



Inorganics Case Narrative

CABRERA SERVICES, INC.

DHS-EML -- 07-3080.01

Work Order Number: 1108251

1. This report consists of 12 soil samples.
2. The samples were received cool and intact by ALS on 08/18/11.
3. The samples were carried through the vapor generation procedure for reactive cyanide and reactive sulfide as described in chapter seven of USEPA SW-846 (July 1985). EPA has formally withdrawn their guidance for this method, as it is likely to underestimate the sample's potential to liberate free cyanide and sulfide under waste management conditions. A copy of the EPA memo withdrawing the method guidance can be provided upon request.

Released cyanide was determined colorimetrically according to Method 9014. Released sulfide was determined by iodometric titration according to Method 9030.

4. The samples were prepared for analysis based on SW-846, 3rd Edition procedures.
5. The samples were analyzed following SW-846 procedures for the following methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Reactive cyanide	SW-846 Chap. 7, Sec. 3.1	1112 Rev 7
Reactive sulfide	SW-846 Chap. 7, Sec. 3.2	1112 Rev 7
pH	9045D	1126 Rev 18

6. All standards and solutions were used within their recommended shelf life.
7. The samples were prepared and analyzed within the established hold time for each analysis except pH. The samples were not analyzed within the standard ALS hold time.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.



- A preparation (method) blank and laboratory control sample (LCS) were prepared and analyzed with the samples in each applicable preparation batch. There were not more than 20 samples in each preparation batch.
- The method blank associated with each applicable batch was below the reporting limit for the requested analytes. This indicates that no contaminants were introduced to the samples during preparation and analysis.
- The LCS was within the acceptance limits for each applicable analysis.
- All initial and continuing calibration blanks (ICB/CCB) associated with the reactive cyanide analytical batch were below the reporting limit for the requested analyte.
- All initial and continuing calibration verifications (ICV/CCV) associated with each applicable analytical batch were within the acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.

9. Matrix specific quality control procedures.

Sample 1108251-12 was designated as the quality control sample for each analysis. Sample 1108251-1 was also designated as the quality control sample for the pH analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A sample duplicate was prepared and analyzed with each batch. All guidance criteria for precision were met.

For pH, the difference between the pH of the sample and its duplicate must be less than or equal to 0.5 pH units to be in control. RPD is not calculated for this analysis.

10. Reduced aliquots were taken of samples 1108251-1, -2, -5, -11, and -12 for the pH analysis due to light weight of the matrix.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Megan Johnson
Megan Johnson
Inorganics Primary Data Reviewer

9/28/11
Date

aaa
Inorganics Final Data Reviewer

9/27/11
Date



Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Concentration qualifier -- If the analyte was analyzed for but not detected a "U" is entered.
- QC qualifier -- Specified entries and their meanings are as follows:
 - N - Spiked sample recovery not within control limits.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - Z - Calibration spike recovery not within control limits.



Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1108251

Client Name: CABRERA SERVICES, INC.

Client Project Name: DHS-EML

Client Project Number: 07-3080.01

Client PO Number: 09-1281

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
SN 2	1108251-1		SOIL	16-Aug-11	10:47
SN 3	1108251-2		SOIL	16-Aug-11	13:25
SN 4	1108251-3		SOIL	17-Aug-11	10:14
SN 5	1108251-4		SOIL	16-Aug-11	10:30
SN 7	1108251-5		SOIL	17-Aug-11	12:45
SN 8	1108251-6		SOIL	16-Aug-11	11:07
SN 11	1108251-7		SOIL	16-Aug-11	12:35
SN 12	1108251-8		SOIL	17-Aug-11	12:20
SN 13	1108251-9		SOIL	17-Aug-11	11:00
SN 14	1108251-10		SOIL	17-Aug-11	10:38
SN 15	1108251-11		SOIL	16-Aug-11	11:21
SN 16	1108251-12		SOIL	16-Aug-11	13:16
TRIP BLANK	1108251-13		WATER	16-Aug-11	
SN 2	1108251-14		LEACHAT	16-Aug-11	10:47
SN 3	1108251-15		LEACHAT	16-Aug-11	13:25
SN 4	1108251-16		LEACHAT	17-Aug-11	10:14
SN 5	1108251-17		LEACHAT	16-Aug-11	10:30
SN 7	1108251-18		LEACHAT	17-Aug-11	12:45
SN 8	1108251-19		LEACHAT	16-Aug-11	11:07
SN 11	1108251-20		LEACHAT	16-Aug-11	12:35
SN 12	1108251-21		LEACHAT	17-Aug-11	12:20
SN 13	1108251-22		LEACHAT	17-Aug-11	11:00
SN 14	1108251-23		LEACHAT	17-Aug-11	10:38
SN 15	1108251-24		LEACHAT	16-Aug-11	11:21
SN 16	1108251-25		LEACHAT	16-Aug-11	13:16



ALS Global Chain-of-Custody Record

225 Commerce Drive
Fort Collins, CO 80524
Phone: (800) 443-1511

1108251

Customer Information		Project Information		Analyses / Method Requested	
Project Name	DHS 07-3080.01	Purchase Order	09-1281	A. TCLP RCRA VOCs	
Quote#		Work Order		B. TCLP RCRA SVOCs	
Company	Cabrera Services, Inc.	Bill To	Cabrera Services, Inc.	C. TCLP RCRA Metals	
Send Report To:	Nicholas Berliner	Invoice Attn:	Accounting	D. RCRA Pesticides/Herbicides (8081)	
Address:	473 Silver Lane	Address:	473 Silver Lane	E. PCBs (8082)	
City/State/Zip	East Hartford, CT 06118	City/State/Zip	East Hartford, CT 06118	F. Ignitability/corrosivity/reactivity/paint filter	
Phone	(860) 569-0095	Phone	(860) 569-0095	G. Initial gamma Spec (no ingrowth)	
Fax	(860) 569-0277	Fax	(860) 569-0277	H. Gamma Spec. (E 901.1 M)	
Shipment Method: Federal Express		Chain of Custody		I. Alpha Spec for U (ASTM D3972-90)	
Airbill Nos.: 7950 9125 3210				J. Ra-226 by emanation (E 903.1 M)	
Required Turnaround: 30 days					

Relinquished by:		Relinquished by:	
Date	8/17/11	Date	
Time	1:30	Time	
Company Name: Nicholas Berliner		Company Name:	
Received by: <i>Lauren Chined</i>		Received by:	
Company Name: CABRERA SERVICES, INC.		Company Name:	
Date	8/18/11	Date	
Time	10:10	Time	
Company Name: ALS		Company Name:	

Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	J	Comments
1	SN 2 (1)	2011-08-16	1047	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(14)
2	SN 3 (2)	2011-08-16	1325	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(15)
3	SN 4 (3)	2011-08-17	1014	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(16)
4	SN 5 (4)	2011-08-16	1030	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(17)
5	SN 7 (5)	2011-08-17	1245	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(18)
6	SN 8 (6)	2011-08-16	1107	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(19)
7	SN 11 (7)	2011-08-16	1235	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(20)
8	SN 12 (8)	2011-08-17	1220	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(21)
9	SN 13 (9)	2011-08-17	1100	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(22)
10	SN 14 (10)	2011-08-17	1038	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(23)
11	SN 15 (11)	2011-08-16	1121	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(24)
12	SN 16 (12)	2011-08-16	1316	SOIL	B	ICE	2	X	X	X	X	X	X	X	X	X	X	(25)

of 33
 NMB 8/17/11
 B = 4-gallon-ziplock bag- 8-07 Sox | jar
 M = marinelli beaker
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CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Cabrera

Workorder No: 1108251

Project Manager: LRS

Initials: LAS Date: 8/18/11

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	<input checked="" type="radio"/> NO *
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<input checked="" type="radio"/> N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES	NO
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES	NO
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
17. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 <input type="radio"/> #4		RAD ONLY	<input checked="" type="radio"/> YES
Cooler #: <u>1</u>			
Temperature (°C): <u>5.0</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>14</u>			
Background µR/hr reading: <u>12</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

* Trip Blank (2, 40ml vials) not listed on COC. Added as sample # 1108251-13 (bottles 1 & 2)

Proceed with analysis

If applicable, was the client contacted? YES / NO / NA Contact: Micky B Date/Time: 8/22

Project Manager Signature / Date: [Signature] 8/22/11

*IR Gun #2: Oakton, SN 29922500201-0066 Form 201r22.xls (6/1/09)

*IR Gun #4: Oakton, SN 2372220101-0002

From: (860) 916-6091
Nicholas Berliner - DHS
CABRERA SERVICES
201 Varick Street
c/o Al Crescenzi, 5th floor, DHS
EAST HARTFORD, NY 10014

Origin ID: UTOA



J11201104290225

Ship Date: 17AUG11
Act/Wgt: 40.0 LB
CAD: 4239785/NET3180

Dims: 36 X 18 X 18 IN

1108251 / 14
/ -

SHIP TO: (970) 490-1511

BILL SENDER

Lance Steere
ALS Laboratories
225 COMMERCE DR

FORT COLLINS, CO 80524

Delivery Address Bar Code



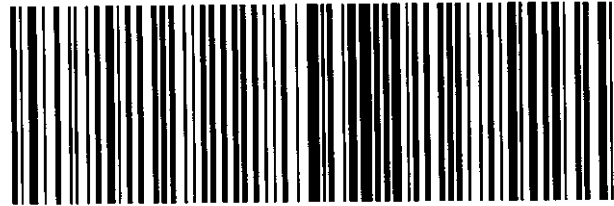
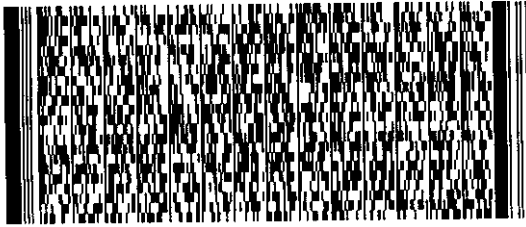
Ref # 07-3080.01 Task 005
Invoice #
PO #
Dept #

THU - 18 AUG A2
PRIORITY OVERNIGHT

TRK# 7950 9125 3210
0201

NJ FTCA

80524
CO-US
DEN



50FG1/EEE7/F5F4

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S.O.



Sample Results

REACTIVE CYANIDE

Method SW846_7.3.1

Sample Results

Lab Name: ALS Environmental -- FC

Client Name: CABRERA SERVICES, INC.

Client Project ID: DHS-EML 07-3080.01

Work Order Number: 1108251

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: SOIL

Prep Method: METHOD

Result Units: MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
SN 2	1108251-1	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 3	1108251-2	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 4	1108251-3	08/17/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 5	1108251-4	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 7	1108251-5	08/17/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 8	1108251-6	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 11	1108251-7	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 12	1108251-8	08/17/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 13	1108251-9	08/17/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 14	1108251-10	08/17/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g
SN 15	1108251-11	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.091	0.091	U	11 g
SN 16	1108251-12	08/16/2011	08/25/2011	08/26/2011	N/A	1	0.1	0.1	U	10 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *cn1108251-1*

REACTIVE SULFIDE

Method SW846_7.3.2

Sample Results

Lab Name: ALS Environmental -- FC

Client Name: CABRERA SERVICES, INC.

Client Project ID: DHS-EML 07-3080.01

Work Order Number: 1108251

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: SOIL

Prep Method: METHOD

Result Units: mg/l

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
SN 2	1108251-1	08/16/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 3	1108251-2	08/16/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 4	1108251-3	08/17/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 5	1108251-4	08/16/2011	08/25/2011	08/26/2011	N/A	1	48	48	U	10 g
SN 7	1108251-5	08/17/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 8	1108251-6	08/16/2011	08/25/2011	08/26/2011	N/A	1	49	49	U	10 g
SN 11	1108251-7	08/16/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 12	1108251-8	08/17/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 13	1108251-9	08/17/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 14	1108251-10	08/17/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g
SN 15	1108251-11	08/16/2011	08/25/2011	08/26/2011	N/A	1	48	48	U	11 g
SN 16	1108251-12	08/16/2011	08/25/2011	08/26/2011	N/A	1	50	50	U	10 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: s1108251-1

Solid pH in water @25 Degrees Celsius

Method SW9045D

Sample Results

Lab Name: ALS Environmental -- FC

Client Name: CABRERA SERVICES, INC.

Client Project ID: DHS-EML 07-3080.01

Work Order Number: 1108251

Final Volume: 20 ml

Reporting Basis: As Received

Matrix: SOIL

Prep Method: METHOD

Result Units: pH

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
SN 2	1108251-1	08/16/2011	08/26/2011	08/26/2011	N/A	1	9.95	0.1		10 g
SN 3	1108251-2	08/16/2011	08/26/2011	08/26/2011	N/A	1	6.41	0.1		10 g
SN 4	1108251-3	08/17/2011	08/26/2011	08/26/2011	N/A	1	7.89	0.1		20 g
SN 5	1108251-4	08/16/2011	08/26/2011	08/26/2011	N/A	1	4.45	0.1		20 g
SN 7	1108251-5	08/17/2011	08/26/2011	08/26/2011	N/A	1	10.3	0.1		10 g
SN 8	1108251-6	08/16/2011	08/26/2011	08/26/2011	N/A	1	7.41	0.1		20 g
SN 11	1108251-7	08/16/2011	08/26/2011	08/26/2011	N/A	1	6.97	0.1		20 g
SN 12	1108251-8	08/17/2011	08/26/2011	08/26/2011	N/A	1	7.07	0.1		20 g
SN 13	1108251-9	08/17/2011	08/26/2011	08/26/2011	N/A	1	3.92	0.1		20 g
SN 14	1108251-10	08/17/2011	08/26/2011	08/26/2011	N/A	1	4.26	0.1		20 g
SN 15	1108251-11	08/16/2011	08/26/2011	08/26/2011	N/A	1	4.51	0.1		10 g
SN 16	1108251-12	08/16/2011	08/26/2011	08/26/2011	N/A	1	8.83	0.1		10 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ph1108251-1*



Summary Report Forms

Reactive Cyanide

Method SW846_7.3.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Lab ID: RX110825-1MB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-11

Date Analyzed: 26-Aug-11

Prep Method: METHOD

Prep Batch: RX110825-1

QCBatchID: RX110825-1-1

Run ID: cn110826-4a

Cleanup: NONE

Basis: N/A

File Name: Manual Entry

Sample Aliquot: 10 g

Final Volume: 100 ml

Result Units: MG/KG

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
	REACTIVE CYANIDE	1	0.1	0.1	U	

Data Package ID: *cn1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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LIMS Version: 6.530

Reactive Cyanide

Method SW846_7.3.1 Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Lab ID: RX110825-1LCS

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2011

Date Analyzed: 08/26/2011

Prep Method: METHOD

Prep Batch: RX110825-1

QC Batch ID: RX110825-1-1

Run ID: cn110826-4a

Cleanup: NONE

Basis: N/A

File Name: Manual Entry

Sample Aliquot: 10g

Final Volume: 100 ml

Result Units: MG/KG

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
	REACTIVE CYANIDE	1000	102	4		10	5 - 30%

Data Package ID: *cn1108251-1*

Reactive Cyanide

Method SW846_7.3.1 Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Field ID: SN 16
Lab ID: 1108251-12D

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: 08/16/2011

Date Extracted: 08/25/2011

Date Analyzed: 08/26/2011

Prep Batch: RX110825-1

QC Batch ID: RX110825-1-1

Run ID: cn110826-4a

Cleanup: NONE

Basis: As Received

File Name: Manual Entry

Sample Aliquot: 10.1 g

Final Volume: 100 ml

Result Units: MG/KG

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
	REACTIVE CYANIDE	0.1	U	0.099	U	0.099	1		35

Data Package ID: *cn1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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LIMS Version: 6.530

Prep Batch ID: RX110825-1

Start Date: 08/25/11

End Date: 08/25/11

Concentration Method: NONE

Batch Created By: JBM

Start Time: 12:15

End Time: 17:00

Extract Method: METHOD

Date Created: 08/25/11

Prep Analyst: Jason McNall

Initial Volume Units: g

Time Created: 16:36

Comments:

Final Volume Units: ml

Validated By: JBM

Date Validated: 08/25/11

Time Validated: 16:46

QC Batch ID: RX110825-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
RX110825-1	MB	XXXXXX	SOIL	XXXXXX	10	100	NONE	1	1108251
RX110825-1	LCS	XXXXXX	SOIL	XXXXXX	10	100	NONE	1	1108251
1108251-12	DUP	SN 16	SOIL	8/16/2011	10.1	100	NONE	1	1108251
1108251-1	SMP	SN 2	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-10	SMP	SN 14	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-11	SMP	SN 15	SOIL	8/16/2011	11	100	NONE	1	1108251
1108251-12	SMP	SN 16	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-2	SMP	SN 3	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-3	SMP	SN 4	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-4	SMP	SN 5	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-5	SMP	SN 7	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-6	SMP	SN 8	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-7	SMP	SN 11	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-8	SMP	SN 12	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-9	SMP	SN 13	SOIL	8/17/2011	10	100	NONE	1	1108251
1108299-1	SMP	XXXXXX	SLUDGE	XXXXXX	10	100	NONE	1	1108299

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicate
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

REACTIVE CYANIDE

Method SW846_7.3.1

Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Run ID: cn110826-4a

Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	8/26/2011		0.0999	0.100	0.01	N/A	101	85 - 115
CCV4	Continuing Calibration	8/26/2011		0.2	0.199	0.01	N/A	99	85 - 115
CCV3	Continuing Calibration	8/26/2011		0.2	0.199	0.01	N/A	99	85 - 115
CCV2	Continuing Calibration	8/26/2011		0.2	0.199	0.01	N/A	99	85 - 115
CCV1	Continuing Calibration	8/26/2011		0.2	0.200	0.01	N/A	100	85 - 115

Data Package ID: *cn1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

LIMS Version: 6.530

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REACTIVE CYANIDE

Method SW846_7.3.1

Calibration Blanks

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Run ID: cn110826-4a

Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Result	Reporting Limit	Flag
ICB	Initial Calibration	8/26/2011		0.01	0.01	U
CCB4	Continuing Calibration	8/26/2011		0.01	0.01	U
CCB3	Continuing Calibration	8/26/2011		0.01	0.01	U
CCB2	Continuing Calibration	8/26/2011		0.01	0.01	U
CCB1	Continuing Calibration	8/26/2011		0.01	0.01	U

Data Package ID: *cn1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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Reactive Sulfide

Method SW846_7.3.2

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Lab ID: RX110825-1MB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-11

Date Analyzed: 26-Aug-11

Prep Method: METHOD

Prep Batch: RX110825-1

QCBatchID: RX110825-1-1

Run ID: s110826-1a

Cleanup: NONE

Basis: N/A

File Name:

Sample Aliquot: 10 g

Final Volume: 100 ml

Result Units: mg/l

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
	REACTIVE SULFIDE	1	50	50	U	

Data Package ID: s1108251-1

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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LIMS Version: 6.530

Reactive Sulfide

Method SW846_7.3.2

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Lab ID: RX110825-1LCS	Sample Matrix: SOIL % Moisture: N/A Date Collected: N/A Date Extracted: 08/25/2011 Date Analyzed: 08/26/2011 Prep Method: METHOD	Prep Batch: RX110825-1 QC Batch ID: RX110825-1-1 Run ID: s110826-1a Cleanup: NONE Basis: N/A File Name:	Sample Aliquot: 10g Final Volume: 100ml Result Units: mg/l Clean DF: 1
------------------------------	---	--	---

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
	REACTIVE SULFIDE	3500	1370	180		39	10 - 60%

Data Package ID: s1108251-1

Reactive Sulfide

Method SW846_7.3.2

Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Field ID: SN 16
Lab ID: 1108251-12D

Sample Matrix: SOIL
 % Moisture: N/A
 Date Collected: 08/16/2011
 Date Extracted: 08/25/2011
 Date Analyzed: 08/26/2011

Prep Batch: RX110825-1
 QCBatchID: RX110825-1-1
 Run ID: s110826-1a
 Cleanup: NONE
 Basis: As Received
 File Name:

Sample Aliquot: 10.1 g
 Final Volume: 100 ml
 Result Units: mg/l
 Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
	REACTIVE SULFIDE	50	U	50	U	50	1		35

Data Package ID: s1108251-1

Prep Batch ID: RX110825-1

Start Date: 08/25/11	End Date: 08/25/11	Concentration Method: NONE	Batch Created By: JBM
Start Time: 12:15	End Time: 17:00	Extract Method: METHOD	Date Created: 08/25/11
Prep Analyst: Jason McNall		Initial Volume Units: g	Time Created: 16:36
Comments:		Final Volume Units: ml	Validated By: JBM
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>			Date Validated: 08/25/11
			Time Validated: 16:46

QC Batch ID: RX110825-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
RX110825-1	MB	XXXXXX	SOIL	XXXXXX	10	100	NONE	1	1108251
RX110825-1	LCS	XXXXXX	SOIL	XXXXXX	10	100	NONE	1	1108251
1108251-12	DUP	SN 16	SOIL	8/16/2011	10.1	100	NONE	1	1108251
1108251-1	SMP	SN 2	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-10	SMP	SN 14	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-11	SMP	SN 15	SOIL	8/16/2011	11	100	NONE	1	1108251
1108251-12	SMP	SN 16	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-2	SMP	SN 3	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-3	SMP	SN 4	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-4	SMP	SN 5	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-5	SMP	SN 7	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-6	SMP	SN 8	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-7	SMP	SN 11	SOIL	8/16/2011	10	100	NONE	1	1108251
1108251-8	SMP	SN 12	SOIL	8/17/2011	10	100	NONE	1	1108251
1108251-9	SMP	SN 13	SOIL	8/17/2011	10	100	NONE	1	1108251
1108299-1	SMP	XXXXXX	SLUDGE	XXXXXX	10	100	NONE	1	1108299

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate	
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicate	
MB	Method Blank		MS	Laboratory Matrix Spike	
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate	
RVS	Reporting Level Verification Standar		SMP	Field Sample	
SYS	Sample Yield Spike				

pH

Method SW9045 Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Field ID: SN 2

Lab ID: 1108251-1D

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: 08/16/2011

Date Extracted: 08/26/2011

Date Analyzed: 08/26/2011

Prep Batch: PH110826-1

QC Batch ID: PH110826-1-2

Run ID: ph110826-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 10 g

Final Volume: 20 ml

Result Units: pH

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
10-29-7	PH	9.95		9.95		0.1	1		0.5

Data Package ID: *ph1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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pH

Method SW9045

Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Field ID:	SN 16
Lab ID:	1108251-12D

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: 08/16/2011

Date Extracted: 08/26/2011

Date Analyzed: 08/26/2011

Prep Batch: PH110826-1

QC Batch ID: PH110826-1-2

Run ID: ph110826-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 10 g

Final Volume: 20 ml

Result Units: pH

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
10-29-7	PH	8.83		8.82		0.1	1		0.5

Data Package ID: *ph1108251-1*

Prep Batch ID: PH110826-1

Start Date: 08/26/11

End Date: 08/26/11

Concentration Method: NONE

Batch Created By: JBM

Start Time: 11:00

End Time: 16:30

Extract Method: METHOD

Date Created: 08/26/11

Prep Analyst: Jason McNall

Initial Volume Units: g

Time Created: 13:02

Comments:

Final Volume Units: ml

Validated By: JBM

Date Validated: 08/26/11

Time Validated: 17:40

QC Batch ID: PH110826-1-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
1108251-1	DUP	SN 2	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-12	DUP	SN 16	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-1	SMP	SN 2	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-10	SMP	SN 14	SOIL	8/17/2011	20	20	NONE	1	1108251
1108251-11	SMP	SN 15	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-12	SMP	SN 16	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-2	SMP	SN 3	SOIL	8/16/2011	10	20	NONE	1	1108251
1108251-3	SMP	SN 4	SOIL	8/17/2011	20	20	NONE	1	1108251
1108251-4	SMP	SN 5	SOIL	8/16/2011	20	20	NONE	1	1108251
1108251-5	SMP	SN 7	SOIL	8/17/2011	10	20	NONE	1	1108251
1108251-6	SMP	SN 8	SOIL	8/16/2011	20	20	NONE	1	1108251
1108251-7	SMP	SN 11	SOIL	8/16/2011	20	20	NONE	1	1108251
1108251-8	SMP	SN 12	SOIL	8/17/2011	20	20	NONE	1	1108251
1108251-9	SMP	SN 13	SOIL	8/17/2011	20	20	NONE	1	1108251

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicate
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

PH
Method SW9045
Calibration Verifications

Lab Name: ALS Environmental -- FC

Work Order Number: 1108251

Client Name: CABRERA SERVICES, INC.

ClientProject ID: DHS-EML 07-3080.01

Run ID: ph110826-1a

Result Units: pH

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	8/26/2011		7	7.00	0.1	N/A		6.95 - 7.05
CCV3	Continuing Calibration	8/26/2011		7	7.08	0.1	N/A		6.9 - 7.1
CCV2	Continuing Calibration	8/26/2011		7	7.08	0.1	N/A		6.9 - 7.1
CCV1	Continuing Calibration	8/26/2011		7	7.01	0.1	N/A		6.9 - 7.1

Data Package ID: *ph1108251-1*

Date Printed: Tuesday, September 27, 2011

ALS Environmental -- FC

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Raw Data

Date: 8/25/11 12/5 JBM 8/25/11 Time: 12/5 - 1700 Analyst: JBM

Balance #18

RA	Sample Wt. (g)	Final Vol (ml)
RX110825-1 MB	10.0	100.0
↓ -1 LCS CN ⁻ (*)	↓	
↓ -1 LCS S ⁻ (**)		
1108251-1	10.0	
-2	10.1	
-3	10.0	
-4	10.4	
-5	10.0	
-6	10.2	
-7	10.0	
-8	10.0	
-9	10.0	
-10	10.0	
-11	10.5	
+12	10.0	
↓ -12 DUP	10.1	
1108299-1	10.1	

SPIKE'S

* = 10.0 ml ST10 413-6
 ** = 5.0 ml ST10 110-2
 5.0 ml DEH₂O

Reagents

0.25% NaOH R6110825-5
 0.01% H₂SO₄ R6110825-6

JBM
 8/25/11

Continued on Page _____

JBM
 Signed

8/25/11
 Date

Read and Understood By

 Signed

8/25/11
 29 of 33
 Date

CYANIDE, TOTAL Raw Data Worksheet

Anal Run ID **CN110826-1A**

Anal Start Date **8/26/2011** *JBM*

8/26/11

Calib Ref ID **CNCAL110826-1**

Standard	Response	Soln Conc	Units
0	0.002	-0.002681935	mg/L
0.01	0.026	0.009451996	mg/L
0.05	0.105	0.04939285	mg/L
0.1	0.215	0.1050067	mg/L
0.2	0.402	0.1995502	mg/L
0.3	0.604	0.3016775	mg/L
0.4	0.793	0.3972322	mg/L
0.5	0.997	0.5003706	mg/L

Slope	0.5055804
Intercept	-0.003693095
RSQ	0.9998239

Num	Don't Use	ReRun Num	Lab ID	QC Type	Anal Dil	Abs (578nm)	Soln Conc(mg/L)	pH	KI	Pb	Expected	%Rec	Prepared?
1	<input type="checkbox"/>	0	ICV	ICV	1	0.206	0.1004565	NA	NA	NA	0.1	100	NO
2	<input type="checkbox"/>	0	ICB	ICB	1	0	-0.0036931	NA	NA	NA			NO
3	<input type="checkbox"/>	0	CN110825-1	MB	1	0.002	-0.0026819	NA	NA	NA			YES
4	<input type="checkbox"/>	0	CN110825-1	LCS	1	0.807	0.4043103	NA	NA	NA			YES
5	<input type="checkbox"/>	0	CN110825-1	LCSD	1	0.413	0.2051116	NA	NA	NA			YES
6	<input type="checkbox"/>	0	1108214-21	SMP	1	0.003	-0.0021764	-12	-	-			YES
7	<input type="checkbox"/>	0	1108214-21	MS	1	0.211	0.1029844	-12	-	-			YES
8	<input type="checkbox"/>	0	1108214-21	MSD	1	0.202	0.09843415	-12	-	-			YES
9	<input type="checkbox"/>	0	1108214-34	SMP	1	0.006	-0.0006596	-12	-	-			YES
10	<input type="checkbox"/>	0	1108214-47	SMP	1	0.002	-0.0026819	-12	-	-			YES
11	<input type="checkbox"/>	0	1108214-60	SMP	1	0.001	-0.0031875	-12	-	-			YES
12	<input type="checkbox"/>	0	1108214-73	SMP	1	0.002	-0.0026819	-12	-	-			YES
13	<input type="checkbox"/>	0	CCV1	CCV	1	0.403	0.2000558	NA	NA	NA	0.2	100	NO
14	<input type="checkbox"/>	0	CCB1	CCB	1	0.003	-0.0021764	NA	NA	NA			NO
15	<input type="checkbox"/>	0	1108224-1	SMP	1	0.006	-0.0006596	-11.5	-	-			YES
16	<input type="checkbox"/>	0	1108230-1	SMP	1	0.006	-0.0006596	-12	-	-			YES
17	<input type="checkbox"/>	0	1108245-19	SMP	1	0.003	-0.0021764	-12	-	-			YES
18	<input type="checkbox"/>	0	1108245-32	SMP	1	0.002	-0.0026819	-12	-	-			YES
19	<input type="checkbox"/>	0	1108245-45	SMP	1	0.003	-0.0021764	-12	-	-			YES
20	<input type="checkbox"/>	0	1108245-58	SMP	1	0.006	-0.0006596	-12	-	-			YES
21	<input type="checkbox"/>	0	1108277-17	SMP	1	0.004	-0.0016708	-12	-	-			YES
22	<input type="checkbox"/>	0	1108277-22	SMP	1	0.007	-0.0001540	-12	-	-			YES
23	<input type="checkbox"/>	0	1108307-10	SMP	1	0.006	-0.0006596	-12	-	-			YES
24	<input type="checkbox"/>	0	1108307-12	SMP	1	0.002	-0.0026819	-12	-	-			YES
25	<input type="checkbox"/>	0	CCV2	CCV	1	0.401	0.1990447	NA	NA	NA	0.2	100	NO
26	<input type="checkbox"/>	0	CCB2	CCB	1	0.003	-0.0021764	NA	NA	NA			NO
27	<input type="checkbox"/>	0	RX110825-1	MB	1	0.002	-0.0026819	NA	NA	NA			YES
28	<input type="checkbox"/>	0	RX110825-1	LCS	40	0.514	0.2561752	NA	NA	NA			YES
29	<input type="checkbox"/>	0	1108251-1	SMP	1	0.007	-0.0001540	NA	NA	NA			YES
30	<input type="checkbox"/>	0	1108251-2	SMP	1	0.006	-0.0006596	NA	NA	NA			YES
31	<input type="checkbox"/>	0	1108251-3	SMP	1	0.002	-0.0026819	NA	NA	NA			YES
32	<input type="checkbox"/>	0	1108251-4	SMP	1	0.003	-0.0021764	NA	NA	NA			YES
33	<input type="checkbox"/>	0	1108251-5	SMP	1	0.003	-0.0021764	NA	NA	NA			YES
34	<input type="checkbox"/>	0	1108251-6	SMP	1	0.002	-0.0026819	NA	NA	NA			YES
35	<input type="checkbox"/>	0	1108251-7	SMP	1	0	-0.0036931	NA	NA	NA			YES
36	<input type="checkbox"/>	0	1108251-8	SMP	1	0.003	-0.0021764	NA	NA	NA			YES
37	<input type="checkbox"/>	0	CCV3	CCV	1	0.401	0.1990447	NA	NA	NA	0.2	100	NO
38	<input type="checkbox"/>	0	CCB3	CCB	1	0.002	-0.0026819	NA	NA	NA			NO

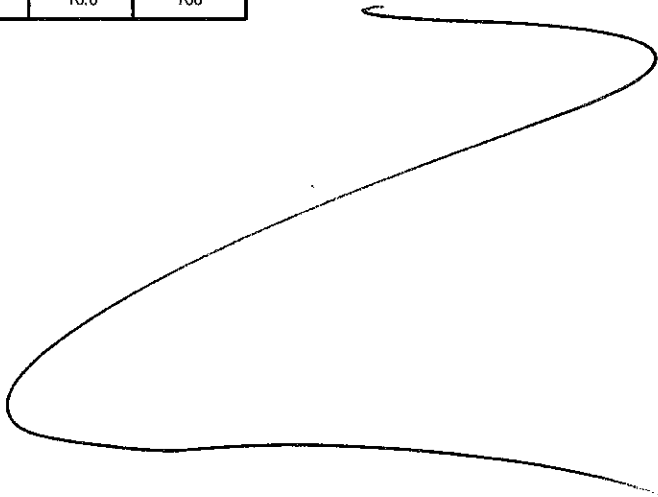
Num	Don't Use	ReRun Num	Lab ID	QC Type	Anal Dli	Abs (578nm)	Solu Conc(mg/L)	pH	KI	Pb	Expected	%Rec	Prepared?
39	<input type="checkbox"/>	0	1108251-9	SMP	1	0.001	-0.0031875	NA	NA	NA			YES
40	<input type="checkbox"/>	0	1108251-10	SMP	1	0.002	-0.0026819	NA	NA	NA			YES
41	<input type="checkbox"/>	0	1108251-11	SMP	1	0.005	-0.0011652	NA	NA	NA			YES
42	<input type="checkbox"/>	0	1108251-12	SMP	1	0.002	-0.0026819	NA	NA	NA			YES
43	<input type="checkbox"/>	0	1108251-12	SMP	1	0.002	-0.0026819	NA	NA	NA			YES
44	<input type="checkbox"/>	0	CCV4	DUPCCV	1	0.4	0.1985391	NA	NA	NA	0.2	99	NO
45	<input type="checkbox"/>	0	CCB4	CCB	1	0.003	-0.0021764	NA	NA	NA			NO
46	<input type="checkbox"/>	0	0	SMP	1	0.005	-0.0011652	NA	NA	NA			YES
47	<input type="checkbox"/>	0	10	SMP	1	0.022	0.00742967	NA	NA	NA			YES
48	<input type="checkbox"/>	0	50	SMP	1	0.09	0.04180915	NA	NA	NA			YES
49	<input type="checkbox"/>	0	100	SMP	1	0.183	0.08882812	NA	NA	NA			YES
50	<input type="checkbox"/>	0	200	SMP	1	0.318	0.1570815	NA	NA	NA			YES
51	<input type="checkbox"/>	0	300	SMP	1	0.573	0.2860045	NA	NA	NA			YES
52	<input type="checkbox"/>	0	400	SMP	1	0.741	0.370942	NA	NA	NA			YES
53	<input type="checkbox"/>	0	500	SMP	1	0.918	0.4604297	NA	NA	NA			YES

Comments: CN110825-1 PREPPED 8/25/2011 0945-1145 (JBM)
 RX110825-1 PREPPED 8/25/2011 1215-1700 (JBM)
 ALL ANALYZED 8/26/2011 1500-1615 (JBM)

ID	Parent ID	Parent Conc	Parent Vol.	Final Vol.
0.50 mg/L CN	*	10 mg/L CN	0.5	10
0.40 mg/L CN	*	10 mg/L CN	0.4	10
0.30 mg/L CN	*	10 mg/L CN	0.3	10
0.20 mg/L CN	*	10 mg/L CN	0.2	10
0.10 mg/L CN	*	10 mg/L CN	0.1	10
0.05 mg/L CN	*	10 mg/L CN	0.05	10
0.01 mg/L CN	*	10 mg/L CN	0.01	10
LCS(0.4mg/L CN)	*	10 mg/L CN	2	50
LCSD (0.2mg/L CN)	*	10 mg/L CN	1	50
MS/MSD (0.1mg/L CN)	*	10 mg/L CN	0.5	50
LCS (20mg/kg CN)	*	100 mg/kg CN	2	50
LCSD (10mg/kg CN)	*	100 mg/kg CN	1	50
MS/MSD (5mg/kg CN)	*	100 mg/kg CN	0.5	50
ICV (0.10 mg/L CN)	**	10 mg/L CN	0.1	10
GCV (0.20 mg/L CN)	*	10 mg/L CN	0.2	10
REAC LCS	***	1000 mg/L	10.0	100

50% H2SO4	RG110601-1
0.25 N NaOH	RG110822-2
Sand	RG110414-4
NaH2PO4 Solution	RG110808-3
Chloramine-T Solution	RG050411-1
Pyridine-Barbituric Acid	RG110812-4
CN Parent Std(*)	ST110711-1
CN 2nd Source Std(**)	ST110711-2
51% MgCL2	
Acetate Buffer	
ZN Acetate Solution	

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Reactive Sulfide Calculations and Quality Control Results

Preparation Date: 8/25/2011
 Preparation Time: 1215-1700
 Analysis Date: 8/26/2011
 Analysis Time: 1645-1730
 Analyst: JBM

W 8/31/11

Concentration of Na thiosulfate = **0.02063**

sample ID:	sample wt (g)	trap vol mL	aliquot titrated mL	conc std I2 meq/mL	vol std I2 mL	thiosulf conc (meq/mL)	thiosulf vol (mL)	sulfide meq	sulfide mg	sulfide mg/kg	Reporting Limit mg/kg
RX110825-1MB	10.0	100	90	0.0199	2.93	0.02063	2.83	0.000	-0.003	-0.36	50
RX110825-1LCS	10.0	100	25	0.0199	18.04	0.02063	6.96	0.215	3.434	1373.54	180
1108251-1	10.0	100	90	0.0199	2.78	0.02063	2.73	-0.001	-0.018	-1.99	50
1108251-2	10.1	100	90	0.0199	2.64	0.02063	2.57	-0.001	-0.010	-1.06	50
1108251-3	10.0	100	90	0.0199	2.85	0.02063	2.77	-0.001	-0.009	-0.99	50
1108251-4	10.4	100	90	0.0199	2.76	0.02063	2.69	-0.001	-0.011	-1.18	48
1108251-5	10.0	100	90	0.0199	2.89	0.02063	2.81	-0.001	-0.009	-1.04	50
1108251-6	10.2	100	90	0.0199	2.75	0.02063	2.65	0.000	-0.001	-0.11	49
1108251-7	10.0	100	90	0.0199	2.72	0.02063	2.64	0.000	-0.007	-0.81	50
1108251-8	10.0	100	90	0.0199	2.87	0.02063	2.82	-0.001	-0.019	-2.12	50
1108251-9	10.0	100	90	0.0199	2.88	0.02063	2.79	0.000	-0.006	-0.66	50
1108251-10	10.0	100	90	0.0199	2.78	0.02063	2.72	-0.001	-0.015	-1.63	50
1108251-11	10.5	100	90	0.0199	2.79	0.02063	2.73	-0.001	-0.015	-1.56	48
1108251-12	10.0	100	90	0.0199	2.75	0.02063	2.71	-0.001	-0.021	-2.32	50
1108251-12DUP	10.1	100	90	0.0199	3.00	0.02063	2.88	0.000	0.002	0.27	50
1108299-1	10.1	100	90	0.0199	4.58	0.02063	4.08	0.007	0.108	11.92	50

Standardization of iodine solution:

iodine vol titrated (mL)	thiosulf conc (meq/mL)	thiosulf vol (mL)	calc iodine conc (meq/mL)
2.93	0.0206	2.83	0.0199
2.84	0.0206	2.72	0.0198
3.04	0.0206	2.93	0.0199
mean =			0.0199

Standardization of sulfide spike solution:

sulfide spike titrated (mL)	std iodine vol (mL)	std thiosulf vol (mL)	sulfide meq	sulfide mg	calc sulfide conc (mg/L)
0.25	10.34	4.65	0.109	1.750	7000

Reagent List:
 LCS Spike-5.0 g Sulfide Spike Solution + 5.0 g DI H2O:
 ST101110-2
 0.01 N H2SO4:
 RG110825-5
 0.25 N NaOH:
 RG110825-6

6 N HCl:
 RG110701-2
 Sodium Thiosulfate Solution:
 RG110506-5
 Iodine (I2) Solution:
 RG110414-6
 Starch Indicator:
 RG110405-1

Reactive Sulfide Quality Control Results

Preparation Date: 8/25/2011 Analysis Date: 8/26/2011
 Preparation Time: 1215-1700 Analysis Time: 1645-1730

BLANK SUMMARY

ID	blank S conc (mg/kg)	accept. limit (mg/kg)
RX110825-1MB	0	< 50

DUPLICATE SUMMARY

ID	sample S conc (mg/kg)	duplic S conc (mg/kg)	RPD %	accept. limits
1108251-12	ND	ND	NA	0-35%

ND = Not Detected
 NA = Not Applicable

BLANK SPIKE SUMMARY

ID	sulfide spike added as S mg/kg	sulfide found mg/kg	recovery %	recovery accept. limits
RX110825-1LCS	3500	1374	39	10-60%

Reactive Sulfide Method SW 846 Ch.7 / SOP 1112

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pH Calculations and Quality Control Results

8/31/11

Prep & Analysis Date: 8/26/2011
 Prep & Analysis Time: 1100-1630
 Analyst: JBM

Reagent List:	
4.00: ST110708-2	10.00: ST110708-3
7.00 (CCV): ST110616-1	7.00 (ICV): ST110616-2

ID	Temp. (°C)	Method	sample vol (g)	sample vol (mL)	pH Value	QC Acceptance Range (pH units)
pH 4.00	25.6	NA	NA	NA	4.00	
pH 7.00	25.6	NA	NA	NA	7.00	
pH 10.00	25.6	NA	NA	NA	10.00	
ICV - pH 7.00	25.6	NA	NA	NA	7.00	+/- 0.05
1108359-2	25.6	EPA150.1	NA	20.0	6.21	
1108359-2DUP	25.6	EPA150.1	NA	20.0	6.26	
1108359-3	25.6	EPA150.1	NA	20.0	6.42	
1108359-4	25.6	EPA150.1	NA	20.0	6.68	
1108359-5	25.6	EPA150.1	NA	20.0	6.05	
CCV- pH 7.00	25.6	NA	NA	NA	7.01	+/- 0.10
1108251-1	25.6	SW9045	10.0	20.0	9.95	
1108251-1DUP	25.6	SW9045	10.0	20.0	9.95	
1108251-2	25.6	SW9045	10.0	20.0	6.41	
1108251-3	25.6	SW9045	20.0	20.0	7.89	
CCV- pH 7.00	25.6	NA	NA	NA	7.08	+/- 0.10
1108251-4	25.6	SW9045	20.0	20.0	4.45	
1108251-5	25.6	SW9045	10.0	20.0	10.30	
1108251-6	25.6	SW9045	20.0	20.0	7.41	
1108251-7	25.6	SW9045	20.0	20.0	6.97	
1108251-8	25.6	SW9045	20.0	20.0	7.07	
1108251-9	25.6	SW9045	20.0	20.0	3.92	
1108251-10	25.6	SW9045	20.0	20.0	4.26	
1108251-11	25.6	SW9045	10.0	20.0	4.51	
1108251-12	25.6	SW9045	10.0	20.0	8.83	
1108251-12DUP	25.6	SW9045	10.0	20.0	8.82	
CCV- pH 7.00	25.6	NA	NA	NA	7.08	+/- 0.10
ST110330-3 (2.00)	25.6	NA	NA	NA	2.09	
ST110805-3 (12.45)	25.6	NA	NA	NA	12.53	
CCV- pH 7.00	25.6	NA	NA	NA	7.08	+/- 0.10

DUPLICATE SUMMARY (Aq)

ID	native pH Value	duplic pH Value	difference of native - dup	accept. limit
1108359-2	6.21	6.26	0.05	0.2 pH units

DUPLICATE SUMMARY (Soil/Solid/Oil)

ID	native pH Value	duplic pH Value	difference of native - dup	accept. limit
1108251-1	9.95	9.95	0.00	0.5 pH units
1108251-12	8.83	8.82	0.01	0.5 pH units

pH INFORMATION:

SOP 1126 rev.17 / EPA Method 150.1, 9040C, 9045D, and SM4500-H+ B
 Instrument : Fisher Scientific pH / mV meter model 50 (SN C0000643)
 Electrode : Orion - Ross Sure-Flow Electrode Model 81-72BN

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