6901 F7 817 • 201 • 5260

1296 FAX 806+794+1298 3443 FAX 915+595+4944 6901 FAX 452+689+6313 5260

# Analytical and Quality Control Report

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Project Location:Lea County, NMProject Name:Cooper 4-1 SWDProject Number:2955

Report Date: March 9, 2007

Work Order: 7030135

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
117860	AH-2 1-1.5	soil	2007-02-28	00:00	2007-03-01
117863	AH-3 1-1.5	soil	2007-02-28	00:00	2007-03-01
117866	AH-4 1-1.5	soil	2007-02-28	00:00	2007-03-01

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

Dr. Blair Leftwich, Director

#### Standard Flags

 $\,B\,$  - The sample contains less than ten times the concentration found in the method blank.

Sample: 117860 - AH-2 1-1.5

# Analytical Report

Analysis: QC Batch: Prep Batch:	TPH DRO 35587 30869		Analytical Me Date Analyze Sample Prepa	d: 2007-0	3-15	Prep M Analyz Pıepar	•
Decementary	El-	-	$\operatorname{RL}$ Result	Uni	4	Dilution	DI
Parameter	Flag	3	nesuit	UII	us	Dilution	RL
DRO			<50.0	mg/I	Хg	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	182	mg/Kg	1	150	121	62.5 - 164

### Sample: 117860 - AH-2 1-1.5

.

Analysis: QC Batch:	TPH GRO 35511		Analytical Date Anal		S 8015B 2007-03-12		Prep Me Analyze	
Prep Batch:	30812		Sample Pr	reparation:	2007-03-12		Prepareo	l By: AG
			$\operatorname{RL}$					
Parameter	Flag		Result		Units		Dilution	$\mathbf{RL}$
GRO	0		<1.00		mg/Kg	`	1	1.00
<u></u>						Spilto	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		0.812	mg/Kg	1	1.00	81	52.4 - 123.7
	obenzene (4-BFB)		1.13	mg/Kg	1	1.00	113	67.5 - 140.3
Sample: 117	7863 - AH-3 1-1.	5					2	
Analysis: QC Batch:	TPH DRO 35587	5	Analytica Date Ana	lyzed:	Mod. 8015H 2007-03-15	}	Analy	Method: N/A zed By: SE
Analysis:	TPH DRO	5	Date Ana			}	Analy	,
Analysis: QC Batch:	TPH DRO 35587 30869	5	Date Ana	lyzed:	2007-03-15	3	Analy	zed By: SÉ
Analysis: QC Batch:	TPH DRO 35587	5	Date Ana Sample P	lyzed:	2007-03-15	3	Analy	zed By: SÉ
Analysis: QC Batch: Prep Batch:	TPH DRO 35587 30869	5	Date Ana Sample P RL	lyzed:	2007-03-15 2007-03-14	}	Analy Prepa	zed By: SÉ red By: SE
Analysis: QC Batch: Prep Batch: Parameter	TPH DRO 35587 30869 Flag		Date Ana Sample P RL Result <50.0	lyzed: reparation:	2007-03-15 2007-03-14 Units mg/Kg	3 Spike	Analy Prepa Dilution	zed By: SÉ red By: SE RL
Analysis: QC Batch: Prep Batch: Parameter	TPH DRO 35587 30869	5 Result	Date Ana Sample P RL Result	lyzed: reparation:	2007-03-15 2007-03-14 Units mg/Kg		Analy Prepa Dilution 1	zed By: SÉ red By: SE RL 50.0

### Sample: 117863 - AH-3 1-1.5

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	35511	Date Analyzed:	2007-03-12	Analyzed By:	AG
Prep Batch:	30812	Sample Preparation:	2007-03-12	Prepared By:	AG

Report Date: March 9, 2007 2955

		$\mathbf{RL}$					
Parameter F	lag	$\operatorname{Result}$		$\mathbf{Units}$		Dilution	$\operatorname{RL}$
GRO		<1.00		mg/Kg		1	1.00
					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\operatorname{Result}$	Units	Dilution	$\operatorname{Amount}$	Recovery	Limits
Trifluorotoluene (TFT)		0.804	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-B	FB)	1.09	mg/Kg	1	1.00	109	67.5 - 140.3

### Sample: 117866 - AH-4 1-1.5

Analysis: QC Batch: Prep Batch:	TPH DRO 35587 30869		Analytical Me Date Analyze Sample Prepa	d: 2007-0		-	fethod: N/A ed By: SE ed By: SE
			$\mathbf{RL}$				
Parameter	Fla	g	Result	Ur	nits	Dilution	$\operatorname{RL}$
DRO			<50.0	mg/	Kg	1	50.0
a .			TT •/		Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontan	ie	180	mg/Kg	1	150	120	62.5 - 164

### Sample: 117866 - AH-4 1-1.5

Analysis: QC Batch: Prep Batch:	TPH GRO 35511 30812		Analytica Date Ana Sample P		S 8015B 2007-03-12 2007-03-12		Prep Me Analyzec Preparec	l By: AG
			$\mathbf{RL}$					
Parameter	$\mathbf{Flag}$		Result		Units		Dilution	$\operatorname{RL}$
GRO			1.16		mg/Kg		1	1.00
Sumorata		Floor	Result	Units	Dilution	Spike	Percent	Recovery
Surrogate	(TDT)	Flag				Amount	Recovery	Limits
Trifluorotolu	•		0.809	mg/Kg	1	1.00	81	52.4 - 123.7
4-Bromofluor	obenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	67.5 - 140.3

### Method Blank (1) QC Batch: 35511

QC Batch: 35511 Prep Batch: 30812		Date An QC Prep	U	007-03-12 007-03-12		•	yzed By: AG ared By: AG
Parameter	Flag		MDL Result		Uni	te	$\operatorname{RL}$
GRO	I lag		<0.739		mg/		1
Surrogate	Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.928	mg/Kg	1	1.00	93	52.4 - 123.7
· ·							continued

Report Date: March 9, 2007 2955

method blank continued ... Spike Percent Recovery Flag Result Units Dilution Amount Recovery Limits Surrogate 0.961 1.0096 67.5 - 140.3 4-Bromofluorobenzene (4-BFB) mg/Kg 1 Method Blank (1) QC Batch: 35587 QC Batch: Date Analyzed: 2007-03-15 Analyzed By: SE 35587 Prep Batch: 30869 QC Preparation: 2007-03-15 Prepared By: SE MDL Parameter Flag Result Units  $\mathbf{RL}$ DRO < 10.7mg/Kg 50 Spike Recovery Percent Units Dilution Surrogate Flag Result Amount Recovery Limits n-Triacontane 193 mg/Kg 150 129 62.5 - 164 1 Laboratory Control Spike (LCS-1) Date Analyzed: 2007-03-12 Analyzed By: AG QC Batch: 3551130812 Prep Batch: QC Preparation: 2007-03-12 Prepared By: AG LCS Spike Matrix Rec. Param Result Units Dil. Result Amount Rec. Limit GRO 8.91 mg/Kg 1 10.0 < 0.739 89 57.7 - 102.5 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCSD Spike Matrix Rec. RPD Result Units Dil. RPD Param Amount Result Rec. Limit Limit 8.73 GRO mg/Kg 1 10.0 < 0.73987 57.7 - 102.5 2 20Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCS LCSD LCS Spike LCSD Rec. Amount Surrogate Result Result Units Dil Rec. Rec. Limit Trifluorotoluene (TFT) 1.261.12 mg/Kg 1 1.00 126112 36.8 - 152.5 4-Bromofluorobenzene (4-BFB) 1.091.10mg/Kg 1 1.00109 110 70 - 130 Laboratory Control Spike (LCS-1) QC Batch: 35587 Date Analyzed: 2007-03-15 Analyzed By: SE Prep Batch: 30869QC Preparation: 2007-03-15 Prepared By: SE LCS Spike Matrix Rec. Param Result Units Dil. Rec. Amount Result Limit DRO 273 250109 64.1 - 124 mg/Kg 1 < 10.7

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

			-				·			
_		LCSD			Spike	Matrix	~	Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		242	mg/Kg		250	<10.7		64.1 - 124	12	20
Percent recovery is based	l on the sp	oike result.	RPD is	based or	1 the spike a	and spike di	uplicate res	sult.		
	LCS	LCSD			,	Spike	LCS	LCSD		Rec.
Surrogate	Result	Result		Jnits	Dil.	Amount	Rec.	Rec.		Limit
n-Triacontane	205	196	n	ıg/Kg	1	150	137	131	62	2.5 - 164
Matrix Spike (MS-1)	Spiked	Sample: 11	7866							
,	opined	Sample, 11								
QC Batch: 35511				nalyzed:	2007-03-				lyzed B	
Prep Batch: 30812			QC Pre	eparation	1: 2007-03-	12		Prep	ared By	y: AG
		MS	5			Spike	Matri	x		Rec.
Param		Resu		Units	Dil.	Amount	Resul			Limit
GRO		7.6	7	mg/Kg	1	10.0	1.16	65	1(	) - 141.5
Percent recovery is based	l on the s	pike result.	RPD is	based or	n the spike a	and spike d	uplicate res	sult.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		7.54	mg/Kg	; 1	10.0	1.16	64 1	10 - 141.5	2	20
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4		MS Resu 0.65 1.16	lt Re 5 0.	720 1	Units I mg/Kg mg/Kg	$\begin{array}{c} \text{Sp}\\ \hline \text{Dil.} & \text{Amo}\\ \hline 1 & 1\\ 1 & 1 \end{array}$	ount Re	ec. Rec. 6 72	40	Rec. Limit - 125.3 7 - 144.5
Matrix Spike (MS-1)		Sample: 1				<u> </u>				1 111.0
QC Batch: 35587 Prep Batch: 30869				analyzed: eparation					alyzed E pared E	•
-		MS			,	Spike	Matri		`	Rec.
Param DRO		Rest 261		Units	Dil.	Amount	Resul			Limit
	l on the s		-	mg/Kg	1	250	<10.7		4	7.5 - 127
Percent recovery is based	i on the s	pike result.	RPD is	based of	n the spike :	and spike d	uplicate re	sult.		
Param		$\operatorname{MSD}$ Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		258	mg/Kg		250	<10.7		$\frac{1.1111}{47.5 - 127}$	1	20
Percent recovery is based	l on the s									
				54554 01	ii one spine	-	•			-
Surrogate	MS Result	MSD Resul		Units	Dil.	Spike	MS	MSD		Rec.
				$\frac{Omts}{ng/Kg}$	<u></u>	Amount 150	Rec. 131	Rec. 127		Limit 2.5 - 164
n-Triacontane										

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Report Date 2955	eport Date: March 9, 2007 55			Work Order: 7030135 Cooper 4-1 SWD			Number: 6 of 6 Lea County, NM	
Standard (	ICV-1)							
QC Batch:	35511		Date Ana	lyzed: 2007-0	3-12	Anal	yzed By: AG	
Param GRO	Flag	Units mg/Kg	ICVs True Conc. 1.00	ICVs Found Conc. 1.14	ICVs Percent Recovery 114	Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-12	
Standard (	(CCV-1)			<u>.</u>				
	Batch: 35511 Date Analyzed: 2007-03-12 Analyzed By:				Date Analyzed: 2007-03-12			
Param GRO	Flag	Units mg/Kg	CCVs True Conc. 1.00	CCVs Found Conc. 1.15	CCVs Percent Recovery 115	Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-12	
Standard (	(ICV-1)							
QC Batch:	35587		Date Ana	alyzed: 2007-0	3-15	Ana	lyzed By: SE	
Param DRO	Flag	Units mg/Kg	ICVs True Conc. 250	ICVs Found Conc. 246	ICVs Percent Recovery 98	Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-15	
Standard (	(CCV-1)							
QC Batch:	35587		Date An	alyzed: 2007-0	03-15	Ana	lyzed By: SE	
Param DRO	Flag	Units mg/Kg	CCVs True Conc. 250	CCVs Found Conc. 257	CCVs Percent Recovery 103	Percent Recovery Limits 85 - 115	Date Analyzed 2007-03-15	

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Analysis Request and Chain of Custo	dv Record	PAGE: 2 OF: 2
HIGHLANDER ENVIRONMENTAL	CORP.	
1910 N. Big Spring St.		
Midland, Texas 79705 (432) 682-4559 Fax	k (432) 682-3946	
CULTERITE MANGE		
Linarch Lice lavarez	METHOD	9015 MOD As Ba Cd C As Ba Cd C As Ba Cd C As Ba Cd C
PROJECT NO.: 2955 PROJECT NAME: Cincret / Cooper 4-1 SWD Leg county, IVM	PRESERVATIVE METHOD	602 602 1 602 1 602 8340/82 8340/82 8340/82 8340/82 190 10 10 0. (Atr) 08 08 08 08 08 08 08 08 08 08 08 08 08
Leg county, WM		01200/0200/0200/0200/0200/0200/0200/020
LAB I.D. NUMBER DATE TIME E & SAMPLE IDENTIFICATION	NUMBER C FILTERED HUCJ HNO3 ICE NONE	ATTEX 6020/602       MTTEX 6020/903       PAH 8270       PAH 8270       PAH 8270       RCRA MEtals Ag As Ba Cd       TCLP Volatiles       TCLP Semi Valatiles       TCLP Semi Volatiles       TCLP Semi Volatiles       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Vol. 8240/8260/624       CLMS Part. 805/8098       Polt, TSS, PH, TDS, Current       Polt (SS, PH, TDS, Current       Polt (Asbeaton)       PLM (Asbeaton)
1178662128107 S X AH-4 1'-1.5'	1 X	
867 S X AH -4 2'-2.5'	I X	
868 S X AH-5 0-1.0'	1 X	
869 S X AH-5 1'-1.5'		
870 S X AH-5 2'-2.5'		
871 S X AH-5 3'-3.5' 872 S X AH-5 4'-4.5'	1 X	
	X	
873 S XAH-5 5'-5.5'	1 X	
874 SX Stock Pile East	Ι χ	
875 V SX Stock Pile West		
RELIGIOUSTICE BY: (Signature) Date: 5/1/07 RECEIVED BY: (Signature) 71me:	Date: Time:	SAMPLED BY; (Print & Sign) Date: 3/1/0/ Ry Tuyor & Kolt Hyrrison Time:
RÉLINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature) Time:	Date: Time:	SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #
RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature)	Date:	HAND DELIVERED UPS OTHER:
ADDRESS ALCONTROLOGICAL RECEIVED BY: (Signature)	-	HIGHLANDER CONTACT PERSON:
ADDRESS:	TIME: 1'45	Ilee Taurez Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: MATRIX: W-Water A-Air 5D-Solid C-Solid SL-Sludge O-Other		i tests - mediland

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Analysis Request and Chain	of Custody	R	ecc	ord							PAG	E:	l QUES	T	01		Σ	
HIGHLANDER ENVIRONA 1910 N. Big Spring Midland, Texas 797 (432) 682-4559	St.			3946			1221005	Cr. Pb Hg Sc ()	rcle					od 1	Io.)			
CLIENT NAME: CINGret SITE MANAGER: Il	e Tavarez service			ERVATI STHOD	Æ		(1012 TOD)	3	8			80/024 270/625		<b>EFIOID</b>				
PROJECT NO.: 2955 2955 LAB 1.D. NUMBER DATE TIME E AND SAMPLE IDENTIFIC	I Sw D I		HCL HND3	ICE NONE	HIEL BUZD/BOR	MTRE 8020/808	PAR BURN	RCRA Metals Ag As Ba	TCLP Volatiles	TCLP Semi Volatiics	RtT	GC.MS Vol. 5240/8280/624 GC.MS Somt. Vol. 8270/625	PCB's 8020/808	BOD, TSS, pH. TDS, Chlorida	Gemma Spec. Alshe Rate (Ate)	PLM (Asbestos)		
2/2×107 S X AH-1 0-1.0'	ł			X			X							X				
	]			X										X				
S X AH-1 2'-2.5	/ //			X														
5 X 4H-2 0 - 1.0'	1			X			X							X				
S X AH -2 1'-1.5'	1			X										X				
S X AH-2 2'-2.5'				X														
S X AH-3 0 -1.0'				X		1	X							X				
S X AH - 3 1' - 1.5'				X		+'						+		X		╋		
S X AH - 3 2'-2.5				X			-			┝╼┼						+		
V 5 X AH - 4 0 - 1.0'				X			X					+		X				
	D BY: (Signature)		Late:		ll	S	AMPLI Gy To	D BY	(Fr	int 8	t Sig Ha	m). Niso	! 1		ite:	3/1/	9	
	D BY: (Signature)	-	ate: ims:			8		SHI			(Cire			AIRB	TLL #			
Time:	D BY: (Signature)		Pate: Ime:			Y	-	NDER		TA (77)		UPS		OTH	<b>.</b>	its by		
ADDRESS:	HY: (Signature) 5 famples 3-1-07 THE:		// 4	15		-	The	T	with	ΈZ	-					I Chai orised		
TACT:     PHONE:     DATE:     3-7-02     TIME:     1935     Item     Yes     No       PLE CONDITION WHEN RECEIVED:     MATRIX:     W-Water A-Air SD-Solid     REMARKS:     REMARKS:     No       Solid     SL-Studge     0-Other     Nun 3 BTEX ON WHEN TPH																		

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Analysis Request and Chain of	Custody	Record		PAGE:		F: 2
	······································		(Cir	ANALYSIS REQU rcle or Specify Ma		
CLIENT NAME: Cirnaret SITE MANAGER: Lice	Fax (43)	32) 682-3946 PRESERVATIVE	005 TX1005 Cd Cr Pb Hg So	Pd Hg Se		
	14047C2 4	METHOD	A Ba	As Ba tiles 1/8260/ 1. 8270/	5	
PROJECT NO.: 2955 PROJECT NAME: CINGREY / COOPER 4-1 SW1 LAB I.D. NUMBER DATE TIME E SAMPLE DENTIFICATION	TUNATEZ BERNING	FILTERED (Y/N) HCL HNO3 ICE NONE	0271EX 6020/802 MTHE 8020/802 FUL 418.1 G PAH 6270 RCEA Metals Ag A	TCLP Metals Ag As Ba Cd Cr TVLP Volatiles TVLP Semi Volatiles RUT RUT GC.MS Vol. B240/8280/624 GC.MS Semi. Vol. B270/625 PCR <sup>4</sup> , RUBN/ADA	Peat. 808/808 BoD, TSS, pH, TDS, Gemma Spec.	Aipha Beta (Ar) PLA (Arbestos)
2/28/07 S X AH-4 1'-1.5'	1	X			X	
S X AH -4 2'-2.5'		X				
S X AH-5 0-1.0'	1	X	X		X	
S X AH-5 1'-1.5'	1	X	X		X	
S X AH - 5 2' - 2.5'	1	X			X	
S X AH-5 3'-3.5'	1	X			Х	
S     X     AH - 5     2' - 2.5'       S     X     AH - 5     3' - 3.5'       S     X     AH - 5     4' - 4.5'		X			X	
S XAH-5 5'-5.5'	1	Х			X	
SX Stock Pile East		χ.	X		X	
V SX Stock Pile West			X			
RELENGUESHED BY: (Signature) Date: 3/1/07 RECEIVED BY: (Signature) Time: 1:4(	Signature)	Date:	SAMPLED BY	(Print & Sign) J Kult Harri	Date:	3/1/07
RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature)	Signature)	Date:	SAMPLE SHIF	PPED BY: (Circle)		
RELINQUISHED BY: (Signature) Date: RECEIVED BY: (1	Signature)	Date:	CIAND DELIVE	ERED UPS	AIRBILL # OTHER:	
RECEIVING LABORATORY: FOR T A LC RECEIVED BY: (SI ADDRESS: FA-CALLA CITY: CITALE TX ZIP: 2	gnature)	Time:		CONTACT PERSON:	RUS	H Charges
CONTACT: PHONE: DATE:	07 TIME; _		Ike T	ugrol	Yes	
SAMPLE CONDITION WHEN RECEIVED: MATRIX: W-Water A-Air C-Sal SL-Sludge	SD—Solid v O-Other	REMARKS:				

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					idlan	-	_												TX1005												
(432	) 682-	4559		TAN	Iululi		-405		00	Fax	(43	32)	68	2-3	940	5			1	Į	2 2 2						Æ				
CLJENT NA	ME: C	im 4	104			SITE L			he Tac		INERS		P		ERVA THO				ADIS ROT	7.			2	80 /824	220/022		at lond	ł			
PROJECT 1	<sup>NO.:</sup> 2	156	PRO Ci	ЛЕС /14	т name: Гс/ /	Coop	er	5-8	well m	1	· CONTAINERS	(N/X)					802			4	a Ag As	las	Valatile	8240/83	L Vol. 8	/808	909 H. TDS -	5	(Atr)	lan	
LAB I.D. NUMBER	DATE	TIME	MATRIX COMP.	GRAB		Leg C Samf	out   Ple IDI	Fy ∍NI ENTIFIC	M ATION		NUMBER OF	RED	HCL	EONH	ICE	NONE	ATEX 8020/602	MTBE 8020/608	(日) 4181	PAH 8270 Proa Watels As 45	TCLP Metals Ag As 1	TCLP Volati	TCLP Semi Valatiles	KUI GC.MS Vol. 8240/8280/824	GC.MS Som	PCB's 8080/808	Post. 808/609 BOD. 755 pH. 7	Сашпа Spec.	Alpha Bota (Air)		
117852	2/2 8/07		5		AH-1	0 -	1.0'				1				X		X		X	ŀ							X				
853	1		5	X	AH - 1	· /'	- 1.5	1			1				X		1										X				
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	TION WHE				24	ATRIX:	W-Wat S-Soil	er A	-Air L-Sludge	SD—Solid O—Othar			RE	MARI	<u>s:</u>													1			

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			7030133
Analysis Request	and Chain of Custo	dy Record	PAGE: / OF: 2
			ANALYSIS REQUEST (Circle or Specify Method No.)
	ENVIRONMENTAL	CORP.	
	N. Big Spring St.		HH 10002
(432) 682-4559	and, Texas 79705	K (432) 682-3946	
CLIENT NAME: DUKE	SITE MANAGER: Ike Tuvarez	METHOD	9015 ¥015 4a Ba Cd C 4a Ba Cd C 4a Ba Cd C 1. 0270/628 7 7 7 7 7 7 7 7 7 7 7 7 7
PROJECT NO.: 2883 PROJECT N Dulc	AME: SS-2 Line .eq county INM	PRESERVATIVE METHOD	60.8 60.8 60.8 60.8 Ag As Ag As Ag As Volatifies 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8
	.eq county INM		0220/602 418.1 418.1 770 418.1 770 6etals Ag olatiles emi Vola 604168 8008/605 8080/605 808/605 85, pH, 5 85, pH, 5
LAB I.D. NUMBER DATE TIME ALL CHERT	SAMPLE IDENTIFICATION	L NUMBER OF CO HUTERED (Y/N) HCL HUO3 HUO3 ICE NONE	QTEX 8020/603       WITBE 8020/603       WITBE 8020/603       QTL     418.1       QTL     418.1       PMH 8370     88.0       POL     80.0       PMH 8370     88.0       Post     90.0       Post     90.0       Post     90.0       Post     80.0
	H-1 0-1.0'	1 X	X
	4-1 1'-1.5'	1 X	X
840 S X AH	1-1 2'-2.5'	1 1	Χ
1841 S X AA	'-1 4'-4.5'	1 X	X
842 S X AI.	-1 6'-6.5'	X	
843 S X AH	-2 0-1.0	1 X	
8744 S X AH	-2 1'-1.5'	( X	X
845 S X AH	-2 2'-2.5'	1 X	X
846 S X AH	-2 3'-3.5'	/ X	
847 V S X AH	-3 0-1.0'	X	
RELINGUERDEN EY: (Signature) Dat		Date: Time:	SAMPLED BY: (Print & Sign) Date: 2/27/07 - Hur Tarker Ro The Time:
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RECEIVING LABORATORY: 17462	RECEIVED BY (Signature)		HIGHLANDER CONTACT PERSON:
ADDRESS:		TTMR: 1:45	- Ike Tuvarez Authorized: - Yee No
SAMPLE CONDITION WHEN RECEIVED:	MATRIX: W-Water A-Air SD-Solid S-Soli SL-Sludge O-Other	REMARKS: NGA 2 ISTE	x on fightst TPH

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CLIENT NA	ame: D	u lle					SITE	MANA	GER	"II	te ;	Tau	14162	2	INERS		P		ERV. ETH(		Æ			(BOIS TOD)	Ba Cd	B		21	rca/ uad	8270/625			Chloride				
PROJECT	NO.: 2	883	PR	юјен ) <sub>4</sub> ],	τ ΝΑ (γ. /	55	-2	Li	n	e					CONTAINERS	(11/11)						602	/602		8 Az An	Ag As	lea	Valatile	10707	L Vol. 8	1808	308	, TDS,	30. (41-)	tos)		
LAB I.D. NUMBER	DATE	TIME	MATRIX	CRAB	L	6	col San			<i>l) P</i> 1 ITIFICJ	<b>ATTON</b>				NUMBER OF	RED	HCL	EONH	ICE	NONE		ETEX) 8020/602	MTBE 8020/602	119 419	RCRA Metals Ar	TCLP Metals Ag	TCLP Volatiles	TCLP Semi Volatiles	RCI CC HS Val BDAD /B2AD /B2A	GC.MS Semi. Vol.	PCB's 8080/808	Post. 808/(	BOD, TSS, pH, TDS, Q	Gamma Spec.	PLM (Asbestos)		
117848	2/27/07		5	Х	A,	4 -	3	/	<i>ו</i> '-	1.5	.)				1				X					X									X				
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40	2							8-8 8-8	ater		-Air L-Sludg	ge	0-0ti																								

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# Summary Report

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Report Date: June 25, 2007

Work Order: 7061523

Project Location:Lea County, NMProject Name:Cimarex/ Cooper 4-1 SWDProject Number:2955

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
127573	SP #1 0-1.0' BEB (1.0)	soil	2007-06-14	00:00	2007-06-15
127574	SP #2 0-1.0' BEB (1.0)	· soil	2007-06-14	00:00	2007-06-15
127575	SP #3 0-1.0' BEB (1.5)	soil	2007-06-14	00:00	2007-06-15
127576	SP #4 0-1.0' BEB (7.0)	soil	2007-06-14	00:00	2007-06-15
127577	Stockpile Pasture #1	soil	2007-06-14	00:00	2007-06-15
127578	Stockpile Pasture $#2$	soil	2007-06-14	00:00	2007 - 06 - 15
127579	Stockpile Pad $\#1$	soil	2007-06-14	00:00	2007-06-15
127580	Stockpile Pad $#2$	soil	2007-06-14	00:00	2007-06-15
127581	Stockpile Pad $#3$	soil	2007-06-14	00:00	2007-06-15

		I	BTEX	·	MTBE	TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
127573 - SP #1 0-1.0' BEB (1.0)	< 0.0100	< 0.0100	< 0.0100	<0.0100		<50.0	1.51
127574 - SP #2 0-1.0' BEB (1.0)	< 0.0100	< 0.0100	< 0.0100	<0.0100		<50.0	< 1.00
127575 - SP #3 0-1.0' BEB (1.5)	< 0.0100	< 0.0100	< 0.0100	< 0.0100		<50.0	<1.00
127576 - SP #4 0-1.0' BEB (7.0)	< 0.0100	< 0.0100	0.127	0.132		< 50.0	19.4
127577 - Stockpile Pasture #1						682	26.5
127578 - Stockpile Pasture $#2$						1270	38.1
127579 - Stockpile Pad #1						503	14.2
127580 - Stockpile Pad $#2$						50.1	11.5
127581 - Stockpile Pad #3						161	10.4

Sample: 127573 - SP #1 0-1.0' BEB (1.0)

Param	Flag	Result	Units	RL
Chloride		93.4	mg/Kg	2.00

Sample: 127574 - SP #2 0-1.0' BEB (1.0)

Param	Flag	Result	$\mathbf{Units}$	$\operatorname{RL}$
Chloride		147 .	mg/Kg	2.00

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

Report Date June 2 2955	25, 2007	Work Order: 7061523 Cimarex/ Cooper 4-1 SWD		Number: 2 of 2 ea County, NM
Sample: 127575 -	SP #3 0-1.0' BEB	(1.5)		
Param	$\operatorname{Flag}$	Result	Units	$\operatorname{RL}$
Chloride		95.8	mg/Kg	2.00
Sample: 127576 -	SP #4 0-1.0' BEB	(7.0)		·
Param	Flag	Result	Units	RL
Chloride		103	mg/Kg	2.00
Sample: 127577 -	Stockpile Pasture -	#1		
Param	$\mathbf{Flag}$	Result	Units	RL
Chloride		1520	mg/Kg	2.00
-	Stockpile Pasture			
Sample: 127578 - Param Chloride	Stockpile Pasture = Flag	#2 Result 1250	Units mg/Kg	RL 2.00
Param Chloride		Result		
Param Chloride Sample: 127579 -	Flag	Result		
Param Chloride Sample: 127579 - Param	Flag Stockpile Pad #1	Result 1250	mg/Kg	2.00
Param Chloride Sample: 127579 - Param Chloride	Flag Stockpile Pad #1	Result 1250 Result	mg/Kg Units	2.00 RL
Param Chloride Sample: 127579 - Param Chloride	Flag Stockpile Pad #1 Flag	Result 1250 Result	mg/Kg Units	2.00 RL
Param Chloride Sample: 127579 - Param Chloride Sample: 127580 - Param	Flag Stockpile Pad #1 Flag Stockpile Pad #2	Result 1250 Result 785	mg/Kg Units mg/Kg	2.00 RL 2.00
Param Chloride Sample: 127579 - Param Chloride Sample: 127580 - Param Chloride	Flag Stockpile Pad #1 Flag Stockpile Pad #2	Result 1250 Result 785 Result	mg/Kg Units mg/Kg Units	2.00 RL 2.00 RL
Param Chloride Sample: 127579 - Param Chloride Sample: 127580 - Param Chloride	Flag Stockpile Pad #1 Flag Stockpile Pad #2 Flag	Result 1250 Result 785 Result	mg/Kg Units mg/Kg Units	2.00 RL 2.00 RL



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

9 Lubbock, Texas 79424
 El Paso, Texas 79922
 Midland, Texas 79703
 10 Ft. Worth, Texas 76132

9424 800 • 378 • 1296 9922 888 • 588 • 3443 9703 
 806 • 794 • 1296
 FAX 806 • 794 • 1298

 915 • 585 • 3443
 FAX 915 • 585 • 4944

 432 • 689 • 6301
 FAX 432 • 689 • 6313

 817 • 201 • 5260
 FAX 432 • 689 • 6313

E-Mail lab@traceanalysis com

## Analytical and Quality Control Report

Ike Tavarez Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Report Date: June 25, 2007



Project Location. Lea County. NM Project Name<sup>.</sup> Cimarer/ Cooper 4-1 SWD Project Number: 2955

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
127573	SP #1 0-1.0 BEB (1.0)	soil	2007-06-14	00:00	2007-06-15
127574	SP #2 0-1.0' BEB (1.0)	soil	2007-06-14	00:00	2007-06-15
127575	SP #3 0-1.0 BEB (1.5)	soil	2007-06-14	00.00	2007-06-15
127576	SP #4 0-1.0 BEB (7.0)	soil	2007-06-14	00.00	2007-06-15
127577	Stockpile Pasture #1	soil	2007-06-14	00:00	2007-06-15
127578	Stockpile Pasture #2	soil	2007-06-14	00:00	2007-06-15
127579	Stockpile Pad #1	soil	2007-06-14	00:00	2007-06-15
127580	Stockpile Pad $#2$	soil	2007-06-14	00:00	2007-06-15
127581	Stockpile Pad #3	soil	2007-06-14	00:00	2007-06-15

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

#### Dr Blair Leftwich. Director

#### Standard Flags

 $\,B\,$  - The sample contains less than ten times the concentration found in the method blank

# Case Narrative

Samples for project Cimarex/ Cooper 4-1 SWD were received by TraceAnalysis, Inc. on 2007-06-15 and assigned to work order 7061523. Samples for work order 7061523 were received intact at a temperature of 2.5 deg C.

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

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

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 7061523 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.

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# Analytical Report

### Sample: 127573 - SP #1 0-1.0' BEB (1.0)

Analysis <sup>.</sup> BTEX QC Batch: 38402 Prep Batch: 33238		Analytical M Date Analy: Sample Prep	zed <sup>.</sup>	S 8021B 2007-06-21		Prep Me Analyze Preparee	d By <sup>.</sup> JW
		RI					
Parameter Flag		Result	t	Units		Dilution	RL
Benzene		< 0.0100	)	mg/Kg		1	0.0100
Toluene	÷	< 0.0100	)	mg/Kg		1	0.0100
Ethylbenzene		< 0.0100	)	mg/Kg		1	0.0100
Xylene		< 0.0100	)	mg/Kg		1	0.0100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.896	mg/Kg	1	1.00	90	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.982	mg/Kg	1	1.00	98	51.1 - 119.1

### Sample: 127573 - SP #1 0-1.0' BEB (1.0)

Analysis: QC Batch: Prep Batch:	Chloride (Titration) 38276 33139	Analytical M Date Analyze Sample Prepa	ed: 2007-06-18	Prep Method Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		93.4	mg/Kg	25	2.00

.

### Sample: 127573 - SP #1 0-1.0' BEB (1.0)

Analysis: QC Batch: Prep Batch:	TPH DRO 38384 33157		Analytical Me Date Analyze Sample Prepa	:d:	Mod. 8 2007-06 2007-06	-20	Prep M Analyz Prepar	N/A
			RL					
Parameter	Flag	<b>r</b>	$\mathbf{Result}$		Unit	.8	Dilution	$\mathbf{RL}$
DRO	·		<50.0		mg/K	g	1	 50.0
Surrogate	Flag	Result	Units	Dilu	tion	Spike Amount	Percent Recovery	overy mits
n-Triacontan		160	mg/Kg	1		150	107	 - 167

### Sample: 127573 - SP #1 0-1.0' BEB (1.0)

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38457	Date Analyzed:	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch:	33281	Sample Preparation:	2007-06-21	Prepared By:	JW

			RL					
Parameter Fla	ıg		Result		Units		Dilution	RL
GRO			1.51		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.804	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFI	3)		0.978	mg/Kg	1	1.00	98	67.5 - 140.3

### Sample: 127574 - SP #2 0-1.0' BEB (1.0)

Analysis. QC Batch Prep Batch:	BTEX 38387 33227			Analytical l Date Analy Sample Pre	zed.	S 8021B 2007-06-21		Prep Me Analyze Prepare	d By JW
				RI					
Parameter		Flag		Resul	t	Units		Dilution	RL
Benzene				< 0.0100	3	mg/Kg		1	0.0100
Toluene				<0.0100	C	mg/Kg		1	0.0100
Ethylbenzene	1			< 0.0100	C	mg/Kg		1	0.0100
Xylene				< 0.010	)	mg/Kg	·····	1	0 0100
							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifiuorotolue	ene (TFT)			0.879	mg/Kg	1	1.00	88	26 - 117.8
4-Bromofluor	obenzene (4-BF	FB)		1.01	mg/Kg		1.00	101	51.1 - 119.1

### Sample: 127574 - SP #2 0-1.0' BEB (1.0)

Analysis: QC Batch: Prep Batch:	Chloride (Titration) 38276 33139	Analytical Mer Date Analyzed Sample Prepar	: 2007-06-18	Prep Method: Analyzed By: Prepared By:	ÁR
Parameter	Elor	RL Result	Linita	Dilution	DI
-	Flag	Result	Units	Dilution	RL
Chloride		147	mg/Kg	25	2.00

### Sample: 127574 - SP #2 0-1.0' BEB (1.0)

Analysis: QC Batch: Prep Batch:	TPH DRO 38384 33157		Analytical Me Date Analyze Sample Prepa	d: 2007-0	6-20	-	Aethod·N/A eed By: eed By:
			$\mathbf{RL}$				
Parameter	Fla	g	Result	Un	its	Dilution	$\mathbf{RL}$
DRO		·····	<50.0	mg/	Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recoverv	Recovery Limits
n-Triacontan	e	239	mg/Kg	1	150	159	32.9 - 167

-

### Sample: 127574 - SP #2 0-1.0' BEB (1.0)

Analysis <sup>.</sup>	TPH GRO	Analytical Method:	S 8015B	Prep Method	S 5035
QC Batch:	38447	Date Analyzed:	2007-06-21	Analyzed By.	$_{ m JW}$
Prep Batch	33227	Sample Preparation:		Prepared By:	JW

Parameter	Flag		RL Result		Units		Dilution	RL
GRO			<1.00		mg/Kg		1	1.00
0	1	171	Devide	T		Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifiuorotoluene (TF	T)		0.795	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzer	ne (4-BFB)		0.992	m mg/Kg	1	1.00	99	675 - 140.3

### Sample: 127575 - SP #3 0-1.0' BEB (1.5)

Analysis: QC Batch: Prep Batch:	BTEX 38387 33227			Analytical l Date Analy Sample Pre	zed:	S 8021B 2007-06-21		Prep Me Analyzeo Prepareo	d By: JW
				RI	J				
Parameter		Flag		Resul	t	Units		Dilution	RL
Benzene	······			< 0.010	)	mg/Kg		1	0.0100
Toluene				< 0.0100	)	m mg/Kg		1	0.0100
Ethylbenzene	<u>,</u>			< 0.0100	C	mg/Kg		1	0.0100
Xylene				< 0.010	)	mg/Kg		1	0.0100
							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)			0.901	mg/Kg	1	1.00	90	26 - 117.8
4-Bromofluor	obenzene (4-Bl	FB)		0.980	mg/Kg	1	1.00	98	51.1 - 119.1

### Sample: 127575 - SP #3 0-1.0' BEB (1.5)

Analysis:	Chloride (Titration)	Analytical Meth	nod: SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38276	Date Analyzed	2007-06-18	Analyzed By:	AR.
Prep Batch:	33139	Sample Prepara	tion:	Prepared By:	$\mathbf{AR}$
		$\operatorname{RL}$			
Parameter	Flag	Result	Units	Dilution	$\operatorname{RL}$
Chloride		95.8	ıng/Kg	25	2.00

### Sample: 127575 - SP #3 0-1.0' BEB (1.5)

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38384	Date Analyzed:	2007-06-20	Analyzed By.	
Prep Batch:	33157	Sample Preparation:	2007-06-18	Prepared By:	

Parameter	Flag	z	$\operatorname{RL}$ Result	Uni	its	Dilution	RL
DRO			<50.0	mg/I	Śg	1	50.0
					Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		136	mg/Kg	1	150	91	32.9 - 167

### Sample: 127575 - SP #3 0-1.0' BEB (1.5)

Analysis: QC Batch: Prep Batch:	TPH GRO 38447 33227		Date Ana	l Method: lyzed <sup>.</sup> reparation:	S 8015B 2007-06-21		Prep Me Analyzed Prepared	l By: JW
			$\operatorname{RL}$					
Parameter	Flag		Result		Units		Dilution	$\operatorname{RL}$
GRO			<1.00		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		0.827	mg/Kg	1	1.00	83	52 4 - 123.7
4-Bromofluor	robenzene (4-BFB)		0.948	mg/Kg	1	1.00	95	67.5 - 140.3

### Sample: 127576 - SP #4 0-1.0' BEB (7.0)

Analysis: QC Batch: Prep Batch:	BTEX 38402 33238		Analytical I Date Analy Sample Pre	zed:	S 8021B 2007-06-21	ĸ	Prep Me Analyze Preparec	d By: JW
			RI	- 				
Parameter	Flag		Resul	t.	Units	]	Dilution	$\operatorname{RL}$
Benzene			< 0.010	0	mg/Kg		1	0.0100
Toluene			< 0.010	0	mg/Kg		1	0.0100
Ethylbenzene	د		0.12'	7	mg/Kg		1	0.0100
Xylene	ι		0.13	2	mg/Kg		1	0.0100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		0.804	mg/Kg	1	1.00	80	26 - 117.8
4-Bromofluor	obenzene (4-BFB)		1.00	mg/Kg	1	1.00	100	51.1 - 119.1

### Sample: 127576 - SP #4 0-1.0' BEB (7.0)

Analysis <sup>.</sup> QC Batch: Prep Batch:	Chloride (Titration) 38276 33139	Analytical Method: SM 4500-Cl B Date Analyzed: 2007-06-18 Sample Preparation:		Prep Metho Analyzed By Prepared By	AR
	, '	RL	<b>T</b> T 1.		57
Parameter	Flag	Result	Units	Dilution	$\operatorname{RL}$
Chloride		103	mg/Kg	25	2.00

### Sample: 127576 - SP #4 0-1.0' BEB (7.0)

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method: N/A
QC Batch:	38384	Date Analyzed:	2007-06-20	Analyzed By:
Prep Batch:	33157	Sample Preparation.	2007-06-18	Prepared By:
		$\operatorname{RL}$		

Parameter	Fla	ŝ	Result	Uni	its	Dilution	$\mathbf{RL}$
DRO			<50.0	mg/I	ig	1	50.0
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery.	Limits
n-Triacontane		168	mg/Kg	1	150	112	32.9 - 167

### Sample: 127576 - SP #4 0-1.0' BEB (7.0)

Analysis <sup>.</sup> QC Batch: Prep Batch <sup>.</sup>	TPH GRO 38457 33281	,	Date Ana	l Method: lyzed: reparation·	S 8015B 2007-06-21 2007-06-21	·	Prep Me Analyzec Preparec	l By: JW
			RL					
Parameter	$\operatorname{Flag}$		Result		Units		Dilution	RL
GRO			19.4		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution '	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		0.675	mg/Kg	1	1.00	68	52.4 - 123.7
4-Bromofiuor	robenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	67.5 - 140 3

### Sample: 127577 - Stockpile Pasture #1

Analysis: QC Batch:	Chloride (Titration) 38276	Analytical Metho Date Analyzed:	d: SM 4500-Cl B 2007-06-18	Prep Method: Analyzed By	N/A AR
Prep Batch:	33139	Sample Preparati	Prepared By:	AR	
		RL		~	
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	$\operatorname{RL}$
Chloride		1520	mg/Kg	25	2.00

### Sample: 127577 - Stockpile Pasture #1

Analysis: QC Batch Prep Batch:	TPH DRO 38384 33157	Analytical Method: Date Analyzed: Sample Preparation:	Mod. 8015B 2007-06-20 2007-06-18	Prep Method. Analyzed By: Prepared By	'
		$\operatorname{RL}$			
Parameter	Flag	$\operatorname{Result}$	Units	Dilution	$\mathbf{RL}$
DRO		682	mg/Kg	1	50.0

2955	- June 25, 2007			/ork Order arex/ Coop	7061523 er 4-1 SWD		Page Number 8 of 20 Lea County, NM		
Surrogate	Flag	Result	Units		ution	Spike Amount	Percent Recovery	Lı	overy
n-Triacontan	e	166	mg/Kg		1	150	111	32.9	) - 167
Sample: 12	7577 - Stockpile	e Pasture $\pm$	±1						
Analysis QC Batch Prep Batch:	TPH GRO 38457 33281		Analytical Date Anal		S 8015B 2007-06-21 2007-06-21		Prep Me Analyzee Prepareo	d By: – J	5 503. JW JW
Parameter	Fla	g	RL Result		Units		Dilution		R
GRO		<u> </u>	26.5		mg/Kg		1		1.0
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery		overy nits
Trifluorotolue	· · ·		0.790	mg/Kg	 1	1.00		52.4 - 67.5 -	
4-Bromofluor Sample: 12' Analysis <sup>.</sup>	7578 - Stockpile Chloride (Titrat	e Pasture #	Analy	mg/Kg tical Metho	od <sup>.</sup> SM 45	00-Cl B	Prep 1	Method:	
4-Bromofluor Sample: 12 Analysis <sup>.</sup> QC Batch <sup>.</sup>	7578 - Stockpile	e Pasture ≠	<b>±2</b> Analy Date J		od• SM 45 2007-0	00-Cl B	Prep 1 Analy:		N/AR
4-Bromofluor Sample: 12' Analysis <sup>.</sup> QC Batch <sup>.</sup> Prep Batch:	7578 - Stockpile Chloride (Titrat 38276 33139	e <b>Pastur</b> e ≠ ion)	<b>±2</b> Analy Date ⊿ Sampl RL	tical Metho Analyzed:	od <sup>.</sup> SM 45 2007-0 ion:	00-Cl B	Prep 1 Analy: Prepar	Method: zed By <sup>.</sup>	N/A AR AR
4-Bromofluor Sample: 12 Analysis QC Batch Prep Batch: Parameter	7578 - Stockpile Chloride (Titrat 38276	e <b>Pastur</b> e ≠ ion)	<b>±2</b> Analy Date ⊿ Sampl	tical Metho Analyzed:	od• SM 45 2007-0	00-Cl B	Prep 1 Analy:	Method: zed By <sup>.</sup>	N/. AR AR R
4-Bromofluor Sample: 12 Analysis <sup>.</sup> QC Batch <sup>.</sup> Prep Batch: Parameter Chloride Sample: 12 <sup>r</sup> Analysis: QC Batch:	7578 - Stockpile Chloride (Titrat 38276 33139 Flag 7578 - Stockpile TPH DRO 38384	e Pasture ≠ ion) g	±2 Analy Date J Sampl RL Result 1250 ±2 Analytical Date Anal	tical Metho Analyzed: le Preparat	od SM 45 2007-0 ion: <u>Units</u> mg/Kg Mod. 8013 2007-06-20	00-Cl B 6-18	Prep I Analy: Prepa Dilution 25 Prep I Analy:	Method: zed By: red By: Method: zed By:	N/. AR AR 2.0
4-Bromofluor Sample: 12' Analysis' QC Batch Prep Batch: Parameter Chloride Sample: 12' Analysis: QC Batch: Prep Batch.	7578 - Stockpile Chloride (Titrat 38276 33139 Flay 7578 - Stockpile TPH DRO 38384 33157	e Pasture <del>#</del> ion) g e Pasture <del>#</del>	<ul> <li>≠2</li> <li>Analy Date J Sample</li> <li>RL Result</li> <li>1250</li> <li>42</li> <li>Analytical Date Analy Sample Propriet</li> <li>RL</li> </ul>	tical Metho Analyzed: le Preparat	od SM 45 2007-0 ion: <u>Units</u> <u>mg/Kg</u> Mod. 8013 2007-06-20 2007-06-18	00-Cl B 6-18	Prep I Analy: Prepar Dilution 25 Prep I Analy: Prepar	Method: zed By: red By:	N/2 AR AR 2.0 N/2
4-Bromofluor Sample: 12' Analysis <sup>.</sup> QC Batch Prep Batch: Prep Batch: Parameter Chloride Sample: 12' Analysis: QC Batch: Prep Batch. Prep Batch.	7578 - Stockpile Chloride (Titrat 38276 33139 Flag 7578 - Stockpile TPH DRO 38384	e Pasture <del>#</del> ion) g e Pasture <del>#</del>	<ul> <li>≠2</li> <li>Analy Date J Sample</li> <li>RL Result</li> <li>1250</li> <li>42</li> <li>Analytical Date Analysical Sample Press</li> </ul>	tical Metho Analyzed: le Preparat	od SM 45 2007-0 ion: <u>Units</u> mg/Kg Mod. 8013 2007-06-20	00-Cl B 6-18	Prep I Analy: Prepa Dilution 25 Prep I Analy:	Method: zed By: red By: Method: zed By:	N/J AR AR 2.0 N/J
4-Bromofluor Sample: 12 Analysis <sup>.</sup> QC Batch <sup>.</sup> Prep Batch: Parameter Chloride Sample: 12 <sup>r</sup> Analysis: QC Batch:	7578 - Stockpile Chloride (Titrat 38276 33139 Flay 7578 - Stockpile TPH DRO 38384 33157	e Pasture <del>#</del> ion) g e Pasture <del>#</del>	<ul> <li>≠2 <ul> <li>Analy</li> <li>Date J</li> <li>Sample</li> <li>RL</li> <li>Result</li> <li>1250</li> </ul> </li> <li>42 <ul> <li>Analytical</li> <li>Date Anal</li> <li>Sample Proposed</li> <li>RL</li> <li>Result</li> </ul> </li> </ul>	tical Metho Analyzed: le Preparat	od SM 45 2007-0 ion: <u>Units</u> <u>mg/Kg</u> Mod. 8013 2007-06-20 2007-06-18 Units	00-Cl B 6-18	Prep I Analy: Prepar Dilution 25 Prep I Analy: Prepar Dilution	Method: zed By: red By: wfethod: zed By: red By: red By: Rec	N/A AR

### Sample: 127578 - Stockpile Pasture $\overset{\cdot}{\#}2$

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
$\rm QC \; Batch^{.}$	38457	Date Analyzed:	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch	33281	Sample Preparation:	2007-06-21	Prepared By:	$_{\rm JW}$

.

Parameter F	lag		$\operatorname{RL}$ Result		Units		Dilution	RL
GRO			38.1		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate	F	Flag	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.818	mg/Kg	1	1.00	82	52.4 - 123.7
4-Bromofluorobenzene (4-BF	PB)		1.35	mg/Kg	1	1.00	135	67 5 - 140.3

### Sample: 127579 - Stockpile Pad #1

Analysis: QC Batch Prep Batch:	Chloride (Titration) 38276 33139	Analytical Me Date Analyzed Sample Prepa	l: 2007-06-18	Prep Method: Analyzed By: Prepared By:	m AR
		$\operatorname{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Chloride	······································	785	mg/Kg	25	2.00

### Sample: 127579 - Stockpile Pad#1

Analysis: QC Batch Prep Batch:	TPH DRO 38384 33157		Analytical Me Date Analyzed Sample Prepar	l: 20	od. 8015B 07-06-20 07-06-18	1	Method N/A ed By: ed By.
			$\operatorname{RL}$				
Parameter	Flag	5	Result		Units	Dilution	$\operatorname{RL}$
DRO			503	1	ng/Kg	1	50.0
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	n Amount	Recovery	Limits
11-Triacontan	e	164	mg/Kg	1	150	109	32.9 - 167

### Sample: 127579 - Stockpile Pad#1

Analysis. QC Batch. Prep Batch <sup>.</sup>	TPH GRO 38457 33281		Date Ana	l Method: lyzed· reparation:	S 8015B 2007-06-21 2007-06-21		Prep Me Analyzec Preparec	l By: JW
<i>'</i>			$\mathbf{RL}$					
Parameter	Flag		Result		Units		Dilution	$\operatorname{RL}$
GRO			14.2		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		0.798	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluor	cobenzene (4-BFB)		0.941	mg/Kg	1	1.00	94	67.5 - 140.3

### Sample: 127580 - Stockpile Pad #2

Analysis QC Batch: Prep Batch <sup>.</sup>	Chloride (Titration) 38276 33139	Analytical Mer Date Analyzed Sample Prepar	1: 2007-06-18	Prep Method: Analyzed By Prepared By.	Α̈́R
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		636	mg/Kg	25	2.00

### Sample: 127580 - Stockpile Pad#2

Analysis. QC Batch: Prep Batch <sup>.</sup>	TPH DRO 38384 33157		Analytical Me Date Analyze Sample Prepa	d: 200	d. 8015B 7-06-20 7-06-18	Analyz	Aethod: N/A zed By: red By:
			$\operatorname{RL}$				
Parameter	Flag	5	Result		Units	Dilution	$\mathbf{RL}$
DRO			50.1	m	g/Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	9	183	mg/Kg	1	150	122	32.9 - 167

### Sample: 127580 - Stockpile Pad#2

Analysis: QC Batch: Prep Batch:	TPH GRO 38457 33281	,	Date Ana	l Method: lyzed: reparation:	S 8015B 2007-06-21 2007-06-21		Prep Me Analyzed Prepared	d By: JW
			$\operatorname{RL}$					
Parameter	$\mathbf{F}$ lag		$\operatorname{Result}$		Units		Dilution	$\mathbf{RL}$
GRO	· · · · · ·		11.5		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		0.799	mg/Kg	1	1.00 /	80	52.4 - 123.7
4-Bromofluor	robenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	67.5 - 140.3

### Sample: 127581 - Stockpile Pad#3

Analysis: QC Batch: Prep Batch:	Chloride (Titration) 38276 33139	Analytical M Date Analyz Sample Prep	ed: 2007-06-18	Prep Method Analyzed By: Prepared By:	ÁR
		$\operatorname{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		664	mg/Kg	25	2.00

Page	Numbe	er: 11	of 20
	Lea C	County	, NM

## Sample: 127581 - Stockpile Pad#3

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38384	Date Analyzed <sup>.</sup>	2007-06-20	Analyzed By:	
Prep Batch <sup>.</sup>	33157	Sample Preparation <sup>.</sup>	2007-06-18	Prepared By <sup>.</sup>	
Parameter	Flag	RL Result	Units	Dilution	RL

DRO			161	mg/I	íg	1	50.0
Guuno puto	Flag	Result	Units	Dilution	Spike	Percent Recovery	Recovery · Limits
Surrogate	riag	nesun	Onits	Diffusion	Amount	necovery	Linnes
n-Triacontane		198	, mg/Kg	1	150	132	32.9 - 167

## Sample: 127581 - Stockpile Pad#3

Analysis: QC Batch Prep Batch:	TPH GRO 38457 33281		Analytica Date Ana Sample P		S 8015B 2007-06-21 2007-06-21		Prep Me Analyzeo Prepareo	l By: JW
			$\operatorname{RL}$					
Parameter	Flag		$\operatorname{Result}$		Units		Dilution	$\operatorname{RL}$
GRO			10.4		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ma (TFT)		0.806	mg/Kg	1	1.00	81	52 4 - 123.7
	obenzene (4-BFB)		1.05	mg/Kg	1	1.00	105	67.5 - 140.3

#### Method Blank (1) QC Batch: 38276

QC Batch: Prep Batch:		Date Analyzed: 20 QC Preparation: 20		Analyzed By: AR Prepared By. AR
		MDL		
Parameter	Flag	Result	Units	RL
Chloride	 	< 0.500	mg/Kg	2

#### Method Blank (1) QC Batch: 38384

QC Batch: Prep Batch:	38384 33157		Date Analyzed: QC Preparation	2007-06- 2007-06-	×		Analyzed By: Prepared By:
			MI	DL			
Parameter		Flag	Res	Result			RL
DRO			<14	<14.6		mg/Kg	50
6	וח			•1 . •	Spike	Percent	Recovery
Surrogate	Flag	Result	Units D	ilution	Amount	Recovery	Limits
n-Triacontan	ę	116	mg/Kg	1	150	77	44.7 - 133.6

## Method Blank (1) QC Batch: 38387

QC Batch: Prep Batch:	38387 33227		Date Analyzed QC Preparation:	2007-06-21 2007-06-21		Analyzed By <sup>.</sup> Prepared By:	
				MDL			
Parameter		Flag	F	Result	Units		RL
Benzene			<0.	00110	mg/Kg		0.01
Toluene			< 0.0	00150	mg/Kg		0.01
Ethylbenzene	2		<0.0	00160	mg/Kg		0.01
Xylene			<0.	00410	mg/Kg		0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.891	mg/Kg	1	1.00	89	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)		0.874	mg/Kg	1	1.00	87	53.9 - 125.1

## Method Blank (1) QC Batch: 38402

QC Batch: 38402 Prep Batch: 33238		Date An QC Prep	0	)07-06-21 )07-06-21		•	rzed By: JW ared By: JW	
			MI	DL				
Parameter	Flag		Resi	ılt	Un	its	$\operatorname{RL}$	
Benzene			<0.00110			mg/Kg		
Toluene			< 0.001	50	mg	/Kg	0.01	
Ethylbenzene			< 0.001	60	mg	/Kg	0.01	
Xylene		<0.00410			mg,	0.01		
					Spike	Percent	Recovery	
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)		0.904	mg/Kg	1	1.00	90	62.6 - 117.6	
4-Bromofluorobenzene (4-BFB)		0.854	mg/Kg	1	1.00	85	53.9 - 125.1	

## Method Blank (1) QC Batch: 38447 .

QC Batch: 38447 Prep Batch: 33227				Date Analyzed: 2007-06-21 QC Preparation 2007-06-21			zed By JW red By: JW
			MD	L			
Parameter '	Flag	Result			Uni	ts	RL
GRO		<0.739			mg/	1	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.893	mg/Kg	1	1.00	89	52.4 - 123.7
4-Bromofluorobenzene (4-BFI	3)	0.841	mg/Kg	1	1.00	84	67.5 - 140.3

Report Date: June 25 2955	, 2007			Work Orde arex/ Coo		-			Number: 1 Lea Cour	
Method Blank (1)	QC Batch:	38457		۲.						<u></u>
QC Batch: 38457				nalyzed:	2007-06-	21		Ana	lyzed By	JW
Prep Batch 33281			QC Pre	paration:	2007-06-	21		Prej	pared By	JW
Parameter	Flag	Ţ		. MI			Unit	S		R
GRO				<0.7	39		mg/h	g		1
Surrogate		Flag	Result	Units			Spike Amount	Percent Recovery	Li	overy mits
Irifluorotoluene (TFT) 4-Bromofluorobenzene			$\begin{array}{c} 0.929 \\ 0.835 \end{array}$	mg/Kg mg/Kg		1 1	1.00 1.00	93 84		- 123. - 140.
Laboratory Control	Spike (LCS-	-1)								
QC Batch: 38276				nalyzed:	2007-06-				alyzed By	
Prep Batch: 33139		•	QC Pre	paration:	2007-06-	-18		Pre	pared By:	AF
		LC				Spike	Mat			Rec
Param		Resu		Units	Dil.	Amoun				Limit
Chloride Percent recovery is bas	and on the shill	97.0		mg/Kg	l ho opileo d	100	<0.		7 8	5 - 11
Percent recovery is bas	,		RFD IS	vased on t	-	-	-	suit.		
~		LCSD			$\operatorname{Spike}$	Matrix		Rec.		RPI
		Result	Units	Dil.	Amount		Rec.	Limit	RPD	
Chloride	sed on the snik	97.9	mg/Kg	g 1	100	< 0.500	98	85 - 115	RPD 1	
Chloride Percent recovery is bas	-	97.9 te result.	mg/Kg	g 1	100	< 0.500	98	85 - 115		
Chloride Percent recovery is bas	-	97.9 te result.	mg/Kg	g 1	100	< 0.500	98	85 - 115		
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384	-	97.9 te result.	mg/Kg RPD is Date J	<u>g 1</u> based on t Analyzed	100 he spike a 2007-0	<0.500 and spike d 6-20	98	85 - 115 sulť.	1 Analyzed	20 By
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384	-	97.9 te result.	mg/Kg RPD is Date J	<u>g 1</u> based on t	100 he spike a 2007-0	<0.500 and spike d 6-20	98	85 - 115 sulť.	1	20 By
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384	-	97.9 te result.	mg/Kg RPD is Date 2 QC P:	<u>g 1</u> based on t Analyzed	100 he spike a 2007-0	<0.500 and spike d 6-20	98	85 - 115 sulť.	1 Analyzed Prepared	20 By
Chloride Percent recovery is bas Caboratory Control QC Batch: 38384 Prep Batch: 33157	-	97.9 ce result. -1)	mg/Kg RPD is Date . QC P	<u>g 1</u> based on t Analyzed	100 he spike a 2007-0	<0.500 and spike d 6-20 6-18	98 Iuplicate re	85 - 115 sulť.	1 Analyzed Prepared F	20 By By
Chloride Percent recovery is bas <b>Laboratory Control</b> QC Batch: 38384 Prep Batch: 33157 Param DRO	Spike (LCS	97.9 e result. -1) LCS Resul 250	mg/Kg RPD is Date 2 QC P:	g 1 based on t Analyzed reparation Units ng/Kg	100 he spike a 2007-0 2007-0 Dil. 1	<0.500 and spike d 6-20 6-18 Spike Amount 250	98 iuplicate re Matrix Result <14.6	85 - 115 sult. Rec. 100	1 Analyzed Prepared F	20 By By tec.
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384 Prep Batch: 33157 Param DRO	Spike (LCS	97.9 e result. -1) LCS Resul 250	mg/Kg RPD is Date 2 QC P:	g 1 based on t Analyzed reparation Units ng/Kg	100 he spike a 2007-0 2007-0 Dil. 1	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d	98 iuplicate re Matrix Result <14.6	85 - 115 sult. Rec. 100	1 Analyzed Prepared F	20 By By tec.
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384 Prep Batch: 33157 Param DRO Percent recovery is bas	Spike (LCS sed on the spik	97.9 e result. -1) LCS Resul 250 te result. LCSD	mg/Kg RPD is Date 2 QC P: It RPD is	g 1 based on t Analyzed reparation Units ng/Kg based on t	100 he spike a 2007-0 2007-0 Dil. 1 he spike a Spike	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d Matrix	98 iuplicate re Result <14.6 iuplicate re	85 - 115 sult. Rec. 100 esult. Rec.	1 Analyzed Prepared F L 47.5	20 By By tec. mit - 144. RPI
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384 Prep Batch: 33157 Param DRO Percent recovery is bas Param	Spike (LCS sed on the spik	97.9 te result. (-1) (-1) (-1) (-1) (-1) (-1) (-1) (-1)	mg/Kg RPD is Date 2 QC P: It n RPD is Units	g 1 based on t Analyzed reparation Units ng/Kg based on t Dil.	100 he spike a 2007-0 2007-0 Dil. 1 he spike a Amount	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d Matrix Result	98 iuplicate re Result <14.6 iuplicate re Rec.	85 - 115 sult. Rec. 100 esult. Rec. Limit	1 Analyzed Prepared F L 47.5 RPD	By <sup>.</sup> tec. <u>mit</u> - 144. RPI Limi
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384 Prep Batch: 33157 Param DRO Percent recovery is bas Param DRO	Spike (LCS sed on the spik	97.9 te result. (-1) LCS Resul 250 te result. LCSD Result 263	mg/Kg RPD is Date . QC P: It RPD is Units mg/Kg	g 1 based on t Analyzed reparation Units ng/Kg based on t Dil. 4 1	100 he spike a 2007-0 2007-0 Dil. 1 he spike a Amount 250	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d Matrix Result <14.6	98 Iuplicate re Matrix Result <14.6 Iuplicate re Rec. 105 4	85 - 115 sult. Rec. 100 sult. Rec. Limit 7.5 - 144.1	1 Analyzed Prepared F L 47.5	20 By By tec. mit - 144. RPI
•	Spike (LCS sed on the spik	97.9 te result. (-1) LCS Resul 250 te result. LCSD Result 263	mg/Kg RPD is Date . QC P: It RPD is Units mg/Kg	g 1 based on t Analyzed reparation Units ng/Kg based on t Dil. 4 1	100 he spike a 2007-0 2007-0 Dil. 1 he spike a Amount 250	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d Matrix Result <14.6	98 Iuplicate re Matrix Result <14.6 Iuplicate re Rec. 105 4	85 - 115 sult. Rec. 100 sult. Rec. Limit 7.5 - 144.1	1 Analyzed Prepared F L 47.5 RPD 5	20 By By tec. mit - 144. RPI Limi
Chloride Percent recovery is bas Laboratory Control QC Batch: 38384 Prep Batch: 33157 Param DRO Percent recovery is bas Param DRO	Spike (LCS-	97.9 e result. -1) -1) LCS Result 250 te result. LCSD Result 263 te result.	mg/Kg RPD is Date . QC P: it n RPD is <u>Units</u> mg/Kg RPD is	g 1 based on t Analyzed reparation Units ng/Kg based on t 1 based on t	100 he spike a 2007-0 2007-0 Dil. 1 he spike a Amount 250	<0.500 and spike d 6-20 6-18 Spike Amount 250 and spike d Matrix Result <14.6 and spike d	98 iuplicate re Matrix Result <14.6 iuplicate re Rec. 105 4 iuplicate re	85 - 115 sult. Rec. 100 sult. Rec. Limit 7.5 - 144.1 sult.	1 Analyzed Prepared F L 47.5 RPD 5 F L	20 By By tec. - 144. RPI Lim 20

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## Laboratory Control Spike (LCS-1)

QC Batch:	38387	Date Analyzed:	2007-06-21	Analyzed By:	$_{ m JW}$
Prep Batch:	33227	QC Preparation:	2007-06-21	Prepared By.	JW

5	LCS	<b>T</b> T <b>•</b> ,	<b>D</b> .1	Spike	Matrix	D	Rec
Param	Result	Units	Dil	Amount	Result	Rec.	Lımit
Benzene	0.930	mg/Kg	1	1.00	< 0.00110	93	68 6 - 123.4
Toluene	0.952	mg/Kg	1	1.00	< 0.00150	95	74.6 - 119.3
Ethylbenzene	0.925	mg/Kg	1	1.00	< 0.00160	92	72.3 - 126.2
Xylene	2.78	mg/Kg	1	3.00	< 0.00410	93	76.5 - 121.6

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

	LCSD			$\mathbf{Spike}$	Matrix		Rec		RPD
Param	$\operatorname{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\operatorname{Limit}$
Benzene	0.940	nıg/Kg	1	1.00	< 0.00110	94	68.6 - 123.4	1	20
Toluene	0.949	m mg/Kg	1	1.00	< 0.00150	95	74.6 - 119.3	0	20
Ethylbenzene	0.923	mg/Kg	1	1.00	< 0.00160	92	72.3 - 126 2	0	20
Xylene	2.79	mg/Kg	1	3.00	< 0.00410	93	76.5 - 121.6	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 <sup>,</sup>	Dil.	Amount	Rec.	Rec	Limit
Trifluorotoluene (TFT)	0.804	0.813	mg/Kg	1	1.00	80	81	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.925	0.930	mg/Kg	1	1.00	92	93	68.7 - 125.8

### Laboratory Control Spike (LCS-1)

QC Batch:	38402	Date Analyzed:	2007-06-21	Analyzed By:	$_{ m JW}$
Prep Batch:	33238	QC Preparation:	2007-06-21	Prepared By:	JW

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.939	mg/Kg	1	1.00	< 0.00110	94	68.6 - 123.4
Toluene	0.961	mg/Kg	1	1.00	< 0.00150	96	74.6 - 119.3
Ethylbenzene	0.933	mg/Kg	1	1.00	< 0.00160	93	72.3 - 126.2
Xylene	2.82	mg/Kg	1	3.00	< 0.00410	94	76.5 - 121.6

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	$L_{1}mit$	RPD	Limit
Benzene	0.786	mg/Kg	1	1.00	< 0.00110	79	68.6 - 123.4	18	20
Toluene	0.926	mg/Kg	1	1.00	< 0.00150	93	74.6 - 119.3	4	20
Ethylbenzene	0.925	mg/Kg	1	1.00	< 0.00160	92	72.3 - 126.2	1	20
Xylene	2.79	mg/Kg	1	3.00	< 0.00410	93	76.5 - 121.6	1	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 <sup>.</sup>	Limit
Trifluorotoluene (TFT)	0.815	0.817	mg/Kg	1	1.00	82	82	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.920	0.913	mg/Kg	1	1.00	92	91	68.7 - 125.8

#### Laboratory Control Spike (LCS-1)

QC Batch	38447	Date Analyzed	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch:	33227	QC Preparation	2007-06-21	Prepared By:	$_{\rm JW}$

	LCS			Spike	Matrix		Rec
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	8.90	mg/Kg	1	10.0	< 0.739	89	57.7 - 102.5

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	9.04	mg/Kg	1	10.0	< 0.739	90	57.7 - 102.5	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	$\operatorname{Result}$	Result	Units	Dil.	Amount	Rec.	Rec	Limit
Trifluorotoluene (TFT)	1.26	1.13	mg/Kg	1	1.00	126	113	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	1.01	1.01	mg/Kg	1	1.00	101	101	70 - 130

#### Laboratory Control Spike (LCS-1)

QC Batch.	38457	Date Analyzed:	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch:	33281	QC Preparation:	2007-06-21	Prepared By:	$_{\rm JW}$

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil	Amount	Result	Rec.	Limit
GRO	9.23	mg/Kg	1	10.0	< 0.739	92	57.7 - 102.5

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

	LCSD			Spike	Matrix		Rec.	•	RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	9.60	mg/Kg	- 1	10.0	< 0.739	96	57.7 - 102.5	4	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.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	1.16	1.14	mg/Kg	1	1.00 .	116	114	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.998	1.00	mg/Kg	1	1.00	100	100	70 - 130

#### Matrix Spike (MS-1) Spiked Sample: 127582

QC Batch: Prep Batch:	Date Analyzed <sup>.</sup> QC Preparation:	Analyzed By <sup>.</sup> Prepared By:	
-	• •		

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil	Amount	Result	Rec.	Limit
Chloride	2660	mg/Kg	25	2500	271.028	96	85 - 115

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

2955		Work Order. 7061523 Cimarex/ Cooper 4-1 SWD								Page Number: 16 of 20 Lea County, NM			
Param		MSD Result	Uni			nt R	latrix esult	Rec		Rec.	RPD	RPD Limit	
Chloride		2680	mg/l	· · · · ·			1.028	96		35 - 115	1	20	
Percent recovery is based of	on the spil	ke result	. RPD	is based	on the spik	e and sp	oike d	uplicate	e resu	lt.			
Matrix Spike (MS-1)	Spiked S	Sample: I	127573										
QC Batch 38384			Dat	e Analy	zed. 2007	-06-20					Analyzed	l By	
Prep Batch: 33157			QC	Prepara	ation: 2007	-06-18					Prepareo	l By:	
		М	S			Spi	ke	Mat				Rec	
Param		Res		Units	Dil.	Amo		Res		Rec.		Jimit	
DRO		25		mg/Kg		25		<1		100	11.7	- 152.3	
Percent recovery is based o	on the spil	ke result	. RPD	is based	on the spik	e and sp	oike d	uplicate	e resu	lt.			
		MSD			Spike	Mat				Rec.		RPE	
Param		Result	Unit		A DECISION OF A DECISIONO OF A DEC			Rec		Limit	RPD	Limi	
DRO		276	mg/K	Kg 1	250	<14	4.6	110	11.7	- 152.3	10	20	
Percent recovery is based o	on the spil	ke result	. RPD	is based	on the spik	e and sp	oike d	uplicate	e resu	lt.			
	MS	MS	D			Sp	oike	N	AS	MSI		Rec	
	Result	Rest		Units	Dil.		iount		.ec.	Rec		Limit	
n-Triacontane	Result 136	Resu 143	5	Units mg/Kg			iount .50		.ec. 91	Rec 97		Limit - 163.	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387	Result	Resu 143	5 127575 Date		1 d: 2007-0	1 06-21				97 An		- 163. 	
	Result 136	Resu 143	5 127575 Date QC P	mg/Kg Analyze	1 d: 2007-0	1 06-21	.50		91	97 An	li alyzed By pared By	- 163. 	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param	Result 136	Rest 143 Sample: 1 Sample: 1 Rest	5 127575 Date QC P 5 1lt	mg/Kg Analyze Preparati Units	1 d: 2007-0	1 96-21 96-21	.50 e		91 rix	97 An Pre Rec.	1 alyzed B pared By	- 163. 	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene	Result 136	Rest 143 Sample: 1 Sample: 1 MS Rest 0.85	5 127575 Date QC P 5 1lt	mg/Kg Analyze 'reparati Units mg/Kg	1 d: 2007-0 on: 2007-0 Dil. 1	1 6-21 6-21 Spike Amou 1.00	e nt	Mat Ress <0.00	91 rix ult 0110	97 An Pre Rec. 85	alyzed B; pared By 64.4	- 163. - JW - JW Rec. Limit 1 - 115.	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene	Result 136	Resu 143 Sample: 3 MS Resu 0.83 0.88	5 127575 Date QC P 5 1lt 51 36	mg/Kg Analyze Preparati Units mg/Kg mg/Kg	1 d: 2007-0 on: 2007-0 Dil. 1 1	16-21 66-21 Spike Amou 1.00 1.00	e nt	Mat Ress <0.00 <0.00	91 rix ult 0110 0150	97 An Pre Rec. 85 89	alyzed By pared By 64.4 57.8	- 163. - 163. 	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene Ethylbenzene	Result 136	Resu 143 Sample: 1 Sample: 1 Resu 0.85 0.88 0.88 0.88	5 Date QC P G Ilt 51 36 38	mg/Kg Analyze Preparati Units mg/Kg mg/Kg	1 d: 2007-0 on: 2007-0 Dil. 1 1 1	1 6-21 6-21 Amou 1.00 1.00 1.00	e nt	Mat Ress <0.00 <0.00 <0.00	91 rix ult 0110 0150 0160	97 An Pre Rec. 85 89 89	17 alyzed By pared By 64.4 57.4 64.8	- 163. - 163. 	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene Ethylbenzene Xvlene	Result 136 Spiked S	Rest 143 Sample: 1 Sample: 1 MS Rest 0.83 0.83 0.85 0.85 0.85 2.6	5 Date QC P 5 1lt 51 56 38 7	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1	16-21 6-21 5pika Amou 1.00 1.00 3.00	e nt	Mat Res <0.00 <0.00 <0.00 <0.00	rix ult 0150 0160 0410	97 An Pre Rec. 85 89 89 89	17 alyzed By pared By 64.4 57.4 64.8	- 163. - 163. 	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene Ethylbenzene Xvlene	Result 136 Spiked S	Resu 143 Sample: 1 Sample:	5 Date QC P 5 1lt 51 56 38 7	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spik	16-21 6-21 5pika Amou 1.00 1.00 3.00 e and sp	e nt pike d	Mat Res <0.00 <0.00 <0.00 <0.00	rix ult 0150 0160 0410	97 An Pre <u>Rec</u> . 85 89 89 89 89	17 alyzed By pared By 64.4 57.4 64.8	- 163. - 163. - W - JW Rec. Limit - 115. - 124. - 125. - 121.	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery 18 based of	Result 136 Spiked S	Resu 143 Sample: 1 Sample:	5 Date QC P 5 1lt 51 56 38 7 . RPD	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg mg/Kg is based	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike	16-21 16-21 Spika Amou 1.00 1.00 3.00 e and sp Mat	e nt pike d	Mat Res <sup>3</sup> <0.00 <0.00 <0.00 uplicate	91 rix ult 0110 0150 0160 0410 e resu	97 An Pre <u>Rec</u> . 85 89 89 89 89 89	17 alyzed By pared By 64.4 57.8 64.8 65.5	- 163. - 163. - 163. - 103. - JW Rec. - 115. - 124. - 125. - 121. RPI	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch. 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based o Param	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MS 0.83 0.83 0.85 0.85 2.6 ke result MSD Result	5 Date QC P 5 1lt 51 56 38 7 . RPD Units	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg is based Dil.	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount	16-21 66-21 800 1.00 1.00 1.00 3.00 e and sp Mat Rest	e nt pike d rix ult	Mat Res: <0.00 <0.00 <0.00 uplicate Rec.	91 rix ult 0110 0150 0160 0410 e resu	97 An Pre <u>Rec.</u> 85 89 89 89 89 89 89 1lt. Rec. Limit	17 alyzed By pared By 64.4 65.5 RPD	- 163. - 163. - 163. - 173. - JW - JW - SW - SW - 125. - 121. - 121.	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param Benzene	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MS 0.83 0.83 0.85 0.85 2.6 ke result MSD Result 0.968	5 127575 Date QC P 5 1lt 51 56 58 7 . RPD Units mg/Kj	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg is based Dil. g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00	1 6-21 16-21 5pikk Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00	e nt bike d rix ult 0110	Mat Ress <0.00 <0.00 <0.00 uplicate Rec. 97	91 rix ult 0150 0160 0410 e resu 64.4	97 An Pre 85 89 89 89 1lt. Rec. Limit 4 - 115.7	17 alyzed By pared By 64.4 65.2 65.2 RPD 13	- 163. - 163. - 163. - 173. - JW - JW - Sec. - 105. - 124. - 125. - 121. - 121. - 121. - 121. - 121. - 20	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param Benzene Toluene	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MS 0.83 0.83 0.85 0.85 2.6 ke result MSD Result	5 Date QC P S ilt 51 36 38 7 . RPD Units mg/K mg/K	Mg/Kg Preparation Mg/Kg Mg/Kg Mg/Kg Mg/Kg is based Dil. g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount	1 6-21 6-21 5pike Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00 <0.00	e nt bike d rix ult 0110 0150	Mat Res: <0.00 <0.00 <0.00 uplicate Rec.	91 rix ult 0150 0160 0410 e resu 64. 57.	97 An Pre 85 89 89 89 11t. Rec. Limit 4 - 115.7 8 - 124.4	17 alyzed By pared By 64.4 65.2 65.2 RPD 13 14	- 163. - 163. - 163. - 103. - 104. - 115. - 124. - 125. - 121. - 121. - 121. - 121. - 121. - 120. - 20. -	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param Benzene Toluene Ethylbenzene Toluene Ethylbenzene	Result 136 Spiked S	Resu 143 Sample: 1 Sample:	5 127575 Date QC P 5 1lt 51 56 58 7 . RPD Units mg/Kj	Mg/Kg Preparation Mg/Kg mg/Kg mg/Kg mg/Kg is based Dil. g 1 g 1 g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00 1.00	1 6-21 16-21 5pikk Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00	e nt bike d rix ult 0110 0150 0160	Mat Ress <0.00 <0.00 <0.00 uplicate Rec. 97 102	91 rix ult 0150 0160 0410 e resu 64. 57. 64.	97 An Pre 85 89 89 89 1lt. Rec. Limit 4 - 115.7	17 alyzed By pared By 64.4 65.2 64.5 65.2 RPD 13 14 16	- 163. - 163. - 163. - 173. - 175. - 124. - 125. - 121. RPI Limi 20	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xviene Percent recovery is based of Param Benzene Toluene Ethylbenzene Xviene Xviene	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MSD Result 0.968 1.02 1.04 3.14	5 Date QC P S Ilt 51 36 38 7 . RPD Units mg/Ki mg/Ki mg/Ki	Mg/Kg Analyze Preparati Units Mg/Kg mg/Kg mg/Kg mg/Kg is based Dil. g 1 g 1 g 1 g 1 g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00 1.00 1.00 3.00	1 6-21 6-21 5pike Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00 <0.00 <0.00 <0.00	e nt pike d rix ult 0110 0150 0160 0410	Mat Ress <0.00 <0.00 <0.00 uplicate Rec. 97 102 104 105	91 rix ult 0110 0150 0160 0410 e resu 64. 57. 64. 65.	97 An Pre 85 89 89 89 89 89 89 89 89 89 89 89 89 89	17 alyzed By pared By 64.4 65.2 64.5 65.2 RPD 13 14 16	<ul> <li>- 163.</li> <li>- 163.</li> <li>- JW</li> <li>': JW</li> <li>Rec.</li> <li>Cimit</li> <li>115.</li> <li>2 - 121.</li> <li>RPI</li> <li>Limi</li> <li>20</li> </ul>	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MS Resu 0.85 0.85 0.85 2.6 ke result 0.968 1.02 1.04 3.14 ke result	5 Date QC P QC P S Ilt S S S S 7 . RPD Units mg/K mg/K mg/K mg/K S . RPD	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg is based Dil. g 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00 1.00 1.00 3.00	1 6-21 6-21 5pike Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00 <0.00 <0.00 <0.00	e nt oike d rix ult 0110 0150 0160 0410 oike d	Mat Ress <0.00 <0.00 <0.00 uplicate 97 102 104 105 uplicate	91 rix ult 0110 0150 0160 0410 e resu 64. 57. 64. 65. e resu	97 An Pre 85 89 89 89 89 89 89 89 89 89 89 89 89 89	17 alyzed By spared By 64.4 65.2 64.4 65.2 RPD 13 14 16 16	<ul> <li>- 163.</li> <li>- 163.</li> <li>- JW</li> <li>- JW</li> <li>Rec.</li> <li>- 115.</li> <li>- 124.</li> <li>3 - 125.</li> <li>2 - 121.</li> <li>RPI</li> <li>Limi</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> </ul>	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param Benzene Toluene Ethylbenzene Toluene Ethylbenzene Xvlene	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MSD Result 0.968 1.02 1.04 3.14	5 Date QC P G Ilt 51 36 38 7 . RPD Units mg/Ki mg/Ki mg/Ki . RPD S	Mg/Kg Analyze Preparati Units Mg/Kg mg/Kg mg/Kg mg/Kg is based Dil. g 1 g 1 g 1 g 1 g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00 1.00 1.00 3.00	1 6-21 6-21 5pike Amou 1.00 1.00 1.00 3.00 e and sp Mat Ress <0.00 <0.00 <0.00 <0.00	e nt oike d rix ult 0110 0150 0160 0410 oike d	Mat Ress <0.00 <0.00 <0.00 <0.00 <0.00 uplicate 102 104 105 uplicate ike	91 rix ult 0110 0150 0160 0410 e resu 64. 57. 64. 65.	97 An Pre 85 89 89 89 89 89 89 89 89 89 89 89 89 89	17 alyzed B; pared By 64.4 65.2 (64.4 65.2 (64.4) 65.2 (65.2) (64.4) 65.2 (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (64.4) (65.2) (65.2) (64.4) (65.2) (65	- 163. - 163. - 163. - 163. - 175. - 124. - 115. - 124. - 125. - 121. - RPI Limi 20 20 20 20 Rec.	
n-Triacontane Matrix Spike (MS-1) QC Batch: 38387 Prep Batch: 33227 Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param Benzene Toluene Ethylbenzene Xvlene Percent recovery is based of Param	Result 136 Spiked S	Resu 143 Sample: 1 Sample: 1 MS 0.85 0.95	5 Date QC P Gult 61 36 38 7 . RPD Units mg/Ki mg/Ki mg/Ki mg/Ki mg/Ki Sult I	mg/Kg Preparati Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1 g 1	1 d: 2007-0 on: 2007-0 Dil. 1 1 1 1 0 the spike Amount 1.00 1.00 1.00 3.00 on the spike	1 6-21 6-21 5pike Amou 1.00 1.00 1.00 3.00 e and sp 4 0.00 <0.00 <0.00 <0.00 e and sp	e nt oike d rix ult 0110 0150 0160 0410 oike d Sp	Mat Ress <0.00 <0.00 <0.00 <0.00 uplicate Bec. 97 102 104 105 uplicate ike bunt	91 rix ult 0110 0150 0160 0410 e resu 64. 57. 64. 65. e resu MS	97 An Pre 85 89 89 89 89 89 89 89 89 89 89 89 89 89	17 alyzed B; pared By 64.4 65.5 RPD 13 14 16 16	<ul> <li>- 163.</li> <li>- 163.</li> <li>- JW</li> <li>- JW</li> <li>Rec.</li> <li>- 115.</li> <li>- 124.</li> <li>3 - 125.</li> <li>2 - 121.</li> <li>RPI</li> <li>Limi</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> </ul>	

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### Matrix Spike (MS-1) Spiked Sample 127642

QC Batch:	38402	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33238	QC Preparation.	2007-06-21	Prepared By	$_{ m JW}$

	MS			Spike	Matrix		Rec
Param	Result	Units	Dil	Amount	$\operatorname{Result}$	Rec.	Limit
Benzene	1.10	mg/Kg	1	1.00	< 0.00110	110	64.4 - 115.7
Toluene	1.16	mg/Kg	1	1.00	< 0.00150	116	57.8 - 124.4
Ethylbenzene	1.18	mg/Kg	1	1.00	< 0.00160	118	64.8 - 125.8
Xylene	3.59	mg/Kg	1	3.00	< 0.00410	120	65.2 - 121.8

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.973	mg/Kg	1	1.00	< 0.00110	97	64.4 - 115.7	12	20
Toluene	1.03	mg/Kg	1	1.00	< 0.00150	103	57.8 - 124.4	12	20
Ethylbenzene	1.03	mg/Kg	1	1.00	< 0.00160	103	64.8 - 125.8	14	20
Xylene	3.26	mg/Kg	1	3.00	< 0.00410	109	65.2 - 121.8	10	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	$\operatorname{Result}$	Result	Units	Dil.	Amount	Rec.	Rec	Limit
Trifluorotoluene (TFT)	0.791	0.797	mg/Kg	1	1	79	80	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.950	0.972	mg/Kg	1	1	95	97	66.7 - 131.9

#### Matrix Spike (MS-1) Spiked Sample: 127575

QC Batch:	38447	Date Analyzed:	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch:	33227	QC Preparation:	2007-06-21	Prepared By	JW

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	$\operatorname{Result}$	Rec.	Limit
GRO	6.83	mg/Kg	1	10.0	<0.739	68	10 - 141.5

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

	MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	7.14	mg/Kg	1	10.0	<0.739	71	10 - 141.5	4	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	$\operatorname{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.744	0.703	mg/Kg	1	1	74	70	40 - 125.3
4-Bromofluorobenzene (4-BFB)	1.01	1.02	mg/Kg	1	1	101	102	86.7 - 144.5

#### Matrix Spike (MS-1) Spiked Sample: 127642

QC Batch	38457	Date Analyzed:	2007-06-21	Analyzed By:	$_{\rm JW}$
Prep Batch:	33281	QC Preparation:	2007-06-21	Prepared By:	$_{\rm JW}$

	on the spike re MS Ress 43. on the spike re	D 1lt Unit		-	Spi Amo 10. and spi	unt	Matrix Result 36.6192	Rec. 48		Rec. Limit
	MS Resu 43.	Result 41.4 sult RPD 1 D Ilt Unit	mg/Kg is based o	l on the spike	Amo 10	unt	Result			Limit
	MS Resu 43.	sult RPD i D ılt Unit	s based o	on the spike		.0	36.6192	48	10	1 4 4 4
	MS Resu 43.	D 1lt Unit		-	and spi					- 141.5
ery is based	Resi 43.	ilt Unit	D.1	Cuilto		ike duplic	ate result	t.		
ery is based	43.		T) ')	Spike	Mat			Rec		RPD
ery is based	· · · · · · · · · · · · · · · · · · ·	4 mo/k		Amount			-	imit	RPD	Limit
ery is based	on the spike re			10.0	36.6			- 141.5	5	20
	· ±· · · · ·	sult. RPD :	is based o	on the spike	and sp	ike duplic	ate resuli	t.		
		MS	MSD			Spike	MS	MSD		Rec.
		Result	Result	Units	Dil.	Amount	Rec	Rec		Jmit
ne (TFT)		0.666	0.616	mg/Kg	1	1				- 125.3
obenzene (4-)	BFB) <sup>1 2</sup>	1.49	1.52	mg/Kg	1	1	149	152	86.7	- 144.3
CV-1) 88276		Date	Analyzed	2007-06-	18			Anal	yzed By	:: AR
		ICVs		ICVs	IC	Vs	Per	cent		
		True		Found	Per	cent	Reco	overy		Date
Flag	Units			Conc						nalyzed
	mg/Kg	100		98 1	{	98	85 -	115	200	07-06-18
CCV-1) 38276		Date	Analyzed	2007-06-	18			Anal	yzed By	r: AR
		CCVs		CCVs	C	CVs	Per	cent		
		True					Reco	overy		Date
Flag	Units	Conc.		Conc.	Rec	overy	Lin	nits	Ar	nalyzed
	mg/Kg	100		102	1	02	85 -	115	200	07-06-18
CV-1)										
38384		Dat	e Analyze	ed: 2007-0	6-20			А	nalyzec	By:
		ICVs								
<b>F</b> 1	<b>**</b> .							•		Date
Flag			(							nalyzed
	mg/Kg	250		250	11		80 -	110	200	)7-06-20
CV-1)										
8384		Dat	e Analyze	ed <sup>.</sup> 2007-0	6-20			А	nalyzec	l By
	CV-1) 38276 Flag CCV-1) 38276 Flag CV-1) 38384 Flag CV-1) 38384 SCV-1)	bbenzene (4-BFB)       1 2         CV-1)       38276         Flag       Units         mg/Kg       CV-1)         38276       Flag         Units       mg/Kg         CV-1)       38284         Flag       Units         Flag       Units         mg/Kg       CV-1)         38384       Flag         Units       mg/Kg         CV-1)       S2884	ne (TFT) 0.666 obenzene (4-BFB) $12$ 1.49 CV-1) 38276 Date ICVs True Flag Units Conc. mg/Kg 100 CCV-1) 38276 Date CCVs True Flag Units Conc. mg/Kg 100 CV-1) 38384 Date ICVs True Flag Units Conc. mg/Kg 250 CV-1) 28276 Date CCVs True State CCV-1)	ne (TFT)         0.666         0.616           obenzene (4-BFB)         1 2         1.49         1.52           CV-1)	ne (TFT) 0.666 0.616 mg/Kg benzene (4-BFB) $1 2$ 1.49 1.52 mg/Kg CV-1) 38276 Date Analyzed 2007-06- ICVs ICVs True Found Flag Units Conc. Conc mg/Kg 100 98 1 CCV-1) 38276 Date Analyzed 2007-06- CCVs CCVs True Found Corc. Conc. mg/Kg 100 102 CV-1) 38384 Date Analyzed: 2007-0 ICVs ICVs True Found Conc. Conc. mg/Kg 250 250 CV-1) S2CV-1)	ne (TFT)       0.666       0.616       mg/Kg       1         obenzene (4-BFB) $1 \cdot 2$ $1.49$ $1.52$ mg/Kg       1         CV-1)       0.8276       Date Analyzed:       2007-06-18       ICVs       ICVs       ICVs         S8276       Date Analyzed:       2007-06-18       ICVs       ICVs       ICVs       ICVs         Flag       Units       Conc.       Conc       Rec       mg/Kg       100       98.1       9         S276       Date Analyzed:       2007-06-18       CCVs       CCV-1)       98.1       9         S276       Date Analyzed:       2007-06-18       CCVs       CCVs       CCVs       CCVs         S276       Date Analyzed:       2007-06-18       CCVs       CCVs       CCVs       CCVs       CCVs       Conc.       Rec         Flag       Units       Conc.       Conc.       Conc.       Rec       ICVs       ICV-1)       ICV-1)       ICVs	ne (TFT)       0.666       0.616       mg/Kg       1       1         obenzeue (4-BFB)       1       2       1.49       1.52       mg/Kg       1       1         CV-1)       38276       Date Analyzed:       2007-06-18       ICVs       ICVs       True         Flag       Units       Conc.       Conc       Recovery       mg/Kg       100       98       98         2CV-1)       38276       Date Analyzed:       2007-06-18       CCVs       CCVs       CCVs         S2276       Date Analyzed:       2007-06-18       CCVs       CCVs       True       Found       Percent         S2276       Date Analyzed:       2007-06-18       CCVs       True       Found       Percent         S2376       Date Analyzed:       2007-06-18       CCVs       True       Found       Percent         Flag       Units       Conc.       Conc.       Conc.       Recovery       mg/Kg       102       102         CV-1)       3834       Date Analyzed:       2007-06-20       ICVs       True       Found       Percent         Flag       Units       Conc.       Conc.       Recovery       mg/Kg       250       100       100 <td><math display="block">\begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td> <td><math display="block">\begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td> <td>ne (TFT)       0.666       0.616       <math>mg/Kg</math>       1       1       67       62       40         abenzene (4-BFB)       1       1.49       1.52       <math>mg/Kg</math>       1       1       149       152       86.7         CV-1)       0.8276       Date Analyzed:       2007-06-18       Analyzed By       ICVs       ICVs       Percent         True       Found       Percent       Recovery       Limits       Ar         mg/Kg       100       98       98       85 - 115       200         2CV-1)       000       102       102       85 - 115       200         2CV-1)       000       102       102       85 - 115       200         2CV-1)       00       102       102       85 - 115       200         2CV-1)       100       102       102       85 - 115       200</td>	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ne (TFT)       0.666       0.616 $mg/Kg$ 1       1       67       62       40         abenzene (4-BFB)       1       1.49       1.52 $mg/Kg$ 1       1       149       152       86.7         CV-1)       0.8276       Date Analyzed:       2007-06-18       Analyzed By       ICVs       ICVs       Percent         True       Found       Percent       Recovery       Limits       Ar         mg/Kg       100       98       98       85 - 115       200         2CV-1)       000       102       102       85 - 115       200         2CV-1)       000       102       102       85 - 115       200         2CV-1)       00       102       102       85 - 115       200         2CV-1)       100       102       102       85 - 115       200

 $^1\mathrm{High}$  surrogate recovery due to peak interference.  $^2\mathrm{High}$  surrogate recovery due to peak interference.

						· · · · · · · · · · · · · · · · · · ·	
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param F	lag	Units `	Conc	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	272	109	85 - 115	2007-06-20
Standard (CCV	V-2)						
QC Batch: 3838	84		Date Ana	alyzed: 2007-0	6-20	А	nalyzed By:
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
	lag	Units	· Conc.	Conc	Recovery	Limits	Analyzed
DRO		mg/Kg	250	250	100	85 - 115	2007-06-20
Standard (ICV	-1)						
QC Batch. 3838	87		Date Anal	vzed 2007-06-	-21	Analy	yzed By· JW
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	1.00	0.901	90	85 - 115	2007-06-2
		m mg/Kg	1.00	0.910	91	85 - 115	2007-06-2
Param Fl DRO Standard (ICV- QC Batch. 3838 Param Benzene Toluene Ethylbenzene Xylene		mg/Kg	1.00	0.891	89	85 - 115	2007-06-2
Lylene		mg/Kg	3.00	2.68	89	85 - 115	2007-06-2
Standard (CC)	V-1)						
QC Batch: 383	87		Date Anal	yzed: 2007-06-	-21	Anal	yzed By: JW
			CCVs	CCVs	CCVs '	Percent	
			True	· Found	Percent	Recovery	Date
Param	Flag	Units	Conc	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	1.00	0.905	90	85 - 115	2007-06-2
Foluene		mg/Kg	1.00	0.911	91	85 - 115	2007-06-2
Ethylbenzene		mg/Kg	1.00	0.878	88	85 - 115	2007-06-2
Xylene		mg/Kg	3.00	2.64	88	85 - 115	2007-06-2
Standard (ICV	<b>7-1</b> )						
QC Batch: 384	02		Date Anal	vzed: 2007-06	-21	Anal	yzed By <sup>.</sup> JW
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	3	mg/Kg	1.00	0.767	77	85 - 115	2007-06-2
Foluene		mg/Kg	1.00	0.906	91	85 - 115	2007-06-2
Ethylbenzene		mg/Kg	1.00	0.879	88	85 - 115	2007-06-2
Xylene		mg/Kg	3.00	2.64	88	85 - 115	2007-06-2
					is 0.85 which is with		

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## Standard (CCV-1)

QC Batch 3	8402		Date Analyzed:	2007-06-21		Analy	vzed By JW
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	· Recovery	Date
Param	Fla	ag Units	Conc	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	1.00	0.867	87	85 - 115	2007-06-21
Toluene		mg/Kg	1.00	0.882	88	85 - 115	2007-06-21
Ethylbenzene		mg/Kg	1.00	0.847	85	85 - 115	2007-06-21
Xylene		mg/Kg	3.00	2.55	85	85 - 115	2007-06-21

# Standard (ICV-1)

QC Batch:	38447		Date An	alyzed: 2007-0	6-21	Anal	yzed By: JW
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.12	112	85 - 115	2007-06-21

## Standard (CCV-1)

QC Batch	38447		Date Ana	alyzed: 2007-06	5-21	Anal	vzed By: JW
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.02	102	85 - 115	2007-06-21

## Standard (ICV-1)

QC Batch:	38457		Date Ana	alyzed 2007-0	6-21	Anal	yzed By: JW
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	(1.874	87	85 - 115	2007-06-21

## Standard (CCV-1)

QC Batch	38457		Date Ana	alyzed: 2007-0	6-21	Anal	yzed By <sup>.</sup> JW
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.971	97	85 - 115	2007-06-21

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Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

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State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr.

Form C-141 Revised June 10, 2003

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

1220 S. St. Fran	cis Dr., Sant	a Fe, NM 87503	5	Sa	ınta Fe	, NM 875	05					side of form
			Rele	ease Notific	ation	and Co	orrective A	ction	1			
						OPERAT	ſOR		📋 Initia	l Report	X	Final Report
Name of Co							ugo Naegele, Jr				C	
Address: 30 Facility Nar				e, NM		· · · · · · · · · · · · · · · · · · ·	No.: (505) 394- e: SWD (salt w		(mogal)		÷	
						racinty Typ		valer ut	pl		_	$\geq$
Surface Ow	ner: Jimn	ny Cooper		Mineral C	)wner:			(	Lesse N	Q ARI J	-025-3	5994
						<b>NOF RE</b>	LEASE					
Unit Letter C	Section 4	Township 20S	Range 37E	Feet from the 660'	North/   North	South Line	Feet from the 1845'	East/V West	West Line	County Lea		
	-	200	570				1015			Lea		
				NAT	URE	OF REL	EASE					
Type of Rele	ase: Oil and	d Water					Release: 43 barr	els	Volume R	lecovered:	43 bar	rels
Source of Re	lease: Tan	k ran over		, , , , , , , , , , , , , , , , , , ,		Date and H	Iour of Occurrence		Date and	Hour of Di	scovery	·
				=					2/12/07			
Was Immedi	ate Notice		Yes [	] No 🗌 Not R	equired	If YES, To NMOCD -	Whom? - Gary Wink, left	messag	e with Larry	Johnson		
By Whom? :	Hugo Na					1	Iour: 2/ 23/07 4:4					
Was a Water		ched?		<b></b>		If YES, Volume Impacting the Watercourse.						
			] Yes 🚺									
If a Watercou	urse was Im	pacted, Desci	ribe Fully.	*								
Tank overflo	ow – Fluids	were immedi	ately pick	up and impacted s	soil was o	excavated an	d placed on plasti	c onsite	ò.			
collected soil the NMOCD	mpacted an l samples. for review	area on the p The impacted	ad approx areas exc	imately 10' x 30' eeding the NMOC	D RRAI	L were excav	ated to below reg	ulatory	levels. Â ( T	Closure Re	port wa	s submitted
regulations a public health should their of	ll operators or the envi operations l nment. In a	are required fronment. The nave failed to addition, NMC	to report a e acceptan adequatel OCD acce	e is true and comp nd/or file certain 1 ce of a C-141 rep y investigate and 1 ptance of a C-141	release n ort by the remediat	otifications a e NMOCD m e contaminat	nd perform correct larked as "Final R ion that pose a three we the operator of	ctive active act	tions for rel does not rel round water sibility for c	eases whic ieve the op r, surface v ompliance	h may e erator o /ater, hi with an	endanger of liability uman health
	$\prec$			0			<u>OIL CON</u>	SER V	ATION	DIVISI	ON	
Signature:	Eva	n 7 ld	lau	he					a	-loh	-30-	~
Printed Name	e:		WA.	yhob		Approved by	District Supervis	<sup>sor:</sup> F	NVIRONI	MFNTΔI	ENIC	INEER
				-dear	_	Approval Da	te: 9.26.0	_	Expiration			()) Y Loo Loo B
E-mail Addro	ess: eu	<u>a u hob</u>	00	Marex, C	8-2-1	Conditions o	f Approval:			Attache	d 🗌	
Date: 5/	6/07		Phone	432-591-7	848							
* Attach Addi	tional She	ets If Neces	sary						RP	1	39	$\langle \rangle$

District I	2001	7.7200	Cimarex Ener	ду со		110	4844 ۲.2
1625 N. French I District II			Energy N	State of New Mez Ainerals and Natur			Form C-141 Revised October 10, 2003
130)         W         Grand /           10istrict III         1000         Rio B1 a205           District IV         1220         S         St           1220         S         St         France	Road, Azter	¢, NM 87410	Oil 122	Conservation Di 0 South St. Fran Santa Fe, NM 87	eis Dr.		Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form
		· <u>·····</u> ··	Release Notif		the second later is the second later of the se	ction	
				OPERA		🕑 Initia	l Report 🗌 Final Report
Name of Co	mpany (	IM AREX S	Energy Co of Color	ude Contact	Hug & NAS	SUELE TO	
Address	SOC TEXI	AS ANE, PC	BOX 1237, GUNICE	NM SchiTelephone	No. 565-37	f-0613 150	5-340-4394
Facility Nam	ne Coo	prs 4-1	SWD	Facility I y	pe SWD	(SALT WATER	
Surface Owr	ner Ji	Mmy Coc	ps 12 Mineral	Owner		Lease N	10. API 30- 025- 3579
		·	LOC	ATION OF RE	LEASE		
Unit Letter	Section	Township	Range Feet from the	North/South Linc	Feet from the	East/West Line	County
C	4	205	378 660'	North	18451	wast	LEA
		•	Latitude	Longitu	de		
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Py Whom?	ilia	·				27 4145 pi	
By Whom? Was a Waterc	ourse Read	NA25213	JI.	2324 20 If YES, V	olume Impacting	the Watercourse.	`\`
			Yes X No 02122	62			
If a Watercour	rse was Im	pacted. Descr	ibe Fully * /8	1.2)	ر		
			/05	( <sup>30</sup> )	,		
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