# **BTA Oil Producers, LLC**

104 S. Pecos Midland,, Texas 79701 Office: (432) 682-3753

Fax: (432) 683-0325

November 20, 2009

RECEIVED

**Oil Conservation Division** 1625 N. French Dr. Hobbs, New Mexico 88210 NOV 20 2009 HOBBSOCD

#### Re: BTA 8705 JV-P GEM Battery

Dear Mr. Leking:

BTA Oil Producers, LLC is pleased to present this Remediation and Closure Report for the site known as BTA 8705 JV-P GEM Battery. The GEM Battery site is located in Lea County approximately six miles east of the intersection of NM 176 and US 62/180. This report describes the activities of September 10, 2009 to October 14, 2009. No other activities have taken place or are planned for this site.

Respectfully,

Joseph A. Baca, P.G. BTA Oil Producers, LLC Environmental Co-coordinator

NMOCD-HOLP 12/16/10

"The Environment is Everyone's Business"



# SITE REMEDIATION AND CLOSURE REPORT

8705 JV-P GEM Battery Unit "N", Section 2, Township 20 South and Range 33 East 6.0 miles northeast of the intersection of NM176 and US 62/180 Lea County, New Mexico BTA Project Number: Env. 2009-050

RECEIVED

NOV 2 0 2009 HOBBSOCD

Prepared for: Oil Conservation Division 1625 N. French Dr. Hobbs, New Mexico 88210

> Prepared by: BTA Oil Producers 104 S. Pecos Midland, Texas 79701

> > October 2009

Joseph A. Baca, P.G Environmental Coordinator

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## **1.0 INTRODUCTION**

BTA Oil Producers (BTA) is pleased to submit this Site Remediation and Closure Report (SRCR) for the BTA GEM South Battery (GEM) remediation of the crude oil contaminated soil. The GEM (Project No. Env. 2009-050) site is located in Lea County approximately 6.0 miles northeast of the intersection of NM176 and US 62/180, Lea County, New Mexico. The GPS coordinates are N 32° 35.758' and W 103° 38.155'. A Site Location Map is provided as FIGURE 1.

According to BTA field personnel, on Saturday, September10, 2009 the pumper was making his rounds and went by the GEM South Battery and found that a check valve on the oil line from the treater to the circulating pump had failed. Upon further investigation it was found that one of the sides of the check valve had cracked and broke away causing the release. It was also found that approximately 30 barrels of crude oil was released, and approximately 5 barrels were recovered. A vacuum truck was dispatched from a nearby town and 25-barrels of oil were recovered and put back into the tank (Figure 2). The pumper immediately notified the BTA Oil Producers, LLC offices of the release. The release was verbally reported to the Oil Conservation Division (OCD) in Hobbs, New Mexico on September 10, 2009 and a New Mexico form C-141 was subsequently completed and submitted to the NMOCD on September 10, 2009. A copy of the C-141 is included with this report in the Appendices as Appendix A.

#### 1.1 Purpose of Report

The purpose of this report is to document remediation activities and present supporting analytical data to the NMOCD requesting remediation of the referenced produced water release accordance with the applicable NMOCD cleanup guidelines for produced water releases.

## 2.0 SUMMARY OF FIELD ACTIVITIES

#### 2.1 Impacted Soil Removal

After the roustabout crew completed repair activities related to the failed check valve, BTA, mobilized equipment to the site the morning of September 10, 2009. A backhoe, and two (2) belly dumps were utilized to remove the impacted soil to an approved disposal facility.

Visual and olfactory methods were used to delineate the impacted to the site. Excavated impacted soil from the release was removed and shipped to Lea Land, LLC Disposal Facility. This material included only impacted soil from the battery excavation, which measured approximately 80-feet long by approximately 30-feet wide by approximately 2.5-feet deep. A soil volume of approximately 222 yds<sup>3</sup>, that included impacted battery soil was removed from the site and transported to an approved disposal site. Approximately 230 yds<sup>3</sup> of clean soil and caliche were trucked into the site and used to backfill the excavation.

#### 2.2 Confirmation Soil Sampling – Excavated Area

Laboratory submitted samples were placed in a new sterile glass container, equipped with a Teflon-lined lid furnished by the laboratory. The samples were labeled, placed on ice, chilled to a temperature of approximately 4°C and transported to Trace Analysis, Inc in Midland, Texas for analysis of DRO (Mod. 8015B), GRO (S 8015B), BTEX (8021 B) and Chlorides (SM 4500-CI B). Appropriate chain-of-custody documentation and shipping protocols were followed.

On October 7, 2009 six (6) soil samples were collected from the walls and floor of the excavation. The samples were identified as BHSW-2, (SSW-), (NW-3, BHSE-1) BHNM-3 and SNW-2. All samples collected were submitted to a laboratory for DRO, GRO, BTEX and Chloride analysis. A second

sampling event was schedule, because the samples identified as NW-3, BHSW-2 and BHN-3 were found to be above regulatory limits

On October 9, 2009 three (3) soil samples were collected from the walls and floor of the excavation. The samples were identified as NW-3 #2, BHSW-2 #2 and BHN-2 #2. All samples collected were submitted to a laboratory for Chloride analysis.

## 2.3 Analytical Results

On October 8, 2009 results were received and it was found that DRO, GRO, BTEX concentrations in the samples identified BHSW-2, SSW-1, NW-3, BHSE-1, BHNM-3 and SNW-2 were found to be below regulatory limits. The Chlorides analysis indicated that the samples identified as NW-3 #2, BHSW-2 #2 and BHN-3 #2 were found above regulatory limits.

On October 12, 2009 results were received and it was found that Chloride concentrations in the samples identified NW-2 #2; BHSW-2 #2 and BHN-3 #2 were found to be below regulatory limits.

# 2.4 SITE RESTORATION

Based on the confirmation soil samples collected from the site and analytical results of those samples and the written approval from the New Mexico Oil Conservation Division in Hobbs, the site was deemed clean, and was backfilled and the site was restored to its original condition.

# 3.0 SUMMARY AND REQUEST FOR CLOSURE

Based on the laboratory analyzed confirmation soil samples collected from the site, impacted soil was removed, properly disposed at an approved disposal facility. The site was remediated to below applicable regulatory clean up levels. Consequently, no further action is recommended or planned for the site at this time. BTA requests that the OCD grant closure to the GEM Battery release of crude oil and produced water of September 10, 2009.

## 4.0 LIMITATIONS

BTA has prepared this Site Closure Report to the best of its ability. No other warranty, expressed or implied, is made or intended. BTA has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. BTA has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. BTA has prepared this report in a professional manner, using a degree of skill and care. BTA also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared by BTA. The information contained in this report including all exhibits and attachments may not be used by any other party without the express written consent of BTA.

# 5.0 **DISTRIBUTION**

# Site Remediation and Closure Report

BTA Oil Producers, LLC Gem Battery Lea County, New Mexico BTA Project No. Env. 2008-050

# Copies 1-2

Oil Conservation Division (OCD) 1625 N. French Dr. Hobbs, New Mexico 88210

# Copy 3

**BTA** Central File

СОРУ # \_\_\_\_\_

# ATTACHMENTS

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# FIGURES

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# Figure 1



# Figure 2



# **TABLES**

			Ta	ible I					
		Sidewall a Sidew	all and Floor So	il TPH Ar r Soil BTF	alytical Ro	esults			
		BTA - GE	M Battery -	Lea Coun	tty, New M	exico			
		DIA	r r rojeci nu		NCU-2002.	alytical Me	thods		
		• • •	801	5			021B		4500
SAMPLE	SAMPLE	TOTAL	DRO	GRO	BENZENE	TOLUENE	ETHYLBENZEN	XYLENE	Chloridae
DATE	IDENTIFICATION	TPH	mg/Kg	mg/Kg	mg/Kg	mg/Kg	E mg/Kg	mg/Kg	
E	xcavation			2 e - x - x	ь 				
10/7/2009	BHSW-2	<51.0	<50.0	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	513
10/7/2009	I-MSS	<51.0	<50.0	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	<200
10/7/2009	NW-3	65.5	65.5	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	1,550
10/7/2009	BHSE-1	<51.0	<50.0	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	<200
10/7/2009.	BHNM-3	<51.0	<50.0	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	1,410
10/7/2009	SNW-2	<51.0	<50.0	<1.00	<0.0100	<0.0100	<0.0100	<0.0100	<200
-									
10/9/2009	NW-3 #2	NA	NA	NA	NA	NA	NA	NA	<200
10/9/2009	BHSW-2 #2	NA	NA	NA	NA	NA	NA	NA	244
10/9/2009	BHN-3 #2	NA	NA	NA	NA	NA	NA	NA	306
					· · ·	ینی . ۲۰۰۰ - ۱۳۰۰ - ۱۳۰۰ -			21
Note: Values ir	n bold are outside regule	atory limits							

# **APPENDICES**

# Appendix A

.

District I     State of       1625 N. French Dr., Hobbs, NM 88240     Energy Minerals       District II     Energy Minerals       1301 W. Grand Avenue, Artesia, NM 88210     Energy Minerals	f New Mexico	eived	Form C-141 Revised October 10, 2003			
District IIIOil Conset1000 Rio Brazos Road, Aztec, NM 874101220 SoutDistrict IV1220 Sout1220 S. St. Francis Dr., Santa Fe, NM 87505Santa Fe	ervation Division NUV 2 th St. Francis Dr. HOBBS Fe, NM 87505	0 2009 <sup>Sub</sup> DOCD	mit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form			
Release Notification	on and Corrective Acti	on				
	OPERATOR	🛛 🛛 Initial Re	port 🔲 Final Report			
Name of Company BTA Oil Producers LLC	Contact Skip Baca					
Facility Name Gem, 8705 JV-P Battery	Facility Type Tank Battery					
Surface Owner State (Ken Smith Grazing) Mineral Owner	State	Lease No.	V-2199			
	N OF PFI FASE					
Unit Letter Section Township Range Feet from the Nort	h/South Line Feet from the Ea	st/West Line Cou	unty			
C 2 20S 33E 660	North 2310	West L	lea			
L atituda						
Latitude Longitude						
Type of Release Minor NATURI	Volume of Release 30 bbls	Volume Recov	vered 25 bbls			
Source of Release Broken Valve	Date and Hour of Occurrence	Date and Hour	r of Discovery			
Was Immediate Notice Given?	10:30 a.m. 09/10/2009 If YES, To Whom?	10:30 a.m. 09	/10/2009			
Did not have details  Yes  No  Not Required	Larry Johnson, voice msg, Hobb	s District office				
By Whom? Pam Inskeep	Date and Hour 7:45 a.m. 09/11/	2009				
Was a Watercourse Reached?	N/A	N/A				
If a Watercourse was Impacted, Describe Fully.*						
N/A						
Describe Cause of Problem and Remedial Action Taken.*						
Broken valve on circulating pump. Turned off pump. Replaced valve Vacuum truck recovered 25 bbls of oil, returned to tank.	e.					
Describe Area Affected and Cleanup Action Taken.*						
Affected area is inside dike. Will remove affected soil and dispose of	at Leeland. Will replace with clean	soil.				
I hereby certify that the information given above is true and complete to	the best of my knowledge and under	stand that pursuant	to NMOCD rules and			
regulations all operators are required to report and/or file certain release	notifications and perform corrective	actions for releases	s which may endanger the operator of liability			
should their operations have failed to adequately investigate and remedia	ate contamination that pose a threat t	o ground water, sur	face water, human health			
or the environment. In addition, NMOCD acceptance of a C-141 report federal state or local laws and/or regulations	does not relieve the operator of resp	onsibility for compl	liance with any other			
Im. Dantian	OIL CONSE	RVATION DI	VISION			
Signature: 1411 JAN JACOUP						
Printed Name: Pam Inskeep	Approved by District Supervisor:	``````````````````````````````````````				
Title: Regulatory Administrator	Approval Date:	Expiration Date	:			
E-mail Address: pinskeep@btaoil.com	Conditions of Approval:	A	ttached			
Date: 09/11/2009 Phone: 432-682-3753						

\* Attach Additional Sheets If Necessary

-

# **Appendix B**

# **Summary Report**

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX 79703

Report Date: October 8, 2009

Work Order: 9100723

Project Location:Hobbs, NMProject Name:BTA Gem BatteryProject Number:BTA

			Date	$\mathbf{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
211844	BHSW-2	soil	2009-10-06	14:42	2009-10-07
211845	SSW-1	soil	2009-10-06	14:40	2009-10-07
211846	NW-3	soil	2009-10-06	14:35	2009 - 10 - 07
211847	BHSE-1	soil	2009-10-06	14:48	2009 - 10 - 07
211848	BHNM-3	soil	2009-10-06	14:55	2009 - 10 - 07
211849	SNW-2	soil	2009-10-06	14:45	2009-10-07

[				TPH DRO	TPH GRO	
	Benzene	Benzene Toluene Ethylbenzene Xylene				GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
211844 - BHSW-2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<50.0	<1.00
211845 - SSW-1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<50.0	< 1.00
211846 - NW-3	< 0.0100	< 0.0100	< 0.0100	< 0.0100	65.5	<1.00
211847 - BHSE-1	< 0.0100	< 0.0100	< 0.0100	<0.0100	<50.0	<1.00
211848 - BHNM-3	< 0.0100	< 0.0100	< 0.0100	< 0.0100	<50.0	$<\!1.00$
211849 - SNW-2	< 0.0100	< 0.0100	< 0.0100	<0.0100	<50.0	<1.00

#### Sample: 211844 - BHSW-2

Param	Flag	Result	Units	$\mathbf{RL}$
Chloride		513	mg/Kg	4.00

#### Sample: 211845 - SSW-1

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

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

Report Date: October 8, 2009		Work Order: 9100723	]	Page Number: 2 of 2
Sample: 211846	- NW-3			
Param	$\operatorname{Flag}$	$\mathbf{Result}$	Units	RL
Chloride		1550	mg/Kg	4.00
Sample: 211847	- BHSE-1			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00
Sample: 211848	- BHNM-3			
Param	Flag	$\mathbf{Result}$	Units	$\operatorname{RL}$
Chloride		1410	mg/Kg	4.00
Sample: 211849	- SNW-2			
Param	Flag	$\mathbf{Result}$	Units	$\mathbf{RL}$
Chloride	~	<200	mg/Kg	4.00



6701 Aberdeen Avenue, Suite 9Li200 East Sunset Road, Suite EE5002 Basin Street, Suite A1M6015 Harris Parkway, Suite 110Ft.

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

**WBENC:** 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

**DBE:** VN 20657

# **NELAP** Certifications

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

# Analytical and Quality Control Report

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: October 8, 2009

Work Order: 9100723

Project Location: Hobbs, NM Project Name: BTA Gem Battery Project Number: BTA

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
211844	BHSW-2	soil	2009-10-06	14:42	2009-10-07
211845	SSW-1	soil	2009-10-06	14:40	2009-10-07
211846	NW-3	soil	2009-10-06	14:35	2009-10-07
211847	BHSE-1	soil	2009-10-06	14:48	2009-10-07
211848	BHNM-3	soil	2009-10-06	14:55	2009-10-07
211849	SNW-2	soil	2009-10-06	14:45	2009-10-07

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

Michael abel

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

#### **Standard Flags**

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

# **Case Narrative**

Samples for project BTA Gem Battery were received by TraceAnalysis, Inc. on 2009-10-07 and assigned to work order 9100723. Samples for work order 9100723 were received intact at a temperature of 6.4 deg. C.

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

3

		Prep	$\mathbf{Prep}$	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	Batch	Date
BTEX	S 8021B	54881	2009-10-07 at 15:00	64265	2009-10-07 at 13:15
Chloride (Titration)	SM 4500-Cl B	54886	2009-10-07 at 16:15	64270	2009-10-08 at 09:15
TPH DRO	Mod. 8015B	54883	2009-10-07 at 10:33	64267	2009-10-07 at 10:33
TPH GRO	S 8015B	54881	2009-10-07 at 15:00	64266	2009-10-07 at 13:42

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 9100723 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

# **Analytical Report**

## Sample: 211844 - BHSW-2

Laboratory:	Midland						
Analysis:	BTEX		Analytical Method:	S 8021B		Prep Met	hod: S 5035
QC Batch:	64265		Date Analyzed:	2009-10-07		Analyzed	By: AG
Prep Batch:	54881		Sample Preparation	2009-10-07		Prepared	By: AG
			RL				
Parameter		Flag	Result	Units		Dilution	$\mathbf{RL}$
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)		1.69	mg/Kg	1	2.00	84	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		1.71	mg/Kg	1	2.00	86	43.1 - 128.4

#### Sample: 211844 - BHSW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 64270 54886	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-10-08 2009-10-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		RL			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		513	mg/Kg	50	4.00

#### Sample: 211844 - BHSW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 64267 54883	Analytical Method: Date Analyzed: Sample Preparation:	Mod. 8015B 2009-10-07 2009-10-07	Prep Method: Analyzed By: Prepared By:	N/A kg kg
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
DRO		<50.0	mg/Kg	1	50.0

Report Date: October 8, 2009 BTA		Work Orde BTA Gen	Page Number: 5 of 19 Hobbs, NM				
Surrogate Flag	Spike Flag Result Units Dilution Amount		Spike Amount	Percent Recovery	Recovery Limits		
n-Triacontane	128	mg/Kg		1	100	128	13.2 - 219.3
Sample: 211844 - BHSW-2							
Laboratory:MidlandAnalysis:TPH GROQC Batch:64266Prep Batch:54881		Analytica Date Ana Sample P	l Method: lyzed: reparation:	S 8015B 2009-10-07 : 2009-10-07	7	Prep M Analyze Prepare	ethod: S 5035 ed By: AG ed By: AG
Parameter Flag GRO		RL Result <1.00		Units mg/Kg		Dilution 1	RL 1.00
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	Flag	Result 1.85 1.83	Units mg/Kg	Dilution	Spike Amount 2.00 2.00	Percent Recovery 92 92	Recovery Limits 65.3 - 109.9 61.7 - 119.9
Sample: 211845 - SSW-1 Laboratory: Midland Analysis: BTEX QC Batch: 64265 Prep Batch: 54881		Analytical Date Analy Sample Pre	Method: vzed: eparation:	S 8021B 2009-10-07 2009-10-07	2.00	Prep M Analyze Prepare	ethod: S 5035 ed By: AG ed By: AG

		R	L				
Parameter Fla	ag	$\mathbf{Resul}$	lt	Units		Dilution	$\mathbf{RL}$
Benzene		< 0.010	0	mg/Kg		1	0.0100
Toluene		< 0.010	0	mg/Kg		1	0.0100
Ethylbenzene		< 0.0100		$\mathrm{mg/Kg}$		0.0100	
Xylene		< 0.010	0	mg/Kg		1	0.0100
					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.79	mg/Kg	1	2.00	90	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		1.83	mg/Kg	1	2.00	92	43.1 - 128.4

Report Date: October 8, 2009	Work Order: 9100723	Page Number: 6 of 19
BTA	BTA Gem Battery	Hobbs, NM

# Sample: 211845 - SSW-1

Chloride		<200	mg/Kg	50	4.00
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	54886	Sample Preparation:	2009-10-07	Prepared By:	$\mathbf{AR}$
QC Batch:	64270	Date Analyzed:	2009-10-08	Analyzed By:	$\mathbf{AR}$
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Laboratory:	Midland				

## Sample: 211845 - SSW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 64267 54883		Analytical M Date Analyz Sample Prej	Method: Mo zed: 200 paration: 200	d. 8015B 19-10-07 19-10-07	Prep Anal Prep	Method: yzed By: ared By:	N/A kg kg
			$\mathbf{RL}$					
Parameter	Flag		Result		Units	Dilution		$\mathbf{RL}$
DRO	······································	······································	<50.0	m	ng/Kg	1		50.0
					$\mathbf{Spike}$	Percent	Reco	very
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Lin	$\mathbf{nits}$
n-Triacontan	e	116	mg/Kg	1	100	116	13.2 -	219.3

#### Sample: 211845 - SSW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 64266 54881		Analytica Date Ana Sample P	l Method: lyzed: reparation:	S 8015B 2009-10-07 2009-10-07		Prep Meth Analyzed Prepared 3		S 5035 AG AG
			$\mathbf{RL}$						
Parameter	Flag		Result		Units		Dilution		$\mathbf{RL}$
GRO			<1.00		mg/Kg		1		1.00
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Re L	covery imits
Trifluorotolue	ene (TFT)	<u>v</u>	1.99	mg/Kg	1	2.00	100	65.3	- 109.9
$\underline{\text{4-Bromofluor}}$	obenzene (4-BFB)		1.94	mg/Kg	1	2.00	97	61.7	′ - 119.9

Report Date: October 8, 2009	Work Order: 9100723	Page Number: 7 of 19
BTA	BTA Gem Battery	Hobbs, NM

## Sample: 211846 - NW-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 64265 54881			Analytical Date Analy Sample Pre	Method: vzed: eparation:	S 8021B 2009-10-07 2009-10-07	Prep Method Analyzed By: Prepared By:		ethod: d By: d By:	S 5035 AG AG
				RI						
Parameter		Flag		Resul	t	Units		Dilution		$\mathbf{RL}$
Benzene	·			< 0.010	)	mg/Kg		1	· · · · · · · · · · · · · · · · · · ·	0.0100
Toluene				< 0.010	)	mg/Kg		1		0.0100
Ethylbenzene	9			< 0.010	)	mg/Kg		1		0.0100
Xylene				< 0.010	)	mg/Kg		1		0.0100
							Spike	Percent	$\mathbf{Re}$	covery
Surrogate			Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	L	imits
Trifluorotolu	ene (TFT)			1.82	mg/Kg	1	2.00	91	64.4	- 111.2
4-Bromofluor	obenzene (4-Bl	FB)		1.84	mg/Kg	1	2.00	92	43.1	- 128.4

# Sample: 211846 - NW-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 64270 54886	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-10-08 2009-10-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		RL			
Parameter	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Chloride		1550	mg/Kg	50	4.00

## Sample: 211846 - NW-3

n-Triacontane	9	126	mg/Kg	1	100	126	13.2 - 219.3	3
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
					Spike	Percent	Recovery	
DRO			65.5	m	g/Kg	1	50.0	50.0
Parameter	Fla	Flag			Units	Dilution	RI	
Prep Batch: 54883 Sample Preparation: 2009-10-07		9-10-07	Prepa	ared By: kg				
QC Batch:	64267		Date Analyz	ed: 200	9-10-07	Analy	vzed By: kg	
Laboratory: Analysis:	Midland TPH DRO		Analytical M	lethod: Mo	d. 8015B	Prep	Method: N/A	r

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BTA	BTA Gem Battery	Hobbs, NM

#### Sample: 211846 - NW-3

GRO		<1.00	mg/Kg	1	1.00
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
		$\mathbf{RL}$			
Prep Batch:	54881	Sample Preparation:	2009-10-07	Prepared By:	AG
QC Batch:	64266	Date Analyzed:	2009-10-07	Analyzed By:	$\mathbf{AG}$
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
Laboratory:	Midland				

					Spike	Percent	Recovery
Surrogate	Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)		1.96	mg/Kg	1	2.00	98	61.7 - 119.9

#### Sample: 211847 - BHSE-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 64265 54881			Analytical Date Analy Sample Pre	Method: yzed: eparation:	S 8021B 2009-10-07 2009-10-07	Prep Metho Analyzed E Prepared B			d: S 5035 7: AG 7: AG	
				RI	L						
Parameter		Flag		$\mathbf{Resul}$	t	Units		Dilution		$\mathbf{RL}$	
Benzene	······			< 0.010	)	mg/Kg		1		0.0100	
Toluene				< 0.010	)	mg/Kg		1		0.0100	
Ethylbenzene	e			< 0.0100	)	mg/Kg		1		0.0100	
Xylene				< 0.010	)	mg/Kg		1		0.0100	
							Spike	Percent	Re	covery	
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	L	imits	
Trifluorotolu	ene (TFT)			1.77	mg/Kg	1	2.00	88	64.4	- 111.2	
4-Bromofluor	obenzene (4-B	FB)		1.79	mg/Kg	1	2.00	90	43.1	- 128.4	

## Sample: 211847 - BHSE-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 64270 54886	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-10-08 2009-10-07	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
		RL				
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$	
Chloride		<200	mg/Kg	50	4.00	

Report Date BTA	e: October 8, 2009		BTA Gem Battery				Page Number: 9 of 19 Hobbs, NM		
Sample: 21	1847 - BHSE-1								
Laboratory:	Midland			136.11	NG 1 001		D		<b>NT / A</b>
Analysis:	1PH DRU 64967		Analytica Data Ana	I Method:	Mod. 8013	)B 7	Prep .	vietnoa:	N/A ka
Prep Batch:	54883		Sample P	reparation:	2009-10-07	7	Prepa	red By:	kg
			ВĨ,						
Parameter	Parameter Flag		Result		Units		Dilution		$\mathbf{RL}$
DRO	0_	·····	<50.0		mg/Kg		1	····.	50.0
						Spike	Percent	Recov	verv
Surrogate	Flag	Result	Units	$\mathbf{Dilu}$	tion	Amount	Recovery	Lim	its
n-Triacontan	ie	122	mg/Kg	1		100	122	13.2 - 2	219.3
Sample: 21	1847 - BHSE-1								
Laboratory:	Midland								
Analysis:	TPH GRO		Analytica	l Method:	S 8015B		Prep M	ethod: S	5035
QC Batch:	64266		Date Ana	lyzed:	2009-10-07	7	Analyze	d By: A	G
Prep Batch:	54881		Sample P	reparation:	2009-10-07	7	Prepare	d By: A	G
			$\mathbf{RL}$				,		
Parameter	Flag		Result		Units		Dilution		$\mathbf{RL}$
GRO			<1.00		mg/Kg		1		1.00
						Spike	Percent	Recov	verv
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Lim	its
Trifluorotolu	ene (TFT)		1.96	mg/Kg	1	2.00	98	65.3 -	109.9
4-Bromofluor	robenzene (4-BFB)		1.90	mg/Kg	1	2.00	95	61.7 -	119.9

## Sample: 211848 - BHNM-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 64265 54881		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2009-10-07 2009-10-07	Prep Method: Analyzed By: Prepared By:	S 5035 AG AG
			$\mathbf{RL}$			
Parameter		Flag	Result	Units	Dilution	$\mathbf{RL}$
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

Report Date: October 8, 2009 BTA			N	Work Order: BTA Gem I	Page Number: 10 of 19 Hobbs, NM				
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Reco Lin	overy nits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	64.4 -	111.2
4-Bromofluor	ofluorobenzene (4-BFB) 1.74 mg/Kg 1 2.00 87		87	43.1 -	128.4				
Sample: 21	1848 - BHNM-3								
Laboratory:	Midland						_		/ .
Analysis: Chloride (Titration)			Analy	vtical Metho	d: SM 450	0-CI B	Prep I	Method:	N/A
QU Batch: Prop. Dotoh.	64270 54996		Sample Preparation: 2009-10-08			Propaged By:			
i iep Daten.	34000		Samp	ne i reparati	JII. 2009-10	-07	Tiepa	ieu Dy.	лц
			$\mathbf{RL}$						
Parameter	Flag		Result		Units		Dilution		$\mathbf{RL}$
Chloride			1410		mg/Kg		50		4.00
Sample: 21	1848 - BHNM-3								
Laboratory:	Midland								
Analysis:	TPH DRO		Analytica	al Method:	Mod. 8015	В	Prep 1	Method:	N/A
QC Batch:	64267		Date Ana	alyzed:	2009-10-07		Analy	zed By:	kg
Prep Batch:	54883		Sample F	reparation:	2009-10-07		Prepa	red By:	kg
			$\mathbf{RL}$						
Parameter	Flag		Result		Units		Dilution		$\mathbf{RL}$
DRO			<50.0 mg/Kg			1		50.0	
						Spike	Percent	Reco	overy
Surrogate	Flag	Result	Units	Dilut	ion A	mount	Recovery	Lin	nits
n-Triacontan	ie	113	mg/Kg	1		100	113	13.2 -	219.3

## Sample: 211848 - BHNM-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 64266 54881	Analytical Method: Date Analyzed: Sample Preparation:	S 8015B 2009-10-07 2009-10-07	Prep Method: Analyzed By: Prepared By:	S 5035 AG AG
		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
GRO		<1.00	mg/Kg	1	1.00

Report Date: October 8, 2009 BTA	€	,	Work Orden BTA Gem		Page Number: 11 of 19 Hobbs, NM		
Surrogate	$\mathbf{Flag}$	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.90	mg/Kg	1	2.00	95	65.3 - 109.9
4-Bromofluorobenzene (4-BFI	3)	1.86	mg/Kg	1	2.00	93	61.7 - 119.9
Sample: 211849 - SNW-2							
Laboratory: Midland							
Analysis: BTEX		Analytical	Method:	S 8021B		Prep Me	ethod: S 5035
QC Batch: 64265		Date Anal	yzed:	2009-10-07		Analyze	d By: AG
Prep Batch: 54881		Sample Pr	eparation:	2009-10-07		Prepare	d By: AG
		RI					
Parameter F	lag	Resul	t	Units	]	Dilution	$\mathbf{RL}$
Benzene		< 0.010	0	mg/Kg		1	0.0100
Toluene		< 0.010	0	m mg/Kg		1	0.0100
Ethylbenzene		< 0.010	0	m mg/Kg		1	0.0100
Xylene		< 0.010	0	mg/Kg		1	0.0100
Surrogata	Flag	Rogult	Unite	Dilution	Spike Amount	Percent	Recovery
Trifluorotoluono (TET)	1 lag	1 74	mg/Kg	1	2.00		$\frac{64.4}{111.2}$
4-Bromofluorobenzene (4-BFI	3)	1.74	mg/Kg	1	2.00 2.00	88	43.1 - 128.4
Sample: 211849 - SNW-2							
Laboratory: Midland Analysis: Chloride (Titra QC Batch: 64270 Prep Batch: 54886	tion)	Analy Date Samp	vtical Meth Analyzed: le Prepara	od: SM 4500 2009-10- tion: 2009-10-	0-Cl B -08 -07	Prep I Analy: Prepa:	Method: N/A zed By: AR red By: AR
		1111					

Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		<200	mg/Kg	50	4.00

## Sample: 211849 - SNW-2

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	64267	Date Analyzed:	2009-10-07	Analyzed By:	kg
Prep Batch:	54883	Sample Preparation:	2009-10-07	Prepared By:	kg

Report Date: ( BTA	Dctober 8, 2009		Work Order: 9100723 BTA Gem Battery				Page Number: 12 of 19 Hobbs, NM			
Parameter	Fla	л Э	$\operatorname{RL}$ Result		Units		Dilution	RL		
DRO			<50.0		mg/Kg		1	50.0		
Surrogate	Flag	Result	Units	Diluti	on	Spike Amount	Percent Recovery	Recovery Limits		
n-Triacontane		117	mg/Kg	1		100	117	13.2 - 219.3		
Laboratory: M Analysis: T QC Batch: 6 Prep Batch: 5	Aidland TPH GRO 4266 4881		Analytica Date Ana Sample P	l Method: lyzed: reparation:	S 8015B 2009-10-0 2009-10-0	7	Prep Me Analyze Prepare	ethod: S 5035 d By: AG d By: AG		
Parameter	Fla	or	RL Result		Units		Dilution	RL		
GRO		5	<1.00		mg/Kg		1	1.00		
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits		
Trifluorotoluene	e (TFT)	0	1.92	mg/Kg	1	2.00	96	65.3 - 109.9		
4-Bromofluorob	enzene (4-BFB	)	1.85	mg/Kg	1	2.00	92	61.7 - 119.9		

# Method Blank (1) QC Batch: 64265

QC Batch: 64265		Date An	alyzed:	2009-10-07		A	nalyzed By:	$\mathbf{AG}$
Prep Batch: 54881 QC Preparation: 2009-10-07				P	repared By:	$\mathbf{AG}$		
			Ν	MDL				
Parameter	Flag		R	$\mathbf{esult}$	Un		$\mathbf{RL}$	
Benzene			< 0.0	0410	mg		0.01	
Toluene			< 0.0	0310	mg	m mg/Kg		
Ethylbenzene			< 0.00240			m mg/Kg		
Xylene			< 0.0	0650	mg	/Kg		0.01
					Spike	Percent	t Reco	overy
Surrogate	Flag	Result	Units	Dilution	Amount	Recover	y Lin	nits
Trifluorotoluene (TFT)		1.75	mg/Kg	1	2.00	88	64.9 -	122.7
4-Bromofluorobenzene (4-BFB)		1.67	mg/Kg	1	2.00	84	43.9 -	121.9

Report Date: October 8, 2009 BTA	Work BTA	Order: 9100723 A Gem Battery		Page Nu	mber: 13 of 19 Hobbs, NM
Method Blank (1) QC Batch: 642	266				
QC Batch: 64266 Prep Batch: 54881	Date Analyze QC Preparat	ed: 2009-10-07 ion: 2009-10-07		Analy: Prepa	zed By: AG red By: AG
Parameter Elar		MDL Bogult	T.		ta
GRO Flag		<0.396	mg	/Kg	
				Deveest	D
Surrogate Flag	Result	Units Diluti	on Amount	Recovery	Limits
Trifluorotoluene (TFT)	1.95 n	ng/Kg 1	2.00	98	66.2 - 125
4-Bromofluorobenzene (4-BFB)	1.83 m	ng/Kg 1	2.00	92	62 - 120.5
Method Blank (1) QC Batch: 642 QC Batch: 64267 Prep Batch: 54883	67 Date Analyz QC Preparat	ed: 2009-10-07 ion: 2009-10-07		Analy Prepa	yzed By: kg ared By: kg
		MDL			
Parameter Flag		Result	U1	nits	RL 50
DRO		< 0.80	mg	/Kg	50
Surrogate Flag Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane 120	mg/Kg	1	100	120	13 - 178.5
Method Blank (1) QC Batch: 642	70 Date Analyze	d. 2000 10 08		Apple	rod Dru. AD
Prep Batch: 54886	QC Preparati	ion: $2009-10-08$		Prenau	red By: AR
	ac i icpaian	2005-10-01		Тера	leu by. Alt
		MDI			
Parameter Flog		Result	ŤĪ.	site	рт

# Laboratory Control Spike (LCS-1)

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QC Batch:	64265	Date Analyzed:	2009-10-07	Analyzed By:	AG
Prep Batch:	54881	QC Preparation:	2009-10-07	Prepared By:	AG

Report Date: October 8, 2009 BTA Param		Work C BTA	Page Number: 14 of 19 Hobbs, NM				
	$\begin{array}{c} { m LCS} \\ { m Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.03	mg/Kg	1	2.00	< 0.00410	102	75.4 - 115.7
Toluene	1.99	mg/Kg	1	2.00	< 0.00310	100	78.4 - 113.6
Ethylbenzene	1.89	mg/Kg	1	2.00	< 0.00240	94	76 - 114.2
Xylene	5.72	mg/Kg	1	6.00	< 0.00650	95	76.9 - 113.6

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	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	RPD	Limit
Benzene	2.09	mg/Kg	1	2.00	< 0.00410	104	75.4 - 115.7	3	20
Toluene	2.06	mg/Kg	1	2.00	< 0.00310	103	78.4 - 113.6	3	20
Ethylbenzene	1.98	mg/Kg	1	2.00	< 0.00240	99	76 - 114.2	5	<b>20</b>
Xylene	6.00	mg/Kg	1	6.00	< 0.00650	100	76.9 - 113.6	5	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	$\mathbf{Result}$	$\mathbf{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	1.77	1.77	mg/Kg	1	2.00	88	88	65 - 122.9
4-Bromofluorobenzene (4-BFB)	1.87	1.87	mg/Kg	1	2.00	94	94	43.8 - 124.9

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

QC Batch:	64266	Date Analyzed:	2009-10-07	Analyzed By:	AG
Prep Batch:	54881	QC Preparation:	2009-10-07	Prepared By:	AG

	LCS			Spike	Matrix		Rec.
Param	$\mathbf{Result}$	$\mathbf{Units}$	Dil.	Amount	$\mathbf{Result}$	Rec.	$\operatorname{Limit}$
GRO	17.8	mg/Kg	1	20.0	< 0.396	89	52.5 - 114.3

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	$\mathbf{RPD}$	$\operatorname{Limit}$
GRO	18.9	mg/Kg	1	20.0	< 0.396	94	52.5 - 114.3	6	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	$\mathbf{Result}$	Result	Units	Dil.	Amount	Rec.	Rec.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	2.00	2.00	mg/Kg	1	2.00	100	100	66.2 - 128.7
4-Bromofluorobenzene (4-BFB)	1.94	1.96	mg/Kg	1	2.00	97	98	64.1 - 127.4

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

QC Batch:	64267	Date Analyzed:	2009-10-07	Analyzed By:	kg
Prep Batch:	54883	QC Preparation:	2009-10-07	Prepared By:	kg

Report Date: October 8, 2 BTA		V	Vork Ore BTA Ge		Page	Number: Hol	15 of 19 bbs, NM			
_			5		DU	Spike	Matrix	K D	-	Rec.
Param		Resu	lt U	nits	Dil.	Amount	Result	t Rec	. 1	Jimit
DRO	······	190	mį	g/Kg	1	250	<5.80	70	57.4	- 133.4
Percent recovery is based of	on the sp	oike result.	RPD is b	ased on	the spike	and spike du	iplicate re	esult.		
		LCSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		190	mg/Kg	1	250	<5.86	76 5	7.4 - 133.4	<b>4</b> 0	20
Percent recovery is based of	on the sp	oike result.	RPD is b	ased on	the spike	and spike du	plicate re	esult.		
v	- -	T (10)				- -	• • • • • • •	T COD		D
Yeene make	LCS	LCSD	<b>T</b> T		Dil	Spike	LCS		T	Kec.
ourrogate	result	result	Un	ILS Ka	1 1	Amount	<u>nec.</u>	Rec.	10 =	1/67
	02.0	01.0		115					10.0	110.1
Laboratory Control Sp QC Batch: 64270 Prep Batch: 54886	ike (LC	S-1)	Date Ana QC Prep	alyzed: aration:	2009-10 2009-10	-08 -07		A	nalyzed By repared By	y: AR y: AR
			QU I IOP	aramon.	2000 10	01			cpured D	
			S		D.1	Spike	Mat	trix		Rec.
Param		LC Rest	Sult	Units	Dil.	Spike Amount	Mat Res	trix sult	Rec.	Rec.
Param Chloride		LC Rest 98.	S ult	Units ng/Kg	Dil.	Spike Amount 100	Ma Res <2	trix sult 1 .18	Rec. 98	Rec. Limit 85 - 115
Param Chloride Percent recovery is based of	on the sp	LC Rest 98. Dike result.	S ult	Units ng/Kg ased on	Dil. 1 the spike	Spike Amount 100 and spike du	Mat Res <2 1plicate re	trix sult 1 .18 esult.	Rec. 98	Rec. Limit 85 - 115
Param Chloride Percent recovery is based of	on the sp	LC Rest 98. Dike result. LCSD	S ult 4 n RPD is b	Units ng/Kg ased on	Dil. 1 the spike Spike	Spike Amount 100 and spike du Matrix	Mat Res <2 1plicate re	trix sult 1 .18 esult. Rec.	Rec. 98	Rec. Limit 85 - 115 RPD
Param Chloride Percent recovery is based of Param	on the sp	LC Resu 98. Dike result. LCSD Result	S ult RPD is b Units	Units ng/Kg ased on Dil.	Dil. 1 the spike Spike Amoun	Spike Amount 100 and spike du Matrix t Result	Mar Res <2 ıplicate re Rec.	trix sult 1 .18 esult. Rec. Limit	Rec. 98 RPD	Rec. Limit 85 - 115 RPD Limit
Param Chloride Percent recovery is based of Param Chloride	on the sp	LC Rest 98. Dike result. LCSD Result 99.8	S ult RPD is b  Units mg/Kg	Units ng/Kg ased on Dil. 1	Dil. 1 the spike Spike Amoun 100	Spike Amount 100 and spike du Matrix t Result <2.18	Mat Res 2 Iplicate re Rec. 100	trix sult 1 .18 esult. Rec. Limit 85 - 115	Rec. 98 RPD 1	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of	on the sp	LC Resu 98. Dike result. LCSD Result 99.8 Dike result.	S ult n RPD is b Units mg/Kg RPD is b	Units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mar Res 2 1plicate re Rec. 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of	on the spon the sp	LC Resu 98. Dike result. LCSD Result 99.8 Dike result.	S ult n RPD is b Units mg/Kg RPD is b	Units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mar Res 1plicate re Rec. 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of <b>Matrix Spike (MS-1)</b>	on the sp on the sp Spiked	LC Rest 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21	S ult n RPD is b Units mg/Kg RPD is b	Units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mat Res 2 1plicate re <u>Rec.</u> 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265	on the sp on the sp Spiked	LC Resu 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21	S ult n RPD is b Units mg/Kg RPD is b 1757 Date Ana	Units ng/Kg ased on Dil. 1 ased on	Dil. 1 the spike Spike Amoun 100 the spike 2009-10	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mar Res 2 1plicate re Rec. 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881	on the sp on the sp Spiked	LC Resu 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21	S ult n RPD is b Units mg/Kg RPD is b 1757 Date Ana QC Prep	Units ng/Kg ased on Dil. 1 ased on alyzed: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mar Res 1plicate re Rec. 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1 nalyzed By	Rec. Limit 85 - 115 RPD Limit 20
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of <b>Matrix Spike (MS-1)</b> QC Batch: 64265 Prep Batch: 54881	on the sp on the sp Spiked	LC Ress 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21	S ult n RPD is b Units mg/Kg RPD is b 1757 Date Ana QC Prep	Units ng/Kg ased on Dil. 1 ased on alyzed: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du	Mat Res 2 1plicate re <u>Rec.</u> 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult.	Rec. 98 RPD 1 nalyzed By	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881	on the spon the spiked	LC Resul 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21	S ult n RPD is b <u>Units</u> mg/Kg RPD is b 1757 Date Ana QC Prep	Units ng/Kg ased on Dil. 1 ased on alyzed: aration:	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07	Mar Res 2 1plicate re 100 1plicate re	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult. A: Pi	Rec. 98 RPD 1 nalyzed By	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG y: AG Rec.
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881 Param	on the sp on the sp Spiked	LC Resu 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21 MS Result	S ult n RPD is b Units mg/Kg RPD is b 11757 Date Ana QC Prep t Un	Units ng/Kg ased on Dil. 1 ased on alyzed: aration: iits	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10 Dil.	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07 -07 Spike Amount	Mar Res 1plicate re Rec. 100 1plicate re Matrix Result	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult. A: Pr	Rec. 98 RPD 1 nalyzed By repared By	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG y: AG Rec. Limit
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881 Param Benzene	on the sp on the sp Spiked	LC Ress 98. Dike result. LCSD Result 99.8 Dike result. Sample: 21 MS Result 1.91	S ult n RPD is b Units mg/Kg RPD is b 1757 Date Ana QC Prep t Un mg,	Units ng/Kg ased on Dil. 1 ased on alyzed: aration: iits /Kg	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10 2009-10	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07 -07 Spike Amount 2.00	Matrix Rec. 100 100 101 102 100 101 101 102 100 101 100 101 100 100	trix sult .18 esult. Rec. Limit 85 - 115 esult. At Pr Rec 0 96	Rec. 98 RPD 1 nalyzed By repared By c. 1 57.7	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG r: AG Rec. Limit 7 - 140.7
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881 Param Benzene Foluene	on the spin the spiked	LC Ress 98. oike result. LCSD Result 99.8 oike result. Sample: 21 MS Result 1.91	S ult n RPD is b Units mg/Kg RPD is b 1757 Date Ana QC Prep t Un mg, mg,	Units ng/Kg ased on Dil. 1 ased on alyzed: aration: its /Kg /Kg	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10 Dil. 1 1	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07 -07 Spike Amount 2.00 2.00	Mat Res 1plicate re Rec. 100 1plicate re Matrix Result <0.0041 <0.0031	trix sult 1 .18 esult. Rec. Limit 85 - 115 esult. A: Pr Rec 0 96 0 95	Rec. 98 RPD 1 nalyzed By repared By :. I 57.7 53.4	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG r: AG Rec. Limit - 140.7
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881 Param Benzene Foluene Ethylbenzene	on the spon the spiked	LC Rest 98. oike result. LCSD Result 99.8 oike result. Sample: 21 MS Result 1.91 1.90 1.86	S ult n RPD is b Units mg/Kg RPD is b 11757 Date Ana QC Prep t Un mg, mg,	Units ng/Kg ased on Dil. 1 ased on alyzed: aration: its /Kg /Kg /Kg	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10 Dil. 1 1 1 1 1	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07 -07 -07 -07 2.00 2.00 2.00 2.00	Mar Res 1plicate re Rec. 100 1plicate re Matrix Result <0.0041 <0.0031 <0.0024	trix sult .18 esult. Rec. Limit 85 - 115 esult. A: Pr Rec 0 96 0 95 0 93	Rec. 98 RPD 1 nalyzed By repared By c. 1 57.7 53.4 62.1	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG y: AG r: AG Rec. Limit 7 - 140.7 1 - 146.6 - 141.6
Param Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 64265 Prep Batch: 54881 Param Benzene Foluene Sthylbenzene Kylene	on the spon the spiked	LC Rest 98. oike result. LCSD Result 99.8 oike result. Sample: 21 MS Result 1.91 1.90 1.86 5.62	S ult n RPD is b <u>Units</u> mg/Kg RPD is b 11757 Date Ana QC Prep t Un mg, mg, mg,	Units ng/Kg ased on Dil. 1 ased on alyzed: aration: its /Kg /Kg /Kg /Kg /Kg	Dil. 1 the spike Spike Amoun 100 the spike 2009-10 2009-10 Dil. 1 1 1 1 1 1 1	Spike Amount 100 and spike du Matrix t Result <2.18 and spike du -07 -07 -07 -07 -07 2.00 2.00 2.00 2.00 6.00	Mar Res 1plicate re Rec. 100 1plicate re 100 1plicate re Matrix Result <0.0041 <0.0031 <0.0024 <0.0065	trix sult .18 esult. Rec. Limit 85 - 115 esult. A: Pr Rec 0 96 0 95 0 93 0 94	Rec. 98 RPD 1 nalyzed By repared By c. 1 57.7 53.4 62.1 61.2	Rec. Limit 85 - 115 RPD Limit 20 y: AG y: AG y Y AG y: AG y: AG y: AG y: AG y: AG y

			Work ( BTA		Page Number: 16 of 19 Hobbs, NM					
matrix spikes continued	MSD			Spike	Matr	ix	1	Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Resu	lt Rec	. L	imit	RPD	Limit
	MCD					<u>.</u>		<u> </u>		
Danam	MSD Rosult	Unita	Dil	Spike	Matr	1X lt Roc	1 T	tec. imit	BBD	RPD Limit
Bonzono	2 00	mg/Kg	1	2.00		$\frac{11}{410}$ 100	$\frac{1}{577}$	- 140 7	5	20
Foluene	$\frac{2.00}{2.00}$	mg/Kg	1	2.00	< 0.00	$\frac{110}{310}$ 100	53.4	- 146.6	5	20
Fthylbenzene	1.98	mg/Kg	1	2.00	< 0.00	240 99	62 1	- 141 6	6	20
Striyibenzene Xvlene	6.03	mg/Kg	1	2.00		240 <i>33</i> 650 100	612	-141.0 -1427	7	20
Percent recovery is based on the s	spike result.	RPD is	based o	on the spike	and spi	ike duplica	te resul	t.	•	20
v	MS	s M	SD	1	•	Snike	MS	MSD	1	Rec
Surrogate	Resi	ilt Re	sult	Units	Dil	Amount	Bec	Rec	T	imit.
Trifluorotoluene (TFT)	1 7	8 1	76	mg/Kg	1	2	89	88	62.7	- 119 6
LBromofluorobenzene (4-RFR)	1.8	G 1	88	ть/ 15 mg/Кg	1	$\tilde{2}$	94	00 04	49.6	- 136 7
QU Batch: 04266 Prep Batch: 54881		QC Pre	nalyzed eparatio	: 2009-10 on: 2009-10	0-07 0-07			Anal Prep	yzed By ared By	r: AG : AG
QU Batch: 04266 Prep Batch: 54881	М	QC Pre	nalyzed eparatio	: 2009-10 on: 2009-10	0-07 0-07 Spi	ke	Matrix	Anal Prep	yzed By ared By	Rec.
QU Batch: 04266 Prep Batch: 54881 Param	M Res	QC Pre	nalyzed eparatio <u>Units</u>	: 2009-10 n: 2009-10 Dil.	0-07 0-07 Spi <u>Amc</u>	ke	Matrix Result	Anal Prep Rec.	yzed By ared By	r: AG : AG Rec. Limit
QU Batch: 64266 Prep Batch: 54881 Param GRO	M Res 16	QC Pre	Units	: 2009-10 n: 2009-10 Dil. 1	0-07 0-07 Spi Amo 20	ke . ount .0	Matrix Result <0.396	Anal Prep Rec. 82	yzed By ared By	r: AG : AG Rec. Limit - 198.3
QC Batch:       64266         Prep Batch:       54881         Param	M Res 16 spike result.	QC Pre S ult RPD is	Units mg/Kg based o	: 2009-10 on: 2009-10 Dil. 1 on the spike	0-07 0-07 Spi Amc 20 e and spi	ke punt .0 ike duplica	Matrix Result <0.396 ate resul	Anal Prep Rec. 82 t.	yzed By ared By 10	r: AG : AG Rec. Limit - 198.3
QU Batch: 64266 Prep Batch: 54881 Param GRO Percent recovery is based on the s	M Res 16 spike result. MSD Bacult	QC Pre S ult RPD is	Units mg/Kg based o	: 2009-10 n: 2009-10 Dil. 1 on the spike Spike	0-07 0-07 <u>Amc</u> 20 e and spi	ke .0 ike duplica trix	Matrix Result <0.396 ate resul	Anal Prep <u>Rec.</u> 82 t. Rec.	yzed By ared By 10	r: AG : AG Rec. Limit - 198.3 RPD
QU Batch: 04266 Prep Batch: 54881 Param GRO Percent recovery is based on the s Param	M Res 16 spike result. MSD Result	QC Pre S ult .3 RPD is Units	Units mg/Kg based o Dil.	: 2009-16 on: 2009-16 Dil. 1 on the spike Amoun	0-07 0-07 Amc 20 e and spi Mat t Res	ke ount .0 ike duplica trix ult Rea	Matrix Result <0.396 ate resul c. L	Anal Prep <u>Rec.</u> 82 t. Rec. imit	yzed By ared By 10 RPD	r: AG : AG Rec. Limit - 198.3 RPD Limit
2C Batch:       64266         Prep Batch:       54881         Param	M Res 16 spike result. MSD Result 17.0	QC Pre S ult .3 RPD is Units mg/Kg	Units mg/Kg based of Dil.	: 2009-10 on: 2009-10 Dil. 1 on the spike Amoun 20.0	$\begin{array}{c} 0-07\\ 0-07\\ \hline \\ 0-07\\ \hline \\ \\ \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	ke bunt .0 ike duplica trix sult Rec 396 85	Matrix Result <0.396 ate result c. L 5 10	Anal Prep <u>Rec.</u> 82 t. Rec. imit - 198.3	yzed By ared By 10 RPD 4	r: AG : AG Rec. Limit - 198.3 RPD Limit 20
QC Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s	M Ress 16 spike result. MSD Result 17.0 spike result.	QC Pre S ult 3 1 RPD is Units mg/Kg RPD is	Units mg/Kg based o Dil.	: 2009-10 n: 2009-10 Dil. 1 on the spike <u>Spike</u> <u>Amoun</u> 20.0 on the spike	0-07 0-07 Amc 20 e and spi Mat t Res <0. e and spi	ke ount .0 ike duplica trix ult Rec 396 85 ike duplica	Matrix Result <0.396 ate resul c. L 5 10 ate resul	Anal Prep Rec. 82 t. Rec. imit - 198.3 t.	yzed By ared By 10 <u>RPD</u> 4	r: AG : AG Rec. Limit - 198.3 RPD Limit 20
QC Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s         Param         GRO	M Res 16 spike result. MSD Result 17.0 spike result. MS	QC Pre S ult 3 1 RPD is Units mg/Kg RPD is S M	Units mg/Kg based of Dil.	: 2009-10 n: 2009-10 Dil. 1 on the spike Amoun 20.0 on the spike	$\begin{array}{c} 0-07\\ 0-07\\ \hline \\ 0-07\\ \hline \\ \\ Amc\\ 20\\ \hline \\ e \text{ and spi}\\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	ke ount .0 ike duplica trix ult Rea 396 85 ike duplica Spike	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS	Anal Prep Rec. 82 t. Rec. imit - 198.3 t. MSI	yzed By ared By 10 RPD 4	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec.
QC Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param       GRO         Percent recovery is based on the s         GRO         Percent recovery is based on the s         Surrogate	M Res spike result. MSD Result 17.0 spike result. Ms Resu	QC Pre S ult .3 RPD is <u>Units</u> mg/Kg RPD is S Mult Re	Units mg/Kg based o Dil. 1 based o ISD esult	: 2009-10 n: 2009-10 Dil. 1 on the spike Amoun 20.0 on the spike Units	0-07 0-07 Spi Amc 20 e and spi t Res <0. e and spi 20 e and spi t Res <0.	ke ount .0 ike duplica trix ult Rea 396 85 ike duplica Spike Amount	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS Rec	Anal Prep Rec. 82 t. Rec. imit - 198.3 t. MSI . Rec	yzed By ared By 10 RPD 4 D.	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec. Limit
2C Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param       GRO         Percent recovery is based on the s         Surrogate         Drifluorotoluene (TFT)	M Res 16 spike result. MSD Result 17.0 spike result. MS Res 1.9	QC Pre S ult .3 RPD is <u>Units</u> mg/Kg RPD is S Mult Ra 1 1	Units mg/Kg based o Dil. 1 based o ISD esult .97	: 2009-10 n: 2009-10 Dil. 1 on the spike Amoun 20.0 on the spike Units mg/Kg	0-07 0-07 Spi Amc 20 e and spi t Res <0. e and spi Dil. 1	ke ount .0 ike duplica trix sult Rea 396 85 ike duplica Spike Amount 2	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS Rec 96	Anal Prep Rec. 82 t. Rec. imit - 198.3 t. MSJ Rec 98	yzed By ared By 10 RPD 4 D 65	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec. Limit .5 - 123
QC Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s         Surrogate         Drifluorotoluene (TFT)         I-Bromofluorobenzene (4-BFB)	M Ress 16 spike result. MSD Result 17.0 spike result. Mi Ress 1.9 1.9	QC Pressed of Control	Units mg/Kg based of Dil. 1 based of ISD esult .97 .03	: 2009-10 on: 2009-10 Dil. 1 on the spike Spike Amoun 20.0 on the spike Units mg/Kg mg/Kg	$\begin{array}{c} 0-07\\ 0-07\\ \hline 0-07\\ \hline \\ Spi\\ Amc\\ 20\\ \hline \\ e \text{ and spi}\\ \hline \\ \\ mathbf{matrix}\\ e \text{ and spi}\\ \hline \\ \hline \\ c \text{ and spi}\\ \hline \\ \hline \\ \hline \\ 1\\ 1\\ \hline \end{array}$	ke ount .0 ike duplica trix uult Rea 396 85 ike duplica Spike Amount 2 2	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS Rec 96 99	Anal Prep Rec. 82 t. Rec. imit 198.3 t. MSI t. Rec 98 102	yzed By ared By 10 <u>RPD</u> 4 0	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec. Limit .5 - 123 .6 - 140
QC Batch:       64266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param       GRO         Percent recovery is based on the s         Opercent recovery is based on the s         Surrogate         Driffuorotoluene (TFT)         I-Bromofluorobenzene (4-BFB)         Matrix Spike (MS-1)       Spiked	M Res pike result. MSD Result 17.0 spike result. MS Ress 1.9 1.9 1.9	QC Pre S ult 3 1 RPD is Units mg/Kg RPD is S M alt Ra 1 1 8 2 11747	Units mg/Kg based o Dil. 1 based o ISD esult .97 .03	: 2009-10 on: 2009-10 Dil. 1 on the spike Amoun 20.0 on the spike Units mg/Kg mg/Kg	0-07 0-07 Spi Amo 20 e and spi t Res <0. e and spi t 1 1 1	ke jount 0 ike duplica trix sult Rea 396 85 ike duplica Spike Amount 2 2 2	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS Rec 96 99	Anal Prep Rec. 82 t. Rec. imit - 198.3 t. MSI . Rec 98 102	yzed By ared By 10 RPD 4 0	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec. Limit .5 - 123 .6 - 140
QC Batch:       04266         Prep Batch:       54881         Param       GRO         Percent recovery is based on the s         Param         GRO         Percent recovery is based on the s         Second Secon	M Ress 16 spike result. MSD Result 17.0 spike result. M3 Ress 1.9 1.9 1.9	QC Pre S ult 3 1 RPD is Units mg/Kg RPD is S N ult Re 1 1 8 2 11747 Date A	Units mg/Kg based o Dil. 1 based o ISD csult .97 .03	: 2009-10 n: 2009-10 Dil. 1 on the spike Spike Amoum 20.0 on the spike Units mg/Kg mg/Kg mg/Kg d: 2009-1	$\begin{array}{c} 0-07\\ 0-07\\ \hline 0-07\\ \hline \\ \text{Spi}\\ \text{Amc}\\ 20\\ \hline \\ \text{e and spi}\\ \hline \\ \text{max}\\ \text{t Res}\\ \hline \\ \text{constant}\\ \text{constant}\\ \text{constant}\\ \hline \\ \hline$	ke ount .0 ike duplica trix oult Rea 396 85 ike duplica Spike Amount 2 2	Matrix Result <0.396 ate resul c. L 5 10 ate resul MS Rec 96 99	Anal Prep Rec. 82 t. Rec. imit - 198.3 t. MSI Rec 98 102	yzed By ared By 10 RPD 4 0	r: AG : AG Rec. Limit - 198.3 RPD Limit 20 Rec. Limit .5 - 123 .6 - 140 v: kg

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Report Date: October 8 BTA	8, 2009			Work O BTA (		Pag	e Number: Ho	17 of 19 obbs, NM		
matrix spikes continued		MC	4			011	<b>M</b> . (			D
Param		MS Rosu	) 1]+	Unite	וים	Spike	Bog	rix lt Bo	NG .	Rec. Limit
		nest		Units	DII.	Amount	nes	in ne		
		MS	5			Spike	Mat	rix		Rec.
Param		Resu	ılt	Units	Dil.	Amount	Resi	ılt Re	ec.	Limit
DRO		204	1	mg/Kg	1	250	<5.	86 85	2 35.	2 - 167.1
Percent recovery is base	d on the sp	pike result.	RPD is	s based or	n the spike a	and spike du	uplicate	result.		
		MSD			Spike	Motrix		Pag		מסס
Param		Result	Units	Dil	Amount	Result	Rec	Limit	RPD	Limit
DRO		228	mg/Kg	<u>, 1</u>	250	< 5.86	<u>91</u>	35.2 - 167	1 11	20
Parcant recovery is base	d on the s	nike regult	RPD is	s based or	the spike :	and eniko di	unlicato	rogult		
I ercent recovery is base	u on the sp	pike result.	AID R	s based of	i the spike a	and spike di	uplicate	result.		
	MS	MSD				Spike	MS	MSI	D	Rec.
Surrogate	Result	Result	t	Units	Dil.	Amount	Rec	. Rec		Limit
n-Triacontane	87.4	92.5	n	ng/Kg	1	100	87	92	34.	5 - 178.4
11ep Daton. 54000		м	s	eparation	1. 2003-10-	Spike	М	ı latrix	repared D	y. AQ
Param		Res	ult	Units	Dil.	Amount	R	esult	Rec.	Limit
Chloride	* = * - * *	994	40	mg/Kg	100	10000	<	<218	98	85 - 115
Percent recovery is base	d on the s	oike result.	RPD is	s based or	the spike a	and spike di	plicate	result.		
	1						-p			
D		MSD	<b>TT</b> •.	15.11	Spike	Matrix	D	Rec.		RPD
Param		Result		$\frac{s}{100}$	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		10000	mg/ K	.g 100	10000	<218	99	89 - 11	5 1	20
Percent recovery is base	d on the sp	oike result.	RPD is	s based or	n the spike a	and spike du	iplicate	result.		
Standard (CCV-1)										
QC Batch: 64265			Date A	Analyzed:	2009-10-0	7		А	Analyzed B	y: AG
			CC	Vs	CCVs	CCVs		Percent		
			Tru	ıe	Found	Percent	t	Recovery	r	Date
Param Fla	Param Flag U		Con	IC.	Conc.	Recover	у	Limits	A	nalyzed
Benzene	,I	ng/Kg	0.10	00	0.0985	98		80 - 120	20	09-10-07
Toluene	I	ng/Kg	0.10	)0	0.0983	98		80 - 120	20	09-10-07
Ethylbenzene	r	ng/Kg	0.10	00	0.0931	93		80 - 120	20	09-10-07
Xylene	I	ng/Kg	0.30	00	0.286	95		80 - 120	20	09-10-07

Report Dat BTA	e: October 8, 2	009	Wo B	rk Order: 9100 TA Gem Batte	Page Number: 18 of 19 Hobbs, NM				
Standard (	(CCV-2)		·						
QC Batch:	64265		Date Analy	vzed: 2009-10-	07	Anal	yzed By: AG		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Benzene		mg/Kg	0.100	0.0996	100	80 - 120	2009-10-07		
Toluene		mg/Kg	0.100	0.0983	98	80 - 120	2009-10-07		
Ethylbenzer	ne	mg/Kg	0.100	0.0929	93	80 - 120	2009-10-07		
Xylene		mg/Kg	0.300	0.280	93	80 - 120	2009-10-07		
Standard	(CCV-1)								
QC Batch:	64266		Date Analy	vzed: 2009-10-	07	Anal	yzed By: AG		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
GRO	0	mg/Kg	1.00	1.19	119	80 - 120	2009-10-07		
Standard	(CCV-2)								
QC Batch:	64266		Date Analy	vzed: 2009-10-	07	Anal	yzed By: AG		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
GRO		mg/Kg	1.00	0.991	99	80 - 120	2009-10-07		
Standard (	(CCV-2)								
QC Batch:	64267		Date Anal	yzed: 2009-10	-07	Ana	$\mathbf{lyzed} \ \mathbf{By}:_{/} \mathbf{kg}$		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
DRO	· · · · · · · · · · · · · · · · · · ·	mg/Kg	250	268	107	80 - 120	2009-10-07		
		· · · · · · · · · · · · · · · · · · ·							

# Standard (CCV-3)

QC Batch: 64267

Date Analyzed: 2009-10-07

Analyzed By: kg

Report Da BTA	te: October 8	3, 2009	V	Vork Order: 910 BTA Gem Bat	Page Number: 19 of 19 Hobbs, NM			
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
DRO	<u>_</u>	mg/Kg	250	268	107	80 - 120	2009-10-07	

# Standard (CCV-4)

QC Batch:	64267		Date An	alyzed: 2009-1	.0-07	Ana	alyzed By: kg
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	264	106	80 - 120	2009-10-07

# Standard (ICV-1)

QC Batch:	64270		Date Anal	lyzed: 2009-10	Anal	yzed By: AR	
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-10-08

# Standard (CCV-1)

QC Batch:	64270		Date Anal	yzed: 2009-10	-08	Anal	yzed By: AR
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2009-10-08

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# **Summary Report**

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX 79703

Report Date: October 12, 2009

Work Order: 9100917

Project Location:Hobbs, NMProject Name:BTA Gem BatteryProject Number:BTA

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
212057	NW-3 #2	soil	2009-10-09	08:50	2009-10-09
212058	BHSW-2 #2	soil	2009-10-09	08:15	2009-10-09
212059	BHN-3 #2	soil	2009-10-09	08:45	2009-10-09

#### Sample: 212057 - NW-3 #2

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

#### Sample: 212058 - BHSW-2 #2

Param	Flag	Result	Units	RL
Chloride		244	mg/Kg	4.00

#### Sample: 212059 - BHN-3 #2

Param	Flag	Result	Units	$\mathbf{RL}$
Chloride		306	mg/Kg	4.00

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



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

806 • 794 • 1296 FAX 806 • 794 • 1298 915•585•3443 FAX 915 • 585 • 4944 432 • 689 • 6301 817 • 201 • 5260

FAX 432 • 689 • 6313

237019 WBENC:

HUB: 1752439743100-86536 **NCTRCA** WFWB38444Y0909

**DBE:** VN 20657

# **NELAP** Certifications

Certifications

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

T104704221-08-TX El Paso: LELAP-02002

Midland: T104704392-08-TX

# **Analytical and Quality Control Report**

Ron Rounsaville Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: October 12, 2009

Work Order: 9100917 

Project Location: Hobbs, NM **BTA** Gem Battery Project Name: BTA Project Number:

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

			Date	Time	Date	
Sample	Description	Matrix	Taken	Taken	Received	
212057	NW-3 #2	soil	2009-10-09	08:50	2009-10-09	
212058	BHSW-2 #2	soil	2009-10-09	08:15	2009-10-09	
212059	BHN-3 #2	soil	2009-10-09	08:45	2009-10-09	

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.

Michael april

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

#### Standard Flags

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

# **Case Narrative**

Samples for project BTA Gem Battery were received by TraceAnalysis, Inc. on 2009-10-09 and assigned to work order 9100917. Samples for work order 9100917 were received intact at a temperature of 6.3 deg. C.

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

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	54856	2009-10-07 at 12:25	64336	2009-10-09 at 16:14

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9100917 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

# **Analytical Report**

#### Sample: 212057 - NW-3 #2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	64336	Date Analyzed:	2009-10-09	Analyzed By:	AR
Prep Batch:	54856	Sample Preparation	: 2009-10-09	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		<200	mg/Kg	50	4.00

## Sample: 212058 - BHSW-2 #2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 64336 54856	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-10-09 2009-10-09	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		244	ng/Kg	50	4.00

#### Sample: 212059 - BHN-3 #2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical M	lethod: SM 4500-Cl B	Prep Method:	N/A
QC Batch:	64336	Date Analyz	ed: 2009-10-09	Analyzed By:	$\mathbf{AR}$
Prep Batch:	54856	Sample Prep	aration: 2009-10-09	Prepared By:	AR
		RL			
Parameter	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\operatorname{RL}$
Chloride		306	mg/Kg	50	4.00
Mothod Bl	$\mathbf{nk}$ (1) OC Batch: 64	336			
Internor Dis	ank (1) QC Datch. 04	000			

QC Batch: Prep Batch:	64336 54856	Date Analyzed: QC Preparation:	2009-10-09 2009-10-07		Analyzed By: Prepared By:	AR AR
		MI	DL			
Parameter	Flag	Res	ult	Units		$\mathbf{RL}$
Chloride		<2.	18	mg/Kg		4

Report Date: BTA	October 12, 2009	09 Work Order: 9100917 BTA Gem Battery						Pa	age Numb He	er: 5 of 6 obbs, NM
Laboratory C	Control Spike (LC	CS-1)								
QC Batch: 6 Prep Batch: 5	54 <b>336</b> 54856		Date A QC Pro	nalyzed: eparation:	2009-10-0 2009-10-0	9 7		A P	nalyzed H repared H	By: AR By: AR
		LC	CS			Spike	Ma	trix		Rec.
Param		Res	ult	Units	Dil.	Amount	Res	sult	Rec.	Limit
Chloride		98	.7	mg/Kg	1	100	<2	.18	99	85 - 115
Percent recover	ry is based on the s	pike result.	RPD is	based on	the spike a	nd spike dup	olicate r	esult.		
		LCSD			Spike	Matrix		Rec.		$\mathbf{RPD}$
Param		$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		99.3	mg/K	g 1	100	<2.18	99	85 - 115	5 1	20
Matrix Spike QC Batch: 6 Prep Batch: 5	( <b>MS-1</b> ) Spiked 64336 64856	l Sample: 2	12059 Date A QC Pre	nalyzed: eparation:	2009-10-0 2009-10-0	9 7		A P	nalyzed E repared E	By: AR By: AR
		М	S			Spike	Ма	trix		Rec.
Param		Res	~ ult	Units	Dil.	Amount	Res	sult	Rec.	Limit
Chloride		107	00	mg/Kg	100	10000	30	)6	104	85 - 115
Percent recover	ry is based on the s	pike result.	RPD is	based on	the spike a	nd spike dup	licate r	esult.		
		MSD			Spike	Matrix		Rec.		RPD
Param	·	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	······	10800	mg/K	<u>g 100</u>	10000	306	105	85 - 115	<u> </u>	20
Standard (IC QC Batch: 64	ry is based on the s 2V-1) 1336	pike result.	RPD is Date A	based on a	the spike an 2009-10-09	nd spike dup	olicate ro	esult. A	nalyzed F	By: AR
			ICVs	IC	Vs	ICVs		Percent		
			True	For	und	Percent	J	Recovery		Date
Param	Flag Un	its	Conc.	Co	onc.	Recovery		Limits	A	analyzed
Chloride	mg	/Kg	100	99	9.5	100		85 - 115	20	009-10-09
Standard (CO	CV-1)									

Report Date: October 12, 2009 BTA		1	Work Order: 91 BTA Gem Ba	Page Number: 6 of 6 Hobbs, NM			
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2009-10-09

