310435

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : RFP 265

WESTON SOLUTIONS, INC.

Raritan Plaza Suite 201

1090 King Georges Post Road

Edison, NJ - 08837-3703

Phone No: 732-225-6116

ORDER ID : E3896

ATTENTION : Smita Sumbaly

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

CHEMTECH

Table Of Contents for E3896

1) GENERAL CHEMISTRY DATA	2
2) Signature Page	4
3) Case Narrative	5
4) Qualifier Page	6
5) Conformance/Non Conformance	7
6) QA Checklist	8
7) Chronicle	9
8) Sample Data	13
8.1) P001-DW-1016-1	14
8.2) P001-DW-1019-1	15
8.3) P001-DW-1024-1	16
8.4) P001-DW-2090-1	17
8.5) P001-DW-2090-2	18
8.6) P001-DW-2093-1	19
8.7) P001-DW-2094-1	20
8.8) P001-DW-2100-1	21
8.9) P001-DW-2112-1	22
8.10) P001-DW-2121-1	23
8.11) P001-DW-4006-1	24
8.12) P001-S-2002-1	25
8.13) P001-S-2003-1	26
8.14) P001-S-3004-1	27
8.15) P001-S-3005-1	28
8.16) P001-S-3006-1	29
8.17) P001-S-3007-1	30
8.18) P001-S-3008-1	31
8.19) P001-S-3009-1	32
8.20) P001-TW-2115-1	33
8.21) P001-TW-6038-1	34
8.22) P001-TW-6038-2	35
8.23) P001-DW-2113-1	36
9) QC Data Summary For Genchem	37
9.1) Initial and Continuing Calibration Verification	38
9.2) Initial and Continuing Calibration Blank Summary	43
9.3) Preparation Blank Summary	46

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Table Of Contents for E3896

9.4) Matrix Spike Summary 47

9.5) Duplicate Sample Summary 49

9.6) Laboratory Control Sample Summary 54

9.7) Method Detection Limits 58

10) GENCHEM RAW DATA 59

10.1) GENCHEM RAW DATA - ANALYTICAL 60

10.1.1) LB67936 60

10.1.2) LB67936 62

10.1.3) LB67938 66

10.1.4) LB67938 67

10.1.5) LB67940 70

10.1.6) LB67940 71

10.1.7) LB67944 74

10.1.8) LB67944 78

10.1.9) LB67946 81

10.1.10) LB67946 85

10.1.11) LB67948 87

10.1.12) LB67948 88

10.1.13) LB67949 92

10.1.14) LB67949 93

10.2) GENCHEM RAW DATA - PREP 96

10.2.1) PB72521 96

10.2.2) PB72524 100

10.2.3) PB72526 104

10.2.4) PB72527 108

11) Analytical Runlogs 112

12) Standard Prep Logs 123

13) Shipping Document 165

13.1) Chain Of Custody 166

13.2) Lab Certificate 169

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Cover Page

Order ID : E3896

Project ID : RFP 265

Client : Weston Solutions, Inc.

Lab Sample Number	Client Sample Number
E3896-01	P001-DW-1016-1
E3896-02	P001-DW-1019-1
E3896-03	P001-DW-1024-1
E3896-04	P001-DW-2090-1
E3896-05	P001-DW-2090-2
E3896-06	P001-DW-2093-1
E3896-07	P001-DW-2094-1
E3896-08	P001-DW-2100-1
E3896-09	P001-DW-2112-1
E3896-10	P001-DW-2121-1
E3896-11	P001-DW-4006-1
E3896-12	P001-S-2002-1
E3896-13	P001-S-2003-1
E3896-14	P001-S-3004-1
E3896-15	P001-S-3005-1
E3896-16	P001-S-3006-1
E3896-17	P001-S-3007-1
E3896-18	P001-S-3008-1
E3896-19	P001-S-3009-1
E3896-20	P001-TW-2115-1
E3896-21	P001-TW-6038-1
E3896-22	P001-TW-6038-2
E3896-24	P001-DW-2113-1

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : Mildred V Reyes

Mildred V. Reyes, QA/QC Supervisor
2013.10.04 10:34:38 -05'00'

Date: 10/3/2013

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Weston Solutions, Inc.
Project Name: RFP 265
Project # N/A
Chemtech Project # E3896
Test Name: Corrosivity,Flash Point,Ignitability,Reactive Cyanide,Reactive Sulfide

A. Number of Samples and Date of Receipt:
23 Solid samples were received on 09/27/2013.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Flash Point, Ignitability, RCRA CHARACTERISTICS, Reactive Cyanide and Reactive Sulfide. This data package contains results for Corrosivity,Flash Point,Ignitability,Reactive Cyanide,Reactive Sulfide.

C. Analytical Techniques:
The analysis of Flash Point was based on method 1010A, The analysis of Ignitability was based on method 1030, The analysis of Reactive Cyanide was based on method 9012B, The analysis of Reactive Sulfide was based on method 9034 and The analysis of Corrosivity was based on method 9045C.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis(WC1S-Sample E3861-02) met criteria for all samples except for Reactive Cyanide.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature Mildred V Reyes Mildred V. Reyes, QA/QC Supervisor
2013.10.04 10:34:15 -05'00'

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers "P" for ICP instrument "PM" for ICP when Microwave Digestion is used "CV" for Manual Cold Vapor AA "AV" for automated Cold Vapor AA "CA" for MIDI-Distillation Spectrophotometric "AS" for Semi -Automated Spectrophotometric "C" for Manual Spectrophotometric "T" for Titrimetric "NR" for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

QA Control # A3040961

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GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: E3896 MATRIX: Solid

METHOD: 1010A/9045C /9012B /9034 /1030

		NA	NO	YES
1.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2.	Matrix Spike Duplicate Recoveries Met Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range. The Blank Spike met requirements for all samples.The Matrix Spike analysis(WC1S-Sample E3861-02) met criteria for all samples except for Reactive Cyanide.		✓	
3.	Sample Duplicate Analysis Met QC Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓
8.	Digestion Holding Time Met If not met, list number of days exceeded for each sample:			✓

ADDITIONAL COMMENTS:

Mildred V Reyes

QA REVIEW

Mildred V. Reyes, QA/QC Supervisor
2013.10.04 10:34:05 -05'00'

Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: E3896

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: ZINAL SUTHAR Date: 10/03/2013

2nd Level QA Review Signature: Mildred V Reyes Mildred V. Reyes, QA/QC Supervisor 2013.10.04 10:33:03 -05'00' Date:

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LAB CHRONICLE

OrderID:	E3896	**OrderDate:**	9/27/2013 2:38:00 PM
Client:	Weston Solutions, Inc.	**Project:**	RFP 265
Contact:	Smita Sumbaly	**Location:**	G22

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
E3896-01	**P001-DW-1016-1**	**SOIL**			**09/27/13 09:20**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 07:50	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:32	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-02	**P001-DW-1019-1**	**SOIL**			**09/27/13 09:30**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 07:58	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:32	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-03	**P001-DW-1024-1**	**SOIL**			**09/27/13 09:45**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:02	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:32	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-04	**P001-DW-2090-1**	**SOIL**			**09/27/13 10:00**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:06	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:40	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-05	**P001-DW-2090-2**	**SOIL**			**09/27/13 10:00**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:10	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:40	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-06	**P001-DW-2093-1**	**SOIL**			**09/27/13 10:05**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:14	
			Flash Point	1010A		09/28/13	09/28/13 12:00	

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			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-07	**P001-DW-2094-1**	**SOIL**			**09/27/13**	**10:15**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:18
			Flash Point	1010A			09/28/13	09/28/13 12:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-08	**P001-DW-2100-1**	**SOIL**			**09/27/13**	**10:25**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:22
			Flash Point	1010A			09/28/13	09/28/13 12:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-09	**P001-DW-2112-1**	**SOIL**			**09/27/13**	**10:30**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:26
			Flash Point	1010A			09/28/13	09/28/13 12:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-10	**P001-DW-2121-1**	**SOIL**			**09/27/13**	**10:50**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:34
			Flash Point	1010A			09/28/13	09/28/13 12:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-11	**P001-DW-4006-1**	**SOIL**			**09/27/13**	**11:00**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:42
			Flash Point	1010A			09/28/13	09/28/13 12:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 11:40
			Reactive Sulfide	9034			09/28/13	09/28/13 16:45
E3896-12	**P001-S-2002-1**	**SOIL**			**09/26/13**	**14:25**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:46
			Ignitability	1030			09/28/13	09/28/13 10:00
			Reactive Cyanide	9012B			09/28/13	09/30/13 12:27
			Reactive Sulfide	9034			09/28/13	09/28/13 11:45
E3896-13	**P001-S-2003-1**	**SOIL**			**09/26/13**	**14:52**		**09/27/13**
			Corrosivity	9045C			09/28/13	09/28/13 08:50
			Ignitability	1030			09/28/13	09/28/13 10:00

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			Reactive Cyanide	9012B		09/28/13	09/30/13 12:27	
			Reactive Sulfide	9034		09/28/13	09/28/13 11:45	
E3896-14	**P001-S-3004-1**	**SOIL**			**09/26/13 13:55**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:54	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 12:34	
			Reactive Sulfide	9034		09/28/13	09/28/13 11:45	
E3896-15	**P001-S-3005-1**	**SOIL**			**09/26/13 14:10**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 08:58	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 12:34	
			Reactive Sulfide	9034		09/28/13	09/28/13 11:45	
E3896-16	**P001-S-3006-1**	**SOIL**			**09/27/13 09:30**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:02	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:40	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-17	**P001-S-3007-1**	**SOIL**			**09/27/13 09:45**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:06	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-18	**P001-S-3008-1**	**SOIL**			**09/27/13 09:55**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:10	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-19	**P001-S-3009-1**	**SOIL**			**09/27/13 10:15**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:18	
			Ignitability	1030		09/28/13	09/28/13 10:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-20	**P001-TW-2115-1**	**SOIL**			**09/27/13 10:45**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:26	
			Flash Point	1010A		09/28/13	09/28/13 12:00	

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			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-21	**P001-TW-6038-1**	**SOIL**			**09/27/13 11:10**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:30	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-22	**P001-TW-6038-2**	**SOIL**			**09/27/13 11:10**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:34	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	
E3896-24	**P001-DW-2113-1**	**SOIL**			**09/27/13 10:40**			**09/27/13**
			Corrosivity	9045C		09/28/13	09/28/13 09:38	
			Flash Point	1010A		09/28/13	09/28/13 12:00	
			Reactive Cyanide	9012B		09/28/13	09/30/13 11:47	
			Reactive Sulfide	9034		09/28/13	09/28/13 16:45	

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:20
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-1016-1	SDG No.:	E3896
Lab Sample ID:	E3896-01	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.08		1	0	0	0	pH	09/28/13	09/28/13 07:50	SW9045C
Flashpoint	68		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:32	9012B
Reactive Sulfide	26		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:30
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-1019-1	SDG No.:	E3896
Lab Sample ID:	E3896-02	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	4.92		1	0	0	0	pH	09/28/13	09/28/13 07:58	SW9045C
Flashpoint	70		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:32	9012B
Reactive Sulfide	30		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:45
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-1024-1	SDG No.:	E3896
Lab Sample ID:	E3896-03	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	3.83		1	0	0	0	pH	09/28/13	09/28/13 08:02	SW9045C
Flashpoint	70		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:32	9012B
Reactive Sulfide	29		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:00
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2090-1	SDG No.:	E3896
Lab Sample ID:	E3896-04	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.76		1	0	0	0	pH	09/28/13	09/28/13 08:06	SW9045C
Flashpoint	74		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	26		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:00
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2090-2	SDG No.:	E3896
Lab Sample ID:	E3896-05	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.81		1	0	0	0	pH	09/28/13	09/28/13 08:10	SW9045C
Flashpoint	78		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	27		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:05
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2093-1	SDG No.:	E3896
Lab Sample ID:	E3896-06	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.72		1	0	0	0	pH	09/28/13	09/28/13 08:14	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	29		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:15
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2094-1	SDG No.:	E3896
Lab Sample ID:	E3896-07	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.28		1	0	0	0	pH	09/28/13	09/28/13 08:18	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
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OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:25
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2100-1	SDG No.:	E3896
Lab Sample ID:	E3896-08	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.01		1	0	0	0	pH	09/28/13	09/28/13 08:22	SW9045C
Flashpoint	74		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	30		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:30
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2112-1	SDG No.:	E3896
Lab Sample ID:	E3896-09	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.64		1	0	0	0	pH	09/28/13	09/28/13 08:26	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	32		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:50
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2121-1	SDG No.:	E3896
Lab Sample ID:	E3896-10	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.16		1	0	0	0	pH	09/28/13	09/28/13 08:34	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 11:00
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-4006-1	SDG No.:	E3896
Lab Sample ID:	E3896-11	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	5.88		1	0	0	0	pH	09/28/13	09/28/13 08:42	SW9045C
Flashpoint	78		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	30		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

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LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
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OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/26/13 14:25
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-2002-1	SDG No.:	E3896
Lab Sample ID:	E3896-12	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.47		1	0	0	0	pH	09/28/13	09/28/13 08:46	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 12:27	9012B
Reactive Sulfide	32		1	10	10	10	mg/Kg	09/28/13	09/28/13 11:45	9034

Comments:

U = Not Detected
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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/26/13 14:52
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-2003-1	SDG No.:	E3896
Lab Sample ID:	E3896-13	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.24		1	0	0	0	pH	09/28/13	09/28/13 08:50	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 12:27	9012B
Reactive Sulfide	40		1	10	10	10	mg/Kg	09/28/13	09/28/13 11:45	9034

Comments:

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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/26/13 13:55
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3004-1	SDG No.:	E3896
Lab Sample ID:	E3896-14	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.19		1	0	0	0	pH	09/28/13	09/28/13 08:54	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 12:34	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 11:45	9034

Comments:

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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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OR = Over Range
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/26/13 14:10
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3005-1	SDG No.:	E3896
Lab Sample ID:	E3896-15	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.42		1	0	0	0	pH	09/28/13	09/28/13 08:58	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 12:34	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 11:45	9034

Comments:

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MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:30
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3006-1	SDG No.:	E3896
Lab Sample ID:	E3896-16	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.51		1	0	0	0	pH	09/28/13	09/28/13 09:02	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:40	9012B
Reactive Sulfide	40		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments:

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LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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E = Indicates the reported value is estimated because of the presence of interference.
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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:45
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3007-I	SDG No.:	E3896
Lab Sample ID:	E3896-17	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.73		1	0	0	0	pH	09/28/13	09/28/13 09:06	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments:

U = Not Detected
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LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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E = Indicates the reported value is estimated because of the presence of interference.
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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 09:55
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3008-1	SDG No.:	E3896
Lab Sample ID:	E3896-18	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.4		1	0	0	0	pH	09/28/13	09/28/13 09:10	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	34		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments:

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LOD = Limit of Detection
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Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:15
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-S-3009-1	SDG No.:	E3896
Lab Sample ID:	E3896-19	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	6.53		1	0	0	0	pH	09/28/13	09/28/13 09:18	SW9045C
Ignitability	NO		1	0	0	0	o C	09/28/13	09/28/13 10:00	1030
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	41		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments:

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LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
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E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:45
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-TW-2115-1	SDG No.:	E3896
Lab Sample ID:	E3896-20	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	7.87		1	0	0	0	pH	09/28/13	09/28/13 09:26	SW9045C
Flashpoint	74		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	40		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 11:10
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-TW-6038-1	SDG No.:	E3896
Lab Sample ID:	E3896-21	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	7.9 J		1	0	0	0	pH	09/28/13	09/28/13 09:30	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	40		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 11:10
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-TW-6038-2	SDG No.:	E3896
Lab Sample ID:	E3896-22	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	8.21 J		1	0	0	0	pH	09/28/13	09/28/13 09:34	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	38		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix-liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Weston Solutions, Inc.	Date Collected:	09/27/13 10:40
Project:	RFP 265	Date Received:	09/27/13
Client Sample ID:	P001-DW-2113-1	SDG No.:	E3896
Lab Sample ID:	E3896-24	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity (as pH)	7.08		1	0	0	0	pH	09/28/13	09/28/13 09:38	SW9045C
Flashpoint	76		1	0	0	0	o F	09/28/13	09/28/13 12:00	1010A
Reactive Cyanide	0.05	U	1	0.05	0.05	0.05	mg/Kg	09/28/13	09/30/13 11:47	9012B
Reactive Sulfide	37		1	10	10	10	mg/Kg	09/28/13	09/28/13 16:45	9034

Comments: matrix= liquid waste

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67936

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Corrosivity (as pH)	pH	7.01	7.00	100	90-110	09/28/2013
Sample ID: CCV1						
Corrosivity (as pH)	pH	2.02	2.00	101	90-110	09/28/2013
Sample ID: CCV2						
Corrosivity (as pH)	pH	2.01	2.00	101	90-110	09/28/2013
Sample ID: CCV3						
Corrosivity (as pH)	pH	2.01	2.00	101	90-110	09/28/2013
Sample ID: CCV4						
Corrosivity (as pH)	pH	11.97	12.00	100	90-110	09/28/2013

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Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67940

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Flashpoint	o F	80.00	81.50	98	90-110	09/28/2013

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Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67944

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1						
Reactive Cyanide	mg/L	0.24	0.25	96	90-110	09/30/2013
Sample ID: ICV1						
Reactive Cyanide	mg/L	0.09	0.10	90	85-115	09/30/2013
Sample ID: CCV2						
Reactive Cyanide	mg/L	0.24	0.25	96	90-110	09/30/2013
Sample ID: CCV3						
Reactive Cyanide	mg/L	0.25	0.25	100	90-110	09/30/2013
Sample ID: CCV4						
Reactive Cyanide	mg/L	0.25	0.25	100	90-110	09/30/2013

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Initial and Continuing Calibration Verification

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67946

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: CCV1						
Reactive Cyanide	mg/L	0.25	0.25	100	90-110	09/30/2013
Sample ID: ICV1						
Reactive Cyanide	mg/L	0.10	0.10	100	85-115	09/30/2013
Sample ID: CCV2						
Reactive Cyanide	mg/L	0.25	0.25	100	90-110	09/30/2013
Sample ID: CCV3						
Reactive Cyanide	mg/L	0.26	0.25	104	90-110	09/30/2013

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Initial and Continuing Calibration Verification

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**RunNo.:**	LB67946

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date

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Initial and Continuing Calibration Blank Summary

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67944

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: CCB1						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: ICB1						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: CCB2						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: CCB3						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: CCB4						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013

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Initial and Continuing Calibration Blank Summary

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **RunNo.:** LB67946

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: CCB1						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: ICB1						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: CCB2						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013
Sample ID: CCB3						
Reactive Cyanide	mg/L	< 0.005	+/-0.005	0.005	0.005	09/30/2013

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Initial and Continuing Calibration Blank Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**RunNo.:**	LB67946

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date

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Preparation Blank Summary

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: LB67944BLS						
Reactive Cyanide	mg/Kg	< 0.050	+/-0.050	0.050	0.050	09/30/2013
Sample ID: LB67946BLS						
Reactive Cyanide	mg/Kg	< 0.050	+/-0.050	0.050	0.050	09/30/2013
Sample ID: LB67948BLS						
Reactive Sulfide	mg/Kg	< 10.00	+/-10.00	10.00	10.00	09/28/2013
Sample ID: LB67949BLS						
Reactive Sulfide	mg/Kg	< 10.00	+/-10.00	10.00	10.00	09/28/2013

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Matrix Spike Summary

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **Sample ID:** E3861-02

Client ID: WC1S **Percent Solids for Spike Sample:** 100

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Reactive Cyanide	mg/Kg	48-158	0.12		0.05	U	0.40	1	30		09/30/2013
Reactive Sulfide	mg/Kg	75-125	217.0		10.0	U	250.00	1	87		09/28/2013

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Matrix Spike Summary

Client: Weston Solutions, Inc.
SDG No.: E3896
Project: RFP 265
Sample ID: E3896-01
Client ID: P001-DW-1016-1S
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Reactive Cyanide	mg/Kg	48-158	0.42		0.05	U	0.40	1	105		09/30/2013
Reactive Sulfide	mg/Kg	75-125	238.0		26.00		250.00	1	85.0		09/28/2013

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Duplicate Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Sample ID:**	E3861-02
Client ID:	WC1D	**Percent Solids for Spike Sample:**	100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	Dilution Factor	RPD/ AD	Qual	Analysis Date
Reactive Cyanide	mg/Kg	+/-20	0.050	U	0.050	U	1	0		09/30/2013
Reactive Sulfide	mg/Kg	+/-20	10.00	U	10.00	U	1	0		09/28/2013

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Duplicate Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Sample ID:**	E3896-01
Client ID:	P001-DW-1016-1D	**Percent Solids for Spike Sample:**	100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	Dilution Factor	RPD/ AD	Qual	Analysis Date
Corrosivity (as pH)	pH	+/-20	5.080		5.090		1	0.2		09/28/2013
Reactive Cyanide	mg/Kg	+/-20	0.050	U	0.050	U	1	0		09/30/2013
Flashpoint	o F	+/-20	68.00		68.00		1	0		09/28/2013
Reactive Sulfide	mg/Kg	+/-20	26.00		26.00		1	0		09/28/2013

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Duplicate Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Sample ID:**	E3896-10
Client ID:	P001-DW-2121-1D	**Percent Solids for Spike Sample:**	100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	Dilution Factor	RPD/ AD	Qual	Analysis Date
Corrosivity (as pH)	pH	+/-20	6.160		6.170		1	0.2		09/28/2013

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Duplicate Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Sample ID:**	E3896-12
Client ID:	P001-S-2002-1D	**Percent Solids for Spike Sample:**	100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ignitability	o C	+/-20	NO		NO		1	0		09/28/2013

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Duplicate Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Sample ID:**	E3896-19
Client ID:	P001-S-3009-1D	**Percent Solids for Spike Sample:**	100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	Dilution Factor	RPD/ AD	Qual	Analysis Date
Corrosivity (as pH)	pH	+/-20	6.530		6.540		1	0.2		09/28/2013

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Laboratory Control Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Run No.:**	LB67944

Analyte	Units	True Value	Result	C	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB67944BSS								
Reactive Cyanide	mg/Kg	2.00	1.90		95	1	85-115	09/30/2013

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Laboratory Control Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Run No.:**	LB67946

Analyte	Units	True Value	Result	C	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB67946BSS								
Reactive Cyanide	mg/Kg	2.00	1.92		96	1	85-115	09/30/2013

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Laboratory Control Sample Summary

Client:	Weston Solutions, Inc.	**SDG No.:**	E3896
Project:	RFP 265	**Run No.:**	LB67948

Analyte	Units	True Value	Result	C	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB67948BSS								
Reactive Sulfide	mg/Kg	250.00	216.00		86	1	80-120	09/28/2013

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Laboratory Control Sample Summary

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265 **Run No.:** LB67949

Analyte	Units	True Value	Result	C	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB67949BSS								
Reactive Sulfide	mg/Kg	250.00	219.00		88	1	80-120	09/28/2013

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Method Detection Limits

Client: Weston Solutions, Inc. **SDG No.:** E3896

Project: RFP 265

Analyte	Units	MDL	RDL
Method: 1010A Flashpoint		**MDL Date: 01/15/2006**	
Matrix Category: LIQUID			
Flashpoint	o F	0.00	0.00
Matrix Category: SOLIDS			
Flashpoint	o F	0.00	0.00
Method: 1030 Ignitability		**MDL Date: 01/15/2006**	
Matrix Category: SOLIDS			
Ignitability	o C	150.00	150.00
Method: 9012B Reactive Cyanide		**MDL Date: 01/15/2006**	
Matrix Category: LIQUID			
Reactive Cyanide	mg/L	0.005	0.005
Matrix Category: SOLIDS			
Reactive Cyanide	mg/Kg	0.050	0.050
Method: 9034 Reactive Sulfide		**MDL Date: 01/15/2006**	
Matrix Category: SOLIDS			
Reactive Sulfide	mg/Kg	10.00	10.00
Method: 9045C Corrosivity		**MDL Date: 01/15/2006**	
Matrix Category: LIQUID			
Corrosivity (as pH)	pH	0.00	0.00
Matrix Category: SOLIDS			
Corrosivity (as pH)	pH	0.00	0.00

RAW DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Reviewed By:jim
On:10/1/2013 5:11:29 PM
Inst Id :pH Meter
LB :LB67936

Analytical Summary Report

Analysis Method: 9045C Corrosivity
Parameter: Corrosivity
Run Number: LB67936
Instrument: pH Meter

REVIEWED BY: Jm

TEMP. = 20.7 °C
SLOPE = 98.5

Seq	Lab ID	Sample Type	Result pH	Dil	Time	Matrix	Analytical Date
1	CAL 4	CAL	4.01	1	7:30 AM	WATER	09/28/2013
2	CAL 7	CAL	7.01	1	7:34	WATER	09/28/2013
3	CAL 10	CAL	10.04	1	7:38	WATER	09/28/2013
4	ICV 7	ICV	7.01	1	7:42	WATER	09/28/2013
5	CCV 2	CCV	2.02	1	7:46	WATER	09/28/2013
6	E3896-01	SAM	5.08	1	7:50	SOIL	09/28/2013
7	E3896-01D	DUP	5.09	1	7:54	SOIL	09/28/2013
8	E3896-02	SAM	4.92	1	7:58	SOIL	09/28/2013
9	E3896-03	SAM	3.83	1	8:02	SOIL	09/28/2013
10	E3896-04	SAM	5.76	1	8:06	SOIL	09/28/2013
11	E3896-05	SAM	5.81	1	8:10	SOIL	09/28/2013
12	E3896-06	SAM	5.72	1	8:14	SOIL	09/28/2013
13	E3896-07	SAM	6.28	1	8:18	SOIL	09/28/2013
14	E3896-08	SAM	6.01	1	8:22	SOIL	09/28/2013
15	E3896-09	SAM	6.64	1	8:26	SOIL	09/28/2013
16	CCV 2	CCV	2.01	1	8:30	WATER	09/28/2013
17	E3896-10	SAM	6.16	1	8:34	SOIL	09/28/2013
18	E3896-10D	DUP	6.17	1	8:38	SOIL	09/28/2013
19	E3896-11	SAM	5.88	1	8:42	SOIL	09/28/2013
20	E3896-12	SAM	6.47	1	8:46	SOIL	09/28/2013
21	E3896-13	SAM	6.24	1	8:50	SOIL	09/28/2013
22	E3896-14	SAM	6.19	1	8:54	SOIL	09/28/2013
23	E3896-15	SAM	6.42	1	8:58	SOIL	09/28/2013
24	E3896-16	SAM	6.51	1	9:02	SOIL	09/28/2013
25	E3896-17	SAM	6.73	1	9:06	SOIL	09/28/2013
26	E3896-18	SAM	6.40	1	9:10	SOIL	09/28/2013
27	CCV 2	CCV	2.01	1	9:14	WATER	09/28/2013
28	E3896-19	SAM	6.53	1	9:18	SOIL	09/28/2013
29	E3896-19D	DUP	6.54	1	9:22	SOIL	09/28/2013
30	E3896-20	SAM	7.87	1	9:26	SOIL	09/28/2013
31	E3896-21	SAM	7.90	1	9:30	SOIL	09/28/2013
32	E3896-22	SAM	8.21	1	9:34	SOIL	09/28/2013
33	E3896-24	SAM	7.08	1	9:38	SOIL	09/28/2013
34	CCV 12	CCV	11.97	1	9:42	WATER	09/28/2013

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Reviewed By: jim
On: 10/1/2013 5:11:29 PM
Inst Id: pH Meter
LB: LB67936

Analytical Summary Report

Calibration Standards	Chemtech Log #
pH 4.00	W1812
pH 7.00	W1813
pH 10.00	W1729
(ICV) pH 7.00	W1749
(CCV) pH 2.00	W1657
(CCV) pH 12.00	W1748

True Value of ICV = 7.0. Control Limits [+/- 0.1].

True Value of CCV = 2.12. Control Limits [+/- 0.1].

% Recovery Percentage Difference = _____.

Reviewed By: jim
On: 10/1/2013 5:11:29 PM
Inst Id: pH Meter
LB: LB67936

LB67936

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analysis Method: 9045C Corrosivity [as pH]
Parameter: Corrosivity
Run Number: LB67936
Instrument: pH Meter

M 9045C, D-pH-09

Reviewed By: jim
On: 10/1/2013 5:11:29 PM
Inst Id: pH Meter
LB: LB67936

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67936.MDB

Approved By : [illegible]
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Corrosivity												
CAL	**CAL**				W	9/28/13						
Corrosivity (as		PASS	4.010	4.010							pH	
CAL	**CAL**				W	9/28/13						
Corrosivity (as		PASS	7.010	7.010							pH	
CAL	**CAL**				W	9/28/13						
Corrosivity (as		PASS	10.040	10.04							pH	
ICV1	**ICV1**				W	9/28/13						
Corrosivity (as		PASS	7.010	7.01		100.0	90	110			pH	
CCV1	**CCV1**				W	9/28/13						
Corrosivity (as		PASS	2.020	2.02		101.0	90	110			pH	
E3896-01	**P001-DW-1016-1**			1	S	9/28/13						
Corrosivity (as		PASS	5.080	5.080							pH	
E3896-01D	**P001-DW-1016-1D**			1	S	9/28/13						
Corrosivity (as		PASS	5.090	5.090					0.2	20	pH	
E3896-02	**P001-DW-1019-1**			1	S	9/28/13						
Corrosivity (as		PASS	4.920	4.920							pH	
E3896-03	**P001-DW-1024-1**			1	S	9/28/13						
Corrosivity (as		PASS	3.830	3.830							pH	
E3896-04	**P001-DW-2090-1**			1	S	9/28/13						
Corrosivity (as		PASS	5.760	5.760							pH	
E3896-05	**P001-DW-2090-2**			1	S	9/28/13						
Corrosivity (as		PASS	5.810	5.810							pH	
E3896-06	**P001-DW-2093-1**			1	S	9/28/13						
Corrosivity (as		PASS	5.720	5.720							pH	
E3896-07	**P001-DW-2094-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.280	6.280							pH	
E3896-08	**P001-DW-2100-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.010	6.010							pH	
E3896-09	**P001-DW-2112-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.640	6.640							pH	
CCV2	**CCV2**				W	9/28/13						
Corrosivity (as		PASS	2.010	2.01		101.0	90	110			pH	
E3896-10	**P001-DW-2121-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.160	6.160							pH	
E3896-10D	**P001-DW-2121-1D**			1	S	9/28/13						
Corrosivity (as		PASS	6.170	6.170					0.2	20	pH	
E3896-11	**P001-DW-4006-1**			1	S	9/28/13						
Corrosivity (as		PASS	5.880	5.880							pH	
E3896-12	**P001-S-2002-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.470	6.470							pH	

Reviewed By:jim
On:10/1/2013 5:11:29 PM
Inst Id :pH Meter
LB :LB67936

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67936.MDB

Approved By :
Approved Date :
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Corrosivity												
E3896-13	**P001-S-2003-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.240	6.240							pH	
E3896-14	**P001-S-3004-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.190	6.190							pH	
E3896-15	**P001-S-3005-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.420	6.420							pH	
E3896-16	**P001-S-3006-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.510	6.510							pH	
E3896-17	**P001-S-3007-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.730	6.730							pH	
E3896-18	**P001-S-3008-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.400	6.400							pH	
CCV3	**CCV3**				W	9/28/13						
Corrosivity (as		PASS	2.010	2.01		101.0	90	110			pH	
E3896-19	**P001-S-3009-1**			1	S	9/28/13						
Corrosivity (as		PASS	6.530	6.530							pH	
E3896-19D	**P001-S-3009-1D**			1	S	9/28/13						
Corrosivity (as		PASS	6.540	6.540					0.2	20	pH	
E3896-20	**P001-TW-2115-1**			1	S	9/28/13						
Corrosivity (as		PASS	7.870	7.870							pH	
E3896-21	**P001-TW-6038-1**			1	S	9/28/13						
Corrosivity (as		PASS	7.900	7.900							pH	
E3896-22	**P001-TW-6038-2**			1	S	9/28/13						
Corrosivity (as		PASS	8.210	8.210							pH	
E3896-24	**P001-DW-2113-1**			1	S	9/28/13						
Corrosivity (as		PASS	7.080	7.080							pH	
CCV4	**CCV4**				W	9/28/13						
Corrosivity (as		PASS	11.970	11.97		100.0	90	110			pH	

Reviewed By:jim
On:10/1/2013 5:11:29 PM
Inst Id: pH Meter
LB: LB67936

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analytical Summary Report

Analysis Method: 9045C Corrosivity [as pH]
Parameter: Corrosivity
Run Number: LB67936
Instrument: pH Meter

REVIEW: Jm
REVIEWED BY: JB

Seq	Lab ID	Sample Type	Result pH	Dil	Time	Matrix	Analytical Date
1	CAL	CAL	4.01	1		WATER	9/28/13
2	CAL	CAL	7.01	1		WATER	9/28/13
3	CAL	CAL	10.04	1		WATER	9/28/13
4	ICV	ICV	7.01	1		WATER	9/28/13
5	CCV	CCV	2.02	1		WATER	9/28/13
6	E3896-01	SAM	5.08	1		SOIL	9/28/13
7	E3896-01D	DUP	5.09	1		SOIL	9/28/13
8	E3896-02	SAM	4.92	1		SOIL	9/28/13
9	E3896-03	SAM	3.83	1		SOIL	9/28/13
10	E3896-04	SAM	5.76	1		SOIL	9/28/13
11	E3896-05	SAM	5.81	1		SOIL	9/28/13
12	E3896-06	SAM	5.72	1		SOIL	9/28/13
13	E3896-07	SAM	6.28	1		SOIL	9/28/13
14	E3896-08	SAM	6.01	1		SOIL	9/28/13
15	E3896-09	SAM	6.64	1		SOIL	9/28/13
16	CCV	CCV	2.01	1		WATER	9/28/13
17	E3896-10	SAM	6.16	1		SOIL	9/28/13
18	E3896-10D	DUP	6.17	1		SOIL	9/28/13
19	E3896-11	SAM	5.88	1		SOIL	9/28/13
20	E3896-12	SAM	6.47	1		SOIL	9/28/13
21	E3896-13	SAM	6.24	1		SOIL	9/28/13
22	E3896-14	SAM	6.19	1		SOIL	9/28/13
23	E3896-15	SAM	6.42	1		SOIL	9/28/13
24	E3896-16	SAM	6.51	1		SOIL	9/28/13
25	E3896-17	SAM	6.73	1		SOIL	9/28/13
26	E3896-18	SAM	6.40	1		SOIL	9/28/13
27	CCV	CCV	2.01	1		WATER	9/28/13
28	E3896-19	SAM	6.53	1		SOIL	9/28/13
29	E3896-19D	DUP	6.54	1		SOIL	9/28/13
30	E3896-20	SAM	7.87	1		SOIL	9/28/13
31	E3896-21	SAM	7.90	1		SOIL	9/28/13
32	E3896-22	SAM	8.21	1		SOIL	9/28/13
33	E3896-24	SAM	7.08	1		SOIL	9/28/13
34	CCV	CCV	11.97	1		WATER	9/28/13

Jm 10-1-13

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Reviewed By:jim
On:10/1/2013 5:11:42 PM
Inst Id :Gravimetric
LB :LB67938

Analytical Summary Report

Analysis Method: 1030 Ignitability
Parameter: Ignitability
Run Number: LB67938
Instrument: FLAME
Analyst: JM

REVIEW BY: Jm

Seq	Lab ID	Sample Type	Result °C	Matrix	Analytical Date
1	E3896-12	SAM	YES NO	SOIL	9/28/2013
2	E3896-12D	DUP	YES NO	SOIL	9/28/2013
3	E3896-13	SAM	YES NO	SOIL	9/28/2013
4	E3896-14	SAM	YES NO	SOIL	9/28/2013
5	E3896-15	SAM	YES NO	SOIL	9/28/2013
6	E3896-16	SAM	YES NO	SOIL	9/28/2013
7	E3896-17	SAM	YES NO	SOIL	9/28/2013
8	E3896-18	SAM	YES NO	SOIL	9/28/2013
9	E3896-19	SAM	YES NO	SOIL	9/28/2013

Samples E3896-12 + E3896-13 burned but did not ignite.

start time 10:00Am
end time 11:30Am

Page # 1 of 1

Reviewed By:jim
On:10/1/2013 5:11:42 PM
Inst Id: Gravimetric
LB :LB67938

LB67938

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analysis Method: 1030 IGNITABILITY
Parameter: Ignitability
Run Number: LB67938
Instrument: FLAME

M1030-Ignitability-08

Reviewed By:jim
On:10/1/2013 5:11:42 PM
Inst Id :Gravimetric
LB :LB67938

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67938.MDB

Approved By : JO
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Ignitability												
E3896-12	**P001-S-2002-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-12D	**P001-S-2002-1D**			1	S	9/28/13						
Ignitability		PASS	0.000		NO				0	20	o C	
E3896-13	**P001-S-2003-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-14	**P001-S-3004-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-15	**P001-S-3005-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-16	**P001-S-3006-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-17	**P001-S-3007-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-18	**P001-S-3008-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	
E3896-19	**P001-S-3009-1**			1	S	9/28/13						
Ignitability		PASS	0.000		NO						o C	

Reviewed By:jim
On:10/1/2013 5:11:42 PM
Inst Id :Gravimetric
LB :LB67938

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax:

Analytical Summary Report

Analysis Method: 1030 IGNITABILITY
Parameter: Ignitability
Run Number: LB67938
Instrument: FLAME
Analyst:

REVIEWED BY: JM

Seq	Lab ID	Sample Type	Result °C	Time	Matrix	Analytical Date
1	E3896-12	SAM	NO		SOIL	9/28/13
2	E3896-12D	DUP	NO		SOIL	9/28/13
3	E3896-13	SAM	NO		SOIL	9/28/13
4	E3896-14	SAM	NO		SOIL	9/28/13
5	E3896-15	SAM	NO		SOIL	9/28/13
6	E3896-16	SAM	NO		SOIL	9/28/13
7	E3896-17	SAM	NO		SOIL	9/28/13
8	E3896-18	SAM	NO		SOIL	9/28/13
9	E3896-19	SAM	NO		SOIL	9/28/13

JM 10-1-13

Paghe # 1 of 1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Reviewed By:jim
On:10/1/2013 5:12:09 PM
Inst Id :Gravimetric
LB :LB67940

Analytical Summary Report

Analysis Method: 1010A Flashpoint
Parameter: Flashpoint
Run Number: LB67940
Instrument: KOEHLER

Jm

Seq	Lab ID	Client ID	Sample Type	Temp. °F	Dil	Analytical Date
1	ICV	ICV	ICV	80.0	1	9/28/2013
2	E3896-01	P001-DW-1016-1	SAM	68.0	1	9/28/2013
3	E3896-01D	P001-DW-1016-1D	DUP	68.0	1	9/28/2013
4	E3896-02	P001-DW-1019-1	SAM	70.0	1	9/28/2013
5	E3896-03	P001-DW-1024-1	SAM	70.0	1	9/28/2013
6	E3896-04	P001-DW-2090-1	SAM	74.0	1	9/28/2013
7	E3896-05	P001-DW-2090-2	SAM	78.0	1	9/28/2013
8	E3896-06	P001-DW-2093-1	SAM	76.0	1	9/28/2013
9	E3896-07	P001-DW-2094-1	SAM	76.0	1	9/28/2013
10	E3896-08	P001-DW-2100-1	SAM	74.0	1	9/28/2013
11	E3896-09	P001-DW-2112-1	SAM	76.0	1	9/28/2013
12	E3896-10	P001-DW-2121-1	SAM	76.0	1	9/28/2013
13	E3896-11	P001-DW-4006-1	SAM	78.0	1	9/28/2013
14	E3896-20	P001-TW-2115-1	SAM	74.0	1	9/28/2013
15	E3896-21	P001-TW-6038-1	SAM	76.0	1	9/28/2013
16	E3896-22	P001-TW-6038-2	SAM	76.0	1	9/28/2013
17	E3896-24	P001-DW-2113-1	SAM	76.0	1	9/28/2013

start time 12:00 PM
end time 3:30 PM

Reviewed By:jim
On:10/1/2013 5:12:09 PM
Inst Id :Gravimetric
LB :LB67940

LB67940

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analysis Method: 1010A Flashpoint
Parameter: Flashpoint
Run Number: LB67940
Instrument: KOEHLER

M1010A Flash-Point-09

Reviewed By:jim
On:10/1/2013 5:12:09 PM
Inst Id :Gravimetric
LB :LB67940

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67940.MDB

Approved By :
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID	Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Flashpoint											
ICV1	**ICV1**			W	9/28/13						
Flashpoint	PASS	80.000	80.00		98.0	90	110			o F	
E3896-01	**P001-DW-1016-1**		1	S	9/28/13						
Flashpoint	PASS	68.000	68.000							o F	
E3896-01D	**P001-DW-1016-1D**		1	S	9/28/13						
Flashpoint	PASS	68.000	68.00					0	20	o F	
E3896-02	**P001-DW-1019-1**		1	S	9/28/13						
Flashpoint	PASS	70.000	70.000							o F	
E3896-03	**P001-DW-1024-1**		1	S	9/28/13						
Flashpoint	PASS	70.000	70.000							o F	
E3896-04	**P001-DW-2090-1**		1	S	9/28/13						
Flashpoint	PASS	74.000	74.000							o F	
E3896-05	**P001-DW-2090-2**		1	S	9/28/13						
Flashpoint	PASS	78.000	78.000							o F	
E3896-06	**P001-DW-2093-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-07	**P001-DW-2094-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-08	**P001-DW-2100-1**		1	S	9/28/13						
Flashpoint	PASS	74.000	74.000							o F	
E3896-09	**P001-DW-2112-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-10	**P001-DW-2121-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-11	**P001-DW-4006-1**		1	S	9/28/13						
Flashpoint	PASS	78.000	78.000							o F	
E3896-20	**P001-TW-2115-1**		1	S	9/28/13						
Flashpoint	PASS	74.000	74.000							o F	
E3896-21	**P001-TW-6038-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-22	**P001-TW-6038-2**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	
E3896-24	**P001-DW-2113-1**		1	S	9/28/13						
Flashpoint	PASS	76.000	76.000							o F	

Reviewed By:jim
On:10/1/2013 5:12:09 PM
Inst Id :Gravimetric
LB :LB67940

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analytical Summary Report

Analysis Method: 1010A Flashpoint
Parameter: Flashpoint
Run Number: LB67940
Instrument: KOEHLER

Jm

Seq	Lab ID	Client ID	Sample Type	Inst Conc. ~~°C~~ °F	Dil	Analytical Date
1	ICV	ICV	ICV	80.000	1	9/28/13
2	E3896-01	P001-DW-1016-1	SAM	68.000	1	9/28/13
3	E3896-01D	P001-DW-1016-1D	DUP	68.000	1	9/28/13
4	E3896-02	P001-DW-1019-1	SAM	70.000	1	9/28/13
5	E3896-03	P001-DW-1024-1	SAM	70.000	1	9/28/13
6	E3896-04	P001-DW-2090-1	SAM	74.000	1	9/28/13
7	E3896-05	P001-DW-2090-2	SAM	78.000	1	9/28/13
8	E3896-06	P001-DW-2093-1	SAM	76.000	1	9/28/13
9	E3896-07	P001-DW-2094-1	SAM	76.000	1	9/28/13
10	E3896-08	P001-DW-2100-1	SAM	74.000	1	9/28/13
11	E3896-09	P001-DW-2112-1	SAM	76.000	1	9/28/13
12	E3896-10	P001-DW-2121-1	SAM	76.000	1	9/28/13
13	E3896-11	P001-DW-4006-1	SAM	78.000	1	9/28/13
14	E3896-20	P001-TW-2115-1	SAM	74.000	1	9/28/13
15	E3896-21	P001-TW-6038-1	SAM	76.000	1	9/28/13
16	E3896-22	P001-TW-6038-2	SAM	76.000	1	9/28/13
17	E3896-24	P001-DW-2113-1	SAM	76.000	1	9/28/13

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id :Konelab 20
LB :LB67944

Test results Aquakem 7.2AQ1 Page: 1

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 11:51

Test: Total CN

Sample Id	Result (ug/L)	Dil. 1 +	Response	Errors
ICV1	94.856	0.0	0.090	
ICB1	1.402	0.0	0.005	
CCV1	240.133	0.0	0.222	
CCB1	1.394	0.0	0.005	
LB67944BLS	1.318	0.0	0.005	
LB67944BSS	190.041	0.0	0.176	
E3896-01	1.026	0.0	0.005	
E3896-01D	2.482	0.0	0.006	
E3896-01S	41.638	0.0	0.041	
E3896-02	1.646	0.0	0.005	
E3896-03	3.214	0.0	0.007	
E3896-04	0.714	0.0	0.004	
E3896-05	1.050	0.0	0.005	
E3896-06	0.985	0.0	0.005	
CCV2	243.700	0.0	0.225	
CCB2	1.353	0.0	0.005	
E3896-07	2.330	0.0	0.006	
E3896-08	0.544	0.0	0.004	
E3896-09	1.133	0.0	0.005	
E3896-10	0.583	0.0	0.004	
E3896-11	1.129	0.0	0.005	
E3896-16	0.494	0.0	0.004	
E3896-17	1.088	0.0	0.005	
E3896-18	1.023	0.0	0.005	
E3896-19	0.527	0.0	0.004	
E3896-20	1.680	0.0	0.005	
CCV3	245.147	0.0	0.226	
CCB3	1.361	0.0	0.005	
E3896-21	1.114	0.0	0.005	
E3896-22	0.831	0.0	0.004	
E3896-24	1.858	0.0	0.005	
CCV4	248.800	0.0	0.229	
CCB4	-2.263	0.0	0.002	

N	33
Mean	40.434
SD	85.1475
CV%	210.58

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id: Konelab 20
LB: LB67944

HM

Aquakem v. 7.2AQ1
Results from time period:
Mon Sep 30 09:47:06 2013
Mon Sep 30 11:47:55 2013

Sample Id	Sam/Ctr/c/	Test short nam	Test type	Result	Result unit	Result date and time
0.0PPBCN	A	ReactiveCN	P	0.9067	µg/l	9/30/2013 9:47:06
5.0PPBCN	A	ReactiveCN	P	4.9433	µg/l	9/30/2013 9:47:07
10PPBCN	A	ReactiveCN	P	9.8219	µg/l	9/30/2013 9:47:08
50PPBCN	A	ReactiveCN	P	50.9385	µg/l	9/30/2013 9:47:09
100PPBCN	A	ReactiveCN	P	99.0757	µg/l	9/30/2013 9:47:10
250PPBCN	A	ReactiveCN	P	248.4376	µg/l	9/30/2013 9:47:11
500PPBCN	A	ReactiveCN	P	500.8764	µg/l	9/30/2013 9:47:12
LOW	S	ReactiveCN	P	10.919	µg/l	9/30/2013 10:06:08
HIGH	S	ReactiveCN	P	517.8386	µg/l	9/30/2013 10:06:09
ICV1	S	ReactiveCN	P	94.8564	µg/l	9/30/2013 11:32:37
ICB1	S	ReactiveCN	P	1.4016	µg/l	9/30/2013 11:32:38
CCV1	S	ReactiveCN	P	240.1328	µg/l	9/30/2013 11:32:39
CCB1	S	ReactiveCN	P	1.3945	µg/l	9/30/2013 11:32:40
LB67944BLS	S	ReactiveCN	P	1.3183	µg/l	9/30/2013 11:32:41
LB67944BSS	S	ReactiveCN	P	190.0407	µg/l	9/30/2013 11:32:42
E3896-01	S	ReactiveCN	P	1.026	µg/l	9/30/2013 11:32:43
E3896-01D	S	ReactiveCN	P	2.4818	µg/l	9/30/2013 11:32:44
E3896-01S	S	ReactiveCN	P	41.6384	µg/l	9/30/2013 11:32:45
E3896-02	S	ReactiveCN	P	1.6456	µg/l	9/30/2013 11:32:46
E3896-03	S	ReactiveCN	P	3.214	µg/l	9/30/2013 11:32:47
E3896-04	S	ReactiveCN	P	0.714	µg/l	9/30/2013 11:40:10
E3896-05	S	ReactiveCN	P	1.0502	µg/l	9/30/2013 11:40:11
E3896-06	S	ReactiveCN	P	0.9848	µg/l	9/30/2013 11:40:12
CCV2	S	ReactiveCN	P	243.6998	µg/l	9/30/2013 11:40:13
CCB2	S	ReactiveCN	P	1.3526	µg/l	9/30/2013 11:40:14
E3896-07	S	ReactiveCN	P	2.3305	µg/l	9/30/2013 11:40:15
E3896-08	S	ReactiveCN	P	0.5438	µg/l	9/30/2013 11:40:16
E3896-09	S	ReactiveCN	P	1.1328	µg/l	9/30/2013 11:40:17
E3896-10	S	ReactiveCN	P	0.5831	µg/l	9/30/2013 11:40:18
E3896-11	S	ReactiveCN	P	1.1287	µg/l	9/30/2013 11:40:19
E3896-16	S	ReactiveCN	P	0.494	µg/l	9/30/2013 11:40:20
E3896-17	S	ReactiveCN	P	1.088	µg/l	9/30/2013 11:47:45
E3896-18	S	ReactiveCN	P	1.0234	µg/l	9/30/2013 11:47:46
E3896-19	S	ReactiveCN	P	0.5269	µg/l	9/30/2013 11:47:47
E3896-20	S	ReactiveCN	P	1.6797	µg/l	9/30/2013 11:47:48
CCV3	S	ReactiveCN	P	245.1472	µg/l	9/30/2013 11:47:49
CCB3	S	ReactiveCN	P	1.3608	µg/l	9/30/2013 11:47:50
E3896-21	S	ReactiveCN	P	1.1144	µg/l	9/30/2013 11:47:51
E3896-22	S	ReactiveCN	P	0.8309	µg/l	9/30/2013 11:47:52
E3896-24	S	ReactiveCN	P	1.8579	µg/l	9/30/2013 11:47:53
CCV4	S	ReactiveCN	P	248.7996	µg/l	9/30/2013 11:47:54
CCB4	S	ReactiveCN	P	-2.2628	µg/l	9/30/2013 11:47:55

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id :Konelab 20
LB :LB67944

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 10:38

Test: Total CN

Sample Id	Result (ug/l)	Dil. 1 +	Response	Errors
LOW	10.919	0.0	0.014	
HIGH	517.839	0.0	0.474	Test limit high

N	2
Mean	264.379
SD	358.4463
CV%	135.58

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id: Konelab 20
LB: LB67944

Calibration results Aquakem 7.2AQ1 Page:

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 9:50

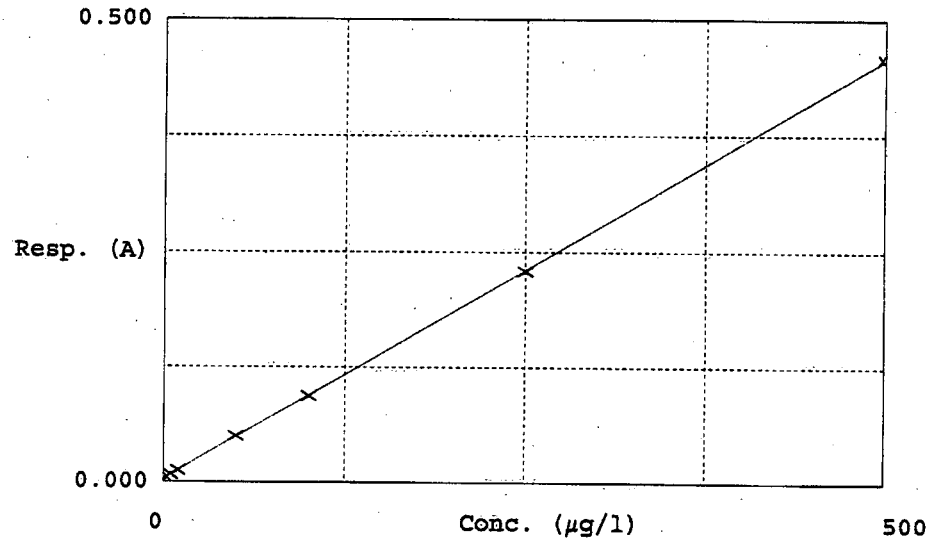
Test Total CN

Accepted 9/30/2013 9:49

Factor 1102
Bias 0.004

Coeff. of det. 0.999972

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.004	0.9067	0.0000	
2	5.0PPBCN	0.008	4.9433	5.0000	
3	10PPBCN	0.013	9.8219	10.0000	
4	50PPBCN	0.050	50.9385	50.0000	
5	100PPBCN	0.094	99.0757	100.0000	
6	250PPBCN	0.229	248.4376	250.0000	
7	500PPBCN	0.458	500.8764	500.0000	

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id :Konelab 20
LB:LB67944

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : HM
Data File : LB67944.csv

Approved By : [illegible]
Approved Date : 10/1/13
Worksheet # :

M9012 A-B - Total, Amenable and Reactive cyanide-13

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Cyanide												
0.0PPBCN	**0.0PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	0.907	0.001							mg/L	
5.0PPBCN	**5.0PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	4.943	0.005							mg/L	
10PPBCN	**10PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	9.822	0.010							mg/L	
50PPBCN	**50PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	50.938	0.051							mg/L	
100PPBCN	**100PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	99.076	0.099							mg/L	
250PPBCN	**250PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	248.438	0.248							mg/L	
500PPBCN	**500PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	500.876	0.501							mg/L	
LOW	**LOW**				W	9/30/13						
Reactive Cyanide		PASS	10.919	0.011							mg/L	
HIGH	**HIGH**				W	9/30/13						
Reactive Cyanide		PASS	517.839	0.518							mg/L	
ICV1	**ICV1**				W	9/30/13						
Reactive Cyanide		PASS	94.856	0.09		90.0	85	115			mg/L	
ICB1	**ICB1**				W	9/30/13						
Reactive Cyanide		PASS	1.402	0.001				+/-0.0050			mg/L	
CCV1	**CCV1**				W	9/30/13						
Reactive Cyanide		PASS	240.133	0.24		96.0	90	110			mg/L	
CCB1	**CCB1**				W	9/30/13						
Reactive Cyanide		PASS	1.395	0.001				+/-0.0050			mg/L	
LB67944BLS	**LB67944BLS**				S	9/30/13						
Reactive Cyanide		PASS	1.318	0.013				+/-0.0500			mg/Kg	
LB67944BSS	**LB67944BSS**				S	9/30/13						
Reactive Cyanide		PASS	190.041	1.90		95.0	85.00	115.00			mg/Kg	
E3896-01	**P001-DW-1016-1**		1		S	9/30/13						
Reactive Cyanide		PASS	1.026	0.010							mg/Kg	
E3896-01D	**P001-DW-1016-1D**		1		S	9/30/13						
Reactive Cyanide		PASS	2.482	0.025					0	20	mg/Kg	
E3896-01S	**P001-DW-1016-1S**		1		S	9/30/13						
Reactive Cyanide		PASS	41.638	0.42		105.0	48	158			mg/Kg	
E3896-02	**P001-DW-1019-1**		1		S	9/30/13						
Reactive Cyanide		PASS	1.646	0.016							mg/Kg	
E3896-03	**P001-DW-1024-1**		1		S	9/30/13						
Reactive Cyanide		PASS	3.214	0.032							mg/Kg	

flagdata2.rpt

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id :Konelab 20
LB :LB67944

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : HM
Data File : LB67944.csv

Approved By : AB
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID	Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Cyanide											
E3896-04	**P001-DW-2090-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.714	0.007							mg/Kg	
E3896-05	**P001-DW-2090-2**		1	S	9/30/13						
Reactive Cyanide	PASS	1.050	0.011							mg/Kg	
E3896-06	**P001-DW-2093-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.985	0.010							mg/Kg	
CCV2	**CCV2**			W	9/30/13						
Reactive Cyanide	PASS	243.700	0.24		96.0	90	110			mg/L	
CCB2	**CCB2**			W	9/30/13						
Reactive Cyanide	PASS	1.353	0.001				+/-0.0050			mg/L	
E3896-07	**P001-DW-2094-1**		1	S	9/30/13						
Reactive Cyanide	PASS	2.330	0.023							mg/Kg	
E3896-08	**P001-DW-2100-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.544	0.005							mg/Kg	
E3896-09	**P001-DW-2112-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.133	0.011							mg/Kg	
E3896-10	**P001-DW-2121-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.583	0.006							mg/Kg	
E3896-11	**P001-DW-4006-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.129	0.011							mg/Kg	
E3896-16	**P001-S-3006-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.494	0.005							mg/Kg	
E3896-17	**P001-S-3007-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.088	0.011							mg/Kg	
E3896-18	**P001-S-3008-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.023	0.010							mg/Kg	
E3896-19	**P001-S-3009-1**		1	S	9/30/13						
Reactive Cyanide	PASS	0.527	0.005							mg/Kg	
E3896-20	**P001-TW-2115-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.680	0.017							mg/Kg	
CCV3	**CCV3**			W	9/30/13						
Reactive Cyanide	PASS	245.147	0.25		100.0	90	110			mg/L	
CCB3	**CCB3**			W	9/30/13						
Reactive Cyanide	PASS	1.361	0.001				+/-0.0050			mg/L	
E3896-21	**P001-TW-6038-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.114	0.011							mg/Kg	
E3896-22	**P001-TW-6038-2**		1	S	9/30/13						
Reactive Cyanide	PASS	0.831	0.008							mg/Kg	
E3896-24	**P001-DW-2113-1**		1	S	9/30/13						
Reactive Cyanide	PASS	1.858	0.019							mg/Kg	

flagdata2.rpt

Reviewed By:heta
On:10/1/2013 6:39:56 PM
Inst Id: Konelab 20
LB: LB67944

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : HM
Data File : LB67944.csv

Approved By : [illegible]
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Cyanide												
CCV4	**CCV4**				W	9/30/13						
Reactive Cyanide		PASS	248.800	0.25		100.0	90	110			mg/L	
CCB4	**CCB4**				W	9/30/13						
Reactive Cyanide		PASS	-2.263	-0.002				+/-0.0050			mg/L	

flagdata2.rpt

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst Id: Konelab 20
LB: LB67946

Test results | Aquakem 7.2AQ1 | Page:

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 13:04

Test: Total CN

Sample Id	Result (mg/L)	Dil. 1 +	Response	Errors
ICV1	95.056	0.0	0.090	
ICB1	1.385	0.0	0.005	
CCV1	246.777	0.0	0.228	
CCB1	1.312	0.0	0.005	
LB67946BLS	1.351	0.0	0.005	
LB67946BSS	192.340	0.0	0.178	
E3896-12	1.052	0.0	0.005	
E3896-13	0.820	0.0	0.004	
E3896-14	0.542	0.0	0.004	
E3896-15	0.600	0.0	0.004	
E3897-01	1.088	0.0	0.005	
CCV2	247.736	0.0	0.228	
CCB2	1.255	0.0	0.005	
E3897-02	1.269	0.0	0.005	
E3897-03	-0.255	0.0	0.003	
E3861-02	0.552	0.0	0.004	
E3861-02D	0.592	0.0	0.004	
E3861-02S	11.627	0.0	0.014	
CCV3	258.622	0.0	0.238	
CCB3	1.492	0.0	0.005	

N	20
Mean	53.261
SD	96.9547
CV%	182.04

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst id :Konelab 20
LB :LB67946

Aquakem v. 7.2AQ1
Results from time period:
Mon Sep 30 12:27:32 2013
Mon Sep 30 12:58:38 2013

Sample Id	Sam/Ctr/c/	Test short name	Test type	Result	Result unit	Result date and time
0.0PPBCN	A	ReactiveCN	P	0.9067	µg/l	9/30/2013 9:47:06
5.0PPBCN	A	ReactiveCN	P	4.9433	µg/l	9/30/2013 9:47:07
10PPBCN	A	ReactiveCN	P	9.8219	µg/l	9/30/2013 9:47:08
50PPBCN	A	ReactiveCN	P	50.9385	µg/l	9/30/2013 9:47:09
100PPBCN	A	ReactiveCN	P	99.0757	µg/l	9/30/2013 9:47:10
250PPBCN	A	ReactiveCN	P	248.4376	µg/l	9/30/2013 9:47:11
500PPBCN	A	ReactiveCN	P	500.8764	µg/l	9/30/2013 9:47:12
LOW	S	ReactiveCN	P	10.919	µg/l	9/30/2013 10:06:08
HIGH	S	ReactiveCN	P	517.8386	µg/l	9/30/2013 10:06:09
ICV1	S	ReactiveCN	P	95.0559	µg/l	9/30/2013 12:27:32
ICB1	S	ReactiveCN	P	1.3851	µg/l	9/30/2013 12:27:33
CCV1	S	ReactiveCN	P	246.777	µg/l	9/30/2013 12:27:34
CCB1	S	ReactiveCN	P	1.3116	µg/l	9/30/2013 12:27:35
LB67946BLS	S	ReactiveCN	P	1.3515	µg/l	9/30/2013 12:27:36
LB67946BSS	S	ReactiveCN	P	192.3404	µg/l	9/30/2013 12:27:37
E3896-12	S	ReactiveCN	P	1.052	µg/l	9/30/2013 12:27:41
E3896-13	S	ReactiveCN	P	0.8196	µg/l	9/30/2013 12:27:42
E3896-14	S	ReactiveCN	P	0.5417	µg/l	9/30/2013 12:34:11
E3896-15	S	ReactiveCN	P	0.6001	µg/l	9/30/2013 12:34:12
E3897-01	S	ReactiveCN	P	1.0878	µg/l	9/30/2013 12:34:13
CCV2	S	ReactiveCN	P	247.7357	µg/l	9/30/2013 12:34:14
CCB2	S	ReactiveCN	P	1.2552	µg/l	9/30/2013 12:34:15
E3897-02	S	ReactiveCN	P	1.2693	µg/l	9/30/2013 12:34:16
E3897-03	S	ReactiveCN	P	-0.2555	µg/l	9/30/2013 12:34:17
E3861-02	S	ReactiveCN	P	0.5516	µg/l	9/30/2013 12:58:34
E3861-02D	S	ReactiveCN	P	0.5917	µg/l	9/30/2013 12:58:35
E3861-02S	S	ReactiveCN	P	11.6273	µg/l	9/30/2013 12:58:36
CCV3	S	ReactiveCN	P	258.6219	µg/l	9/30/2013 12:58:37
CCB3	S	ReactiveCN	P	1.4923	µg/l	9/30/2013 12:58:38

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst Id :Konelab 20
LB :LB67946

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 10:38

Test: Total CN

Sample Id	Result (ug/l)	Dil. 1 +	Response	Errors
LOW	10.919	0.0	0.014	
HIGH	517.839	0.0	0.474	Test limit high

N	2
Mean	264.379
SD	358.4463
CV%	135.58

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst Id :Konelab 20
LB :LB67946

==========

Calibration results Aquakem 7.2AQ1 Page:

CHEMTECH
284 Sheffield Street,
Mountainside, NJ 07092
Reviewed by : HM

9/30/2013 9:50

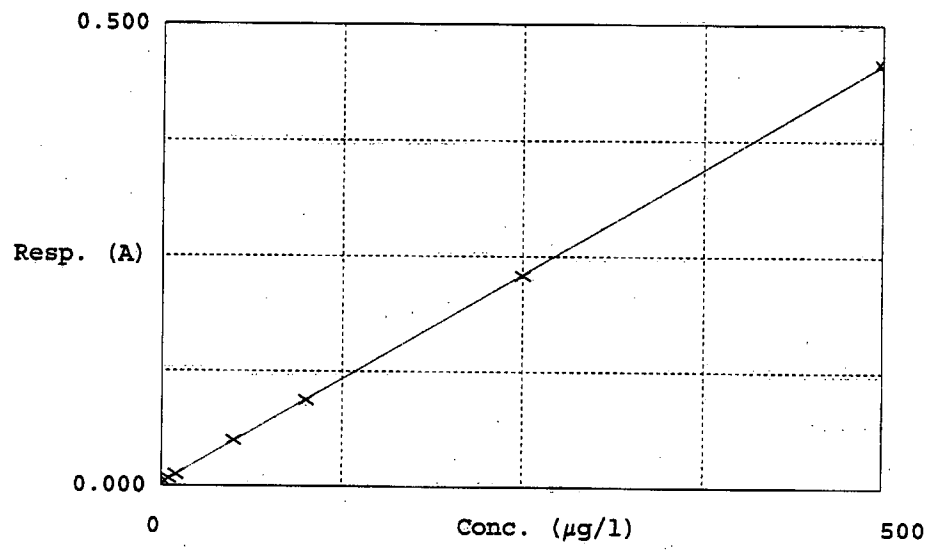
Test Total CN

Accepted 9/30/2013 9:49

Factor 1102
Bias 0.004

Coeff. of det. 0.999972

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.004	0.9067	0.0000	
2	5.0PPBCN	0.008	4.9433	5.0000	
3	10PPBCN	0.013	9.8219	10.0000	
4	50PPBCN	0.050	50.9385	50.0000	
5	100PPBCN	0.094	99.0757	100.0000	
6	250PPBCN	0.229	248.4376	250.0000	
7	500PPBCN	0.458	500.8764	500.0000	

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst Id: Konelab 20
LB: LB67946

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : HM
Data File : LB67946.csv

Approved By : AL
Approved Date : 10/1/13
Worksheet # :

M9012 A-B - Total, Amenable and Reactive cyanide-13

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Cyanide												
0.0PPBCN	**0.0PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	0.907	0.001							mg/L	
5.0PPBCN	**5.0PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	4.943	0.005							mg/L	
10PPBCN	**10PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	9.822	0.010							mg/L	
50PPBCN	**50PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	50.938	0.051							mg/L	
100PPBCN	**100PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	99.076	0.099							mg/L	
250PPBCN	**250PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	248.438	0.248							mg/L	
500PPBCN	**500PPBCN**				W	9/30/13						
Reactive Cyanide		PASS	500.876	0.501							mg/L	
LOW	**LOW**				W	9/30/13						
Reactive Cyanide		PASS	10.919	0.011							mg/L	
HIGH	**HIGH**				W	9/30/13						
Reactive Cyanide		PASS	517.839	0.518							mg/L	
ICV1	**ICV1**				W	9/30/13						
Reactive Cyanide		PASS	95.056	0.10		100.0	85	115			mg/L	
ICB1	**ICB1**				W	9/30/13						
Reactive Cyanide		PASS	1.385	0.001				+/-0.0050			mg/L	
CCV1	**CCV1**				W	9/30/13						
Reactive Cyanide		PASS	246.777	0.25		100.0	90	110			mg/L	
CCB1	**CCB1**				W	9/30/13						
Reactive Cyanide		PASS	1.312	0.001				+/-0.0050			mg/L	
LB67946BLS	**LB67946BLS**				S	9/30/13						
Reactive Cyanide		PASS	1.352	0.014				+/-0.0500			mg/Kg	
LB67946BSS	**LB67946BSS**				S	9/30/13						
Reactive Cyanide		PASS	192.340	1.92		96.0	85.00	115.00			mg/Kg	
E3896-12	**P001-S-2002-1**		1		S	9/30/13						
Reactive Cyanide		PASS	1.052	0.011							mg/Kg	
E3896-13	**P001-S-2003-1**		1		S	9/30/13						
Reactive Cyanide		PASS	0.820	0.008							mg/Kg	
E3896-14	**P001-S-3004-1**		1		S	9/30/13						
Reactive Cyanide		PASS	0.542	0.005							mg/Kg	
E3896-15	**P001-S-3005-1**		1		S	9/30/13						
Reactive Cyanide		PASS	0.600	0.006							mg/Kg	
E3897-01	**P001-S-3010-1**		1		S	9/30/13						
Reactive Cyanide		PASS	1.088	0.011							mg/Kg	

flagdata2.rpt

Reviewed By:HETA
On:10/1/2013 1:06:26 PM
Inst Id :Konelab 20
LB :LB67946

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : HM
Data File : LB67946.csv

Approved By :
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Cyanide												
CCV2	**CCV2**				W	9/30/13						
Reactive Cyanide		PASS	247.736	0.25		100.0	90	110			mg/L	
CCB2	**CCB2**				W	9/30/13						
Reactive Cyanide		PASS	1.255	0.001				+/-0.0050			mg/L	
E3897-02	**P001-S-3011-1**			1	S	9/30/13						
Reactive Cyanide		PASS	1.269	0.013							mg/Kg	
E3897-03	**P001-S-3012-1**			1	S	9/30/13						
Reactive Cyanide		PASS	-0.255	-0.003							mg/Kg	
E3861-02	**WC1**			1	S	9/30/13						
Reactive Cyanide		PASS	0.552	0.006							mg/Kg	
E3861-02D	**WC1D**			1	S	9/30/13						
Reactive Cyanide		PASS	0.592	0.006					0	20	mg/Kg	
E3861-02S	**WC1S**			1	S	9/30/13						
Reactive Cyanide		FAIL	11.627	0.12		30.0	48	158			mg/Kg	
CCV3	**CCV3**				W	9/30/13						
Reactive Cyanide		PASS	258.622	0.26		104.0	90	110			mg/L	
CCB3	**CCB3**				W	9/30/13						
Reactive Cyanide		PASS	1.492	0.001				+/-0.0050			mg/L	

Reviewed By:jim
On:10/1/2013 5:12:23 PM
Inst Id :Titrametric
LB :LB67948

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analytical Summary Report

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67948
Instrument: Titrametric

ANALYST : Jm
REVIEWED BY: AG

Standard Type: LCSS Lot #: WP28968 Concentration: 25 PPM
Titrant 1 = Iodine W151757 Titrant 2 = Sodium Thiosulfate W1200
Normality 1 = 0.025 Normality 2 = 0.025
Constant = 16000 Starch W1805

Formula = ((Titrant 1 * Normality 1) - (Titrant 2 * Normality 2)) * Constant / ml of Sample

Seq	Lab ID	Sample Type	~~mL~~ g of Sample	mL Titrant 1	Normality 1	mL Titrant 2	Normality 2	Initial pH	Analytical Date
1	LB67948BLS	MB	5.00	5.00	0.025	5.00	0.025		9-28-13
2	LB67948BSS	LCS	5.00	5.00		2.30			
3	E3896-01	SAM	5.00	5.00		4.68			
4	E3896-01D	DUP	5.00	5.00		4.68			
5	E3896-01S	MS	5.00	5.00		2.02			
6	E3896-02	SAM	5.00	5.00		4.62			
7	E3896-03	SAM	5.00	5.00		4.64			
8	E3896-04	SAM	5.00	5.00		4.68			
9	E3896-05	SAM	5.00	5.00		4.66			
10	E3896-06	SAM	5.00	5.00		4.64			
11	E3896-07	SAM	5.00	5.00		4.52			
12	E3896-08	SAM	5.00	5.00		4.62			
13	E3896-09	SAM	5.00	5.00		4.60			
14	E3896-10	SAM	5.00	5.00		4.52			
15	E3896-11	SAM	5.00	5.00		4.62			
16	E3896-16	SAM	5.01	5.00		4.50			
17	E3896-17	SAM	5.01	5.00		4.52			
18	E3896-18	SAM	5.00	5.00		4.58			
19	E3896-19	SAM	5.02	5.00		4.48			
20	E3896-20	SAM	5.02	5.00		4.50			
21	E3896-21	SAM	5.02	5.00		4.50			
22	E3896-22	SAM	5.02	5.00		4.52			
23	E3896-24	SAM	5.02	5.00		4.54			

Jm 9-28-13

Start time 4:45 PM
End time 6:00 PM

Page # 1 of 1

Reviewed By:jim
On:10/1/2013 5:12:23 PM
Inst Id :Titrametric
LB :LB67948

LB67948

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67948
Instrument: Titrimetric

M9034- SM4500 S F Sulfide -09

Reviewed By:jim
On:10/1/2013 5:12:23 PM
Inst Id :Titrametric
LB :LB67948

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67948.MDB

Approved By :
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Sulfide												
LB67948BLS	**LB67948BLS**				S	9/28/13						
Reactive Sulfide		PASS	0.000	0.00				+/-10.0000			mg/Kg	
LB67948BSS	**LB67948BSS**				S	9/28/13						
Reactive Sulfide		PASS	216.000	216.00		86.0	80.00	120.00			mg/Kg	
E3896-01	**P001-DW-1016-1**			1	S	9/28/13						
Reactive Sulfide		PASS	25.600	26.00							mg/Kg	
E3896-01D	**P001-DW-1016-1D**			1	S	9/28/13						
Reactive Sulfide		PASS	25.600	26.00					0	20	mg/Kg	
E3896-01S	**P001-DW-1016-1S**			1	S	9/28/13						
Reactive Sulfide		PASS	238.400	238.0		85.0	75	125			mg/Kg	
E3896-02	**P001-DW-1019-1**			1	S	9/28/13						
Reactive Sulfide		PASS	30.400	30.00							mg/Kg	
E3896-03	**P001-DW-1024-1**			1	S	9/28/13						
Reactive Sulfide		PASS	28.800	29.00							mg/Kg	
E3896-04	**P001-DW-2090-1**			1	S	9/28/13						
Reactive Sulfide		PASS	25.600	26.00							mg/Kg	
E3896-05	**P001-DW-2090-2**			1	S	9/28/13						
Reactive Sulfide		PASS	27.200	27.00							mg/Kg	
E3896-06	**P001-DW-2093-1**			1	S	9/28/13						
Reactive Sulfide		PASS	28.800	29.00							mg/Kg	
E3896-07	**P001-DW-2094-1**			1	S	9/28/13						
Reactive Sulfide		PASS	38.400	38.00							mg/Kg	
E3896-08	**P001-DW-2100-1**			1	S	9/28/13						
Reactive Sulfide		PASS	30.400	30.00							mg/Kg	
E3896-09	**P001-DW-2112-1**			1	S	9/28/13						
Reactive Sulfide		PASS	32.000	32.00							mg/Kg	
E3896-10	**P001-DW-2121-1**			1	S	9/28/13						
Reactive Sulfide		PASS	38.400	38.00							mg/Kg	
E3896-11	**P001-DW-4006-1**			1	S	9/28/13						
Reactive Sulfide		PASS	30.400	30.00							mg/Kg	
E3896-16	**P001-S-3006-1**			1	S	9/28/13						
Reactive Sulfide		PASS	39.920	40.00							mg/Kg	
E3896-17	**P001-S-3007-1**			1	S	9/28/13						
Reactive Sulfide		PASS	38.323	38.00							mg/Kg	
E3896-18	**P001-S-3008-1**			1	S	9/28/13						
Reactive Sulfide		PASS	33.600	34.00							mg/Kg	
E3896-19	**P001-S-3009-1**			1	S	9/28/13						
Reactive Sulfide		PASS	41.434	41.00							mg/Kg	
E3896-20	**P001-TW-2115-1**			1	S	9/28/13						
Reactive Sulfide		PASS	39.841	40.00							mg/Kg	

Reviewed By:jim
On:10/1/2013 5:12:23 PM
Inst Id: Titrametric
LB :LB67948

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : JM
Data File : LB67948.MDB

Approved By :
Approved Date : 10/1/13
Worksheet # :

Lab Sample ID / Parameter	Client ID	Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Sulfide											
E3896-21	**P001-TW-6038-1**		1	S	9/28/13						
Reactive Sulfide	PASS	39.841	40.00							mg/Kg	
E3896-22	**P001-TW-6038-2**		1	S	9/28/13						
Reactive Sulfide	PASS	38.247	38.00							mg/Kg	
E3896-24	**P001-DW-2113-1**		1	S	9/28/13						
Reactive Sulfide	PASS	36.653	37.00							mg/Kg	

Reviewed By:jim
On:10/1/2013 5:12:23 PM
Inst Id :Titrametric
LB :LB67948

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analytical Summary Report

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67948
Instrument: Titrimetric

ANALYST RUN: Jm
REVIEWED BY: pd

Standard Type: LCSS / LCSD **Lot #:** WP28968 **Concentration:** 25PPM

Titrant 1 = Iodine Solutions W1757 **Titrant 2 =** Sodium Thiosulphate W1700

Normality 1 = 0.0250N **Normality 2 =** 0.0250N

Constant = 16000 Starch W1805

Formula = ((Titrant 1 * Normality 1) - (Titrant 2 * Normality 2)) * Constant / ml of Sample

Seq	Lab ID	Sample Type	~~mLg~~ of Sample	mL Titrant 1	Normality 1	mL Titrant 2	Normality 2	Result ppm/~~ppb~~	Analytical Date
1	LB67948BLS	MB	5.00	5.00	0.025	5.00	0.025	0.000	9/28/13
2	LB67948BSS	LCS	5.00	5.00	0.025	2.30	0.025	216.000	9/28/13
3	E3896-01	SAM	5.00	5.00	0.025	4.68	0.025	25.600	9/28/13
4	E3896-01D	DUP	5.00	5.00	0.025	4.68	0.025	25.600	9/28/13
5	E3896-01S	MS	5.00	5.00	0.025	2.02	0.025	238.400	9/28/13
6	E3896-02	SAM	5.00	5.00	0.025	4.62	0.025	30.400	9/28/13
7	E3896-03	SAM	5.00	5.00	0.025	4.64	0.025	28.800	9/28/13
8	E3896-04	SAM	5.00	5.00	0.025	4.68	0.025	25.600	9/28/13
9	E3896-05	SAM	5.00	5.00	0.025	4.66	0.025	27.200	9/28/13
10	E3896-06	SAM	5.00	5.00	0.025	4.64	0.025	28.800	9/28/13
11	E3896-07	SAM	5.00	5.00	0.025	4.52	0.025	38.400	9/28/13
12	E3896-08	SAM	5.00	5.00	0.025	4.62	0.025	30.400	9/28/13
13	E3896-09	SAM	5.00	5.00	0.025	4.60	0.025	32.000	9/28/13
14	E3896-10	SAM	5.00	5.00	0.025	4.52	0.025	38.400	9/28/13
15	E3896-11	SAM	5.00	5.00	0.025	4.62	0.025	30.400	9/28/13
16	E3896-16	SAM	5.01	5.00	0.025	4.50	0.025	39.920	9/28/13
17	E3896-17	SAM	5.01	5.00	0.025	4.52	0.025	38.323	9/28/13
18	E3896-18	SAM	5.00	5.00	0.025	4.58	0.025	33.600	9/28/13
19	E3896-19	SAM	5.02	5.00	0.025	4.48	0.025	41.434	9/28/13
20	E3896-20	SAM	5.02	5.00	0.025	4.50	0.025	39.841	9/28/13
21	E3896-21	SAM	5.02	5.00	0.025	4.50	0.025	39.841	9/28/13
22	E3896-22	SAM	5.02	5.00	0.025	4.52	0.025	38.247	9/28/13
23	E3896-24	SAM	5.02	5.00	0.025	4.54	0.025	36.653	9/28/13

Page # 1 of 1

Reviewed By:apatel
On:10/2/2013 6:33:07 PM
Inst Id: Titrametric
LB: LB67949

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analytical Summary Report

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67949
Instrument: Titrametric

ANALYST : Jm
REVIEWED BY: [illegible]

Standard Type: LCSS **Lot #:** WP28967 **Concentration:** 25 PPM
Titrant 1 = W1757 **Titrant 2 =** Sodium Thiosulfate W1700
Normality 1 = 0.025 **Normality 2 =** 0.025
Constant = 16000 starch - W1805

Formula = ((Titrant 1 * Normality 1) - (Titrant 2 * Normality 2)) * Constant / ml of Sample

Seq	Lab ID	Sample Type	~~mL~~ g of Sample	mL Titrant 1	Normality 1	mL Titrant 2	Normality 2	Initial pH	Analytical Date
1	LB67949BLS	MB	5.00	5.00	0.025	5.00	0.025		9-28-13
2	LB67949BSS	LCS	5.00	5.00		2.26			
3	E3861-02	SAM	5.01	5.00		5.00			
4	E3861-02D	DUP	5.01	5.00		5.00			
5	E3861-02S	MS	5.01	5.00		2.28			
6	E3896-12	SAM	5.01	5.00		~~4.48~~ 4.60			
7	E3896-13	SAM	5.00	5.00		~~4.42~~ 4.50			
8	E3896-14	SAM	5.01	5.00		~~4.40~~ 4.52			
9	E3896-15	SAM	5.02	5.00		4.52			
10	E3897-01	SAM	5.01	5.00		4.48			
11	E3897-02	SAM	5.02	5.00		4.42			
12	E3897-03	SAM	5.01	5.00		4.40			

Jm 9-28-13 9-28-13

Start time 11:45 Am
End time 12:30 PM

Page # 1 of 1

Reviewed By:apatel
On 10/2/2013 6:33:07 PM
Inst Id :Titrametric
LB :LB67949

LB67949

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67949
Instrument: Titrimetric

M 9034 - SM4500 S F - Sulfide - 09

Reviewed By:apatel
On:10/2/2013 6:33:07 PM
Inst Id: Titrametric
LB: LB67949

Chemtech Consulting Group

Analytical Review Report

Date Printed : 10/1/13
Analyst : jm
Data File : LB67949.MDB

Approved By :
Approved Date :
Worksheet # :

Lab Sample ID / Parameter	Client ID		Raw Amt PPB	Dil / Final Conc	Matrix	A. Date / %Rec	Prep Method / LCL	Analysis Method / UCL	RPD	Max RPD	Units	Line 1 / Line 2
Reactive Sulfide												
LB67949BLS	**LB67949BLS**				S	9/28/13						
Reactive Sulfide		PASS	0.000	0.00				+/-10.0000			mg/Kg	
LB67949BSS	**LB67949BSS**				S	9/28/13						
Reactive Sulfide		PASS	219.200	219.00		88.0	80.00	120.00			mg/Kg	
E3861-02	**WC1**			1	S	9/28/13						
Reactive Sulfide		PASS	0.000	0.000							mg/Kg	
E3861-02D	**WC1D**			1	S	9/28/13						
Reactive Sulfide		PASS	0.000	0.00					0	20	mg/Kg	
E3861-02S	**WC1S**			1	S	9/28/13						
Reactive Sulfide		PASS	217.166	217.0		87.0	75	125			mg/Kg	
E3896-12	**P001-S-2002-1**			1	S	9/28/13						
Reactive Sulfide		PASS	31.936	32.00							mg/Kg	
E3896-13	**P001-S-2003-1**			1	S	9/28/13						
Reactive Sulfide		PASS	40.000	40.00							mg/Kg	
E3896-14	**P001-S-3004-1**			1	S	9/28/13						
Reactive Sulfide		PASS	38.323	38.00							mg/Kg	
E3896-15	**P001-S-3005-1**			1	S	9/28/13						
Reactive Sulfide		PASS	38.247	38.00							mg/Kg	
E3897-01	**P001-S-3010-1**			1	S	9/28/13						
Reactive Sulfide		PASS	41.517	42.00							mg/Kg	
E3897-02	**P001-S-3011-1**			1	S	9/28/13						
Reactive Sulfide		PASS	46.215	46.00							mg/Kg	
E3897-03	**P001-S-3012-1**			1	S	9/28/13						
Reactive Sulfide		PASS	47.904	48.00							mg/Kg	

Reviewed By:apatel
On:10/2/2013 6:33:07 PM
Inst Id :Titrametric
LB :LB67949

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-892

Analytical Summary Report

Analysis Method: 9034 Reactive Sulfide
Parameter: Reactive Sulfide
Run Number: LB67949
Instrument: Titrimetric

ANALYST RUN: Jm
REVIEWED BY: MB

Standard Type: LCSS / LCSD **Lot #:** WP28967 **Concentration:** 25PPM

Titrant 1 = Iodine Solutions W1757 **Titrant 2 =** Sodium Thiosulphate W1700

Normality 1 = 0.0250N **Normality 2 =** 0.0250N

Constant = 16000 Starch W1805

Formula = ((Titrant 1 * Normality 1) - (Titrant 2 * Normality 2)) * Constant / ml of Sample

Seq	Lab ID	Sample Type	~~mL~~ g of Sample	mL Titrant 1	Normality 1	mL Titrant 2	Normality 2	Result ppm/~~ppb~~	Analytical Date
1	LB67949BLS	MB	5.00	5.00	0.025	5.00	0.025	0.000	9/28/13
2	LB67949BSS	LCS	5.00	5.00	0.025	2.26	0.025	219.200	9/28/13
3	E3861-02	SAM	5.01	5.00	0.025	5.00	0.025	0.000	9/28/13
4	E3861-02D	DUP	5.01	5.00	0.025	5.00	0.025	0.000	9/28/13
5	E3861-02S	MS	5.01	5.00	0.025	2.28	0.025	217.166	9/28/13
6	E3896-12	SAM	5.01	5.00	0.025	4.60	0.025	31.936	9/28/13
7	E3896-13	SAM	5.00	5.00	0.025	4.50	0.025	40.000	9/28/13
8	E3896-14	SAM	5.01	5.00	0.025	4.52	0.025	38.323	9/28/13
9	E3896-15	SAM	5.02	5.00	0.025	4.52	0.025	38.247	9/28/13
10	E3897-01	SAM	5.01	5.00	0.025	4.48	0.025	41.517	9/28/13
11	E3897-02	SAM	5.02	5.00	0.025	4.42	0.025	46.215	9/28/13
12	E3897-03	SAM	5.01	5.00	0.025	4.40	0.025	47.904	9/28/13

Page # 1 of 1

CHEMTECH Preparation Log LB67944 **PB72521**

SOP : M 9010C - Total, Amenable & Reactive Cyanide -13	Batch# PB72521
TEMP Set1: —— Set2: ——	Preparation Date: 9-28-13
Balance Check(g): Metals PJ 400	Preparation Time: 7:15 Am
Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: ——	Time In: 7:45 Am
Final Vol: 50mL	Time: Out 9:15 Am
	Reviewed By: pb
	Preparation Signature: Jm

Standared Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	2.0 mL	WP26017
Matrix Spike	0.4 mL	WP27336

Chemical Used	ML/Sample Used	Lot Number
0.25N NaOH	50 mL	WP28340
50% v/v H2SO4	5.0 mL	WP25493
51% w/v MgCL2	2.0 mL	WP28378
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
9-28-13 9:30 Am	HM	Jm	WCREF #2
	Analysis Group	Digestion Group	

COMMENTS

CHEMTECH Preparation Log PrepBatch ID : PB72521

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72521

Lab Sample ID	Client Sample ID	Matrix	Weight/g Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-01	P001-DW-1016-1	SOIL	5.00	NA	NA	NA		
E3896-01DUP	P001-DW-1016-1DUP		5.00					
E3896-01MS	P001-DW-1016-1MS		5.00				TV=40PPB	
E3896-02	P001-DW-1019-1		5.00					
E3896-03	P001-DW-1024-1		5.00					
E3896-04	P001-DW-2090-1		5.00					
E3896-05	P001-DW-2090-2		5.00					
E3896-06	P001-DW-2093-1		5.00					
E3896-07	P001-DW-2094-1		5.00					
E3896-08	P001-DW-2100-1		5.00					
E3896-09	P001-DW-2112-1		5.00					
E3896-10	P001-DW-2121-1		5.00					
E3896-11	P001-DW-4006-1		5.00					
E3896-16	P001-S-3006-1		5.01					
E3896-17	P001-S-3007-1		5.01					
E3896-18	P001-S-3008-1		5.01					
E3896-19	P001-S-3009-1		5.02					
E3896-20	P001-TW-2115-1		5.00					
E3896-21	P001-TW-6038-1		5.00					
E3896-22	P001-TW-6038-2		5.00					
E3896-24	P001-DW-2113-1		5.00					
PB72521BL	PB72521BL		5.00					
PB72521BS	PB72521BS		5.00					

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PB72521

SOP : M 9010C - Total, Amenable + Reactive Cyanide - 13

TEMP Set1: — Set2: —

Balance Check(g): Metal PJ400

Wt1: 1.00g Wt2: 10.00g Wt3: —

1.00g 10.00g

Final Vol: 50 mL

Batch# PB72521

Preparation Date: 09/28/2013

Preparation Time: 07:15 AM

Time In: 7:45 AM

Time: Out 9:15 AM

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standard Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	2.0 mL	WP26017
Matrix Spike	0.4 mL	WP27336

Chemical Used	ML/Sample Used	Lot Number
0.25N NaOH	50 mL	WP28340
50% v/v H2SO4	5.0 mL	WP25493
51% w/v MgCL2	2.0 mL	WP28378
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
9-28-13 9:30AM	HM	[illegible]	WCREF #2
	Analysis Group	Digestion Group	

COMMENTS

CHEMTECH Preparation Log

PrepBatch ID : PB72521

Lab Sample ID	Client Sample ID	Matrix	Weight/Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-01	P001-DW-1016-1	SOIL	5.00	NA	N/A	N/A		
E3896-01DUP	P001-DW-1016-1DUP	SOIL	5.00	NA	N/A	N/A		
E3896-01MS	P001-DW-1016-1MS	SOIL	5.00	NA	N/A	N/A	TV = 40 PPB	

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72521

Lab Sample ID	Client Sample ID	Matrix	Weight/g ~~Volume~~	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-02	P001-DW-1019-1	SOIL	5.00	NA	N/A	N/A		
E3896-03	P001-DW-1024-1	SOIL	5.00	NA	N/A	N/A		
E3896-04	P001-DW-2090-1	SOIL	5.00	NA	N/A	N/A		
E3896-05	P001-DW-2090-2	SOIL	5.00	NA	N/A	N/A		
E3896-06	P001-DW-2093-1	SOIL	5.00	NA	N/A	N/A		
E3896-07	P001-DW-2094-1	SOIL	5.00	NA	N/A	N/A		
E3896-08	P001-DW-2100-1	SOIL	5.00	NA	N/A	N/A		
E3896-09	P001-DW-2112-1	SOIL	5.00	NA	N/A	N/A		
E3896-10	P001-DW-2121-1	SOIL	5.00	NA	N/A	N/A		
E3896-11	P001-DW-4006-1	SOIL	5.00	NA	N/A	N/A		
E3896-16	P001-S-3006-1	SOIL	5.01	NA	N/A	N/A		
E3896-17	P001-S-3007-1	SOIL	5.01	NA	N/A	N/A		
E3896-18	P001-S-3008-1	SOIL	5.01	NA	N/A	N/A		
E3896-19	P001-S-3009-1	SOIL	5.02	NA	N/A	N/A		
E3896-20	P001-TW-2115-1	SOIL	5.00	NA	N/A	N/A		
E3896-21	P001-TW-6038-1	SOIL	5.00	NA	N/A	N/A		
E3896-22	P001-TW-6038-2	SOIL	5.00	NA	N/A	N/A		
E3896-24	P001-DW-2113-1	SOIL	5.00	NA	N/A	N/A		
PB72521BL	PB72521BL	SOIL	5.00	NA	N/A	N/A		
PB72521BS	PB72521BS	SOIL	5.00	NA	N/A	N/A		

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log LB67946 PB72524

SOP : M 9010C - Total, Amenable + Reactive Cyanide - 13

TEMP Set1: — Set2: —

Balance Check(g): Metlb PJ400

Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: —

Final Vol: 50mL

Batch# PB72524

Preparation Date: 9-28-13

Preparation Time: 9:30 Am

Time In: 10:00 Am

Time: Out 11:30 Am

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standard Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	2.0 mL	WP26017
Matrix Spike	0.4 mL	WP27336

Chemical Used	ML/Sample Used	Lot Number
0.25N NaOH	50 mL	WP28340
50% v/v H2SO4	5.0 mL	WP25493
51% w/v MgCL2	2.0 mL	WP28378
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
9-28-13 11:50Am	HM	[illegible]	WCREF # 2
	Analysis Group	Digestion Group	

COMMENTS

CHEMTECH Preparation Log PrepBatch ID : PB72524

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH **Preparation Log** **PrepBatch ID : PB72524**

Lab Sample ID	Client Sample ID	Matrix	Weight/g Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3861-02	WC1	SOIL	5.01	NA	NA	NA		
E3861-02DUP	WC1DUP		5.01					
E3861-02MS	WC1MS		5.01				TV= 40 PPB	
E3896-12	P001-S-2002-1		5.01					
E3896-13	P001-S-2003-1		5.01					
E3896-14	P001-S-3004-1		5.01					
E3896-15	P001-S-3005-1		5.02					
E3897-01	P001-S-3010-1		5.01					
E3897-02	P001-S-3011-1		5.01					
E3897-03	P001-S-3012-1		5.01					
PB72524BL	PB72524BL		5.00					
PB72524BS	PB72524BS		5.00					

1 2 3 4 5 6 7 8 9 10 11 12 13

*** BL=Blank BS=Blank Spike TB=TCLP Blank**

CHEMTECH Preparation Log

PB72524

SOP : M 9010C - Total Amenable & Reactive Cyanide -13	Batch# PB72524
TEMP Set1: — Set2: —	Preparation Date: 09/28/2013
	Preparation Time: 09:30 Am
	Time In: 10:00 Am
Balance Check(g):	Time: Out 11:30 Am
Wt1: Wt2: Wt3: —	Reviewed By:
Final Vol: 50mL	Preparation Signature:

Standared Name	MLS USED	STD REF. # FROM LOG
PBW PBS	50 mL	W1152
LCSS	2.0 mL	WP26017
Matrix Spike	0.4 mL	WP27336

Chemical Used	ML/Sample Used	Lot Number
0.25N NaOH	50 mL	WP28340
50% v/v H2SO4	5.0 mL	WP25493
51% w/v MgCL2	2.0 mL	WP28378
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
9-28-13 11:50 Am	HM		WCREF #2
	Analysis Group	Digestion Group	

COMMENTS

CHEMTECH Preparation Log

PrepBatch ID : PB72524

Lab Sample ID	Client Sample ID	Matrix	Weight/Volume g	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3861-02	WC1	SOIL	5.01	NA	N/A	N/A		
E3861-02DUP	WC1DUP	SOIL	5.01	NA	N/A	N/A		
E3861-02MS	WC1MS	SOIL	5.01	NA	N/A	N/A	TV = 40 PPB	

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72524

Lab Sample ID	Client Sample ID	Matrix	Weight/Volume g	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-12	P001-S-2002-1	SOIL	5.01	NA	N/A	N/A		
E3896-13	P001-S-2003-1	SOIL	5.01	NA	N/A	N/A		
E3896-14	P001-S-3004-1	SOIL	5.01	NA	N/A	N/A		
E3896-15	P001-S-3005-1	SOIL	5.02	NA	N/A	N/A		
E3897-01	P001-S-3010-1	SOIL	5.01	NA	N/A	N/A		
E3897-02	P001-S-3011-1	SOIL	5.01	NA	N/A	N/A		
E3897-03	P001-S-3012-1	SOIL	5.01	NA	N/A	N/A		
PB72524BL	PB72524BL	SOIL	5.00	NA	N/A	N/A		
PB72524BS	PB72524BS	SOIL	5.00	NA	N/A	N/A		

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PB72526

SOP : M 9030B-Sulfide-07

TEMP Set1: — Set2: —

Balance Check(g): Metals PJ 400

Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: —

Final Vol: 50mL

Batch# PB72526

Preparation Date: 9-28-13

Preparation Time: 2:00 Pm

Time In: 2:30 Pm

Time: Out 4:00 Pm

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standared Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	1.25 mL	WP27067
Matrix Spike	1.25mL	WP27067

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	

COMMENTS

[illegible] 9-28-13

CHEMTECH Preparation Log

PrepBatch ID : PB72526

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72526

Lab Sample ID	Client Sample ID	Matrix	Weight/g ~~Volume~~	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-01	P001-DW-1016-1	SOIL	5.00	NA	NA	NA		
E3896-01DUP	P001-DW-1016-1DUP		5.00					
E3896-01MS	P001-DW-1016-1MS		5.00				TV=25 ppm	
E3896-02	P001-DW-1019-1		5.00					
E3896-03	P001-DW-1024-1		5.00					
E3896-04	P001-DW-2090-1		5.00					
E3896-05	P001-DW-2090-2		5.00					
E3896-06	P001-DW-2093-1		5.00					
E3896-07	P001-DW-2094-1		5.00					
E3896-08	P001-DW-2100-1		5.00					
E3896-09	P001-DW-2112-1		5.00					
E3896-10	P001-DW-2121-1		5.00					
E3896-11	P001-DW-4006-1		5.00					
E3896-16	P001-S-3006-1		5.01					
E3896-17	P001-S-3007-1		5.01					
E3896-18	P001-S-3008-1		5.00					
E3896-19	P001-S-3009-1		5.02					
E3896-20	P001-TW-2115-1		5.02					
E3896-21	P001-TW-6038-1		5.02					
E3896-22	P001-TW-6038-2		5.02					
E3896-24	P001-DW-2113-1		5.02					
PB72526BL	PB72526BL		5.00					
PB72526BS	PB72526BS		5.00					

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PB72526

SOP : M 9030B-Sulfide-07

TEMP Set1: — Set2: —

Balance Check(g): Metal PJ 400

Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: —

Final Vol: 50mL

Batch# PB72526

Preparation Date: 09/28/2013

Preparation Time: 14:00

Time In: 2:30 PM

Time: Out 4:00 PM

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standared Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	1.25 mL	WP27067
Matrix Spike	1.25mL	WP27067

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	

COMMENTS

JM 9-28-13

CHEMTECH Preparation Log

PrepBatch ID : PB72526

Lab Sample ID	Client Sample ID	Matrix	Weight/g Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-01	P001-DW-1016-1	SOIL	5.00	NA	N/A	N/A		
E3896-01DUP	P001-DW-1016-1DUP	SOIL	5.00	NA	N/A	N/A		
E3896-01MS	P001-DW-1016-1MS	SOIL	5.00	NA	N/A	N/A	TV=25 PPM	

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72526

Lab Sample ID	Client Sample ID	Matrix	Weight/g Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-02	P001-DW-1019-1	SOIL	5.00	NA	N/A	N/A		
E3896-03	P001-DW-1024-1	SOIL	5.00	NA	N/A	N/A		
E3896-04	P001-DW-2090-1	SOIL	5.00	NA	N/A	N/A		
E3896-05	P001-DW-2090-2	SOIL	5.00	NA	N/A	N/A		
E3896-06	P001-DW-2093-1	SOIL	5.00	NA	N/A	N/A		
E3896-07	P001-DW-2094-1	SOIL	5.00	NA	N/A	N/A		
E3896-08	P001-DW-2100-1	SOIL	5.00	NA	N/A	N/A		
E3896-09	P001-DW-2112-1	SOIL	5.00	NA	N/A	N/A		
E3896-10	P001-DW-2121-1	SOIL	5.00	NA	N/A	N/A		
E3896-11	P001-DW-4006-1	SOIL	5.00	NA	N/A	N/A		
E3896-16	P001-S-3006-1	SOIL	5.01	NA	N/A	N/A		
E3896-17	P001-S-3007-1	SOIL	5.01	NA	N/A	N/A		
E3896-18	P001-S-3008-1	SOIL	5.00	NA	N/A	N/A		
E3896-19	P001-S-3009-1	SOIL	5.02	NA	N/A	N/A		
E3896-20	P001-TW-2115-1	SOIL	5.02	NA	N/A	N/A		
E3896-21	P001-TW-6038-1	SOIL	5.02	NA	N/A	N/A		
E3896-22	P001-TW-6038-2	SOIL	5.02	NA	N/A	N/A		
E3896-24	P001-DW-2113-1	SOIL	5.02	NA	N/A	N/A		
PB72526BL	PB72526BL	SOIL	5.00	NA	N/A	N/A		
PB72526BS	PB72526BS	SOIL	5.00	NA	N/A	N/A		

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PB72527

SOP : M 9030B-Sulfide-07

TEMP Set1: — Set2: —

Balance Check(g): Metal PJ 400

Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: —

Final Vol: 50mL

Batch# PB72527

Preparation Date: 9-28-13

Preparation Time: 9:30 AM

Time In: 10:00 AM

Time: Out 11:30 AM

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standared Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	1.25 mL	WP27067
Matrix Spike	1.25mL	WP27067

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	

COMMENTS

[illegible]

CHEMTECH Preparation Log

PrepBatch ID : PB72527

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72527

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume g	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3861-02	WC1	SOIL	5.01	NA	NA	NA		
E3861-02DUP	WC1DUP		5.01					
E3861-02MS	WC1MS		5.01				TV=25PPM	
E3896-12	P001-S-2002-1		5.01					
E3896-13	P001-S-2003-1		5.00					
E3896-14	P001-S-3004-1		5.01					
E3896-15	P001-S-3005-1		5.02					
E3897-01	P001-S-3010-1		5.01					
E3897-02	P001-S-3011-1		5.02					
E3897-03	P001-S-3012-1		5.01					
PB72527BL	PB72527BL		5.00					
PB72527BS	PB72527BS		5.00					

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PB72527

SOP : M 9030B-Sulfide -07

TEMP Set1: — Set2: —

Balance Check(g): Metals PJ 400

Wt1: 1.00g 1.00g Wt2: 10.00g 10.00g Wt3: —

Final Vol: 50mL

Batch# PB72527

Preparation Date: 09/28/2013

Preparation Time: 09:30 AM

Time In: 10:00 AM

Time: Out 11:30 AM

Reviewed By: [illegible]

Preparation Signature: [illegible]

Standared Name	MLS USED	STD REF. # FROM LOG
PBW/PBS	50 mL	W1152
LCSS	1.25 mL	WP27067
Matrix Spike	1.25mL	WP27067

Chemical Used	ML/Sample Used	Lot Number
0.5M ZINC ACETATE	5.0 mL	WP27069
FORMALDEHYDE	2.0 mL	W1722
Sand	5.00 g	W1268

Date / Time	Received By	Relinquished By	Location
	Analysis Group	Digestion Group	

COMMENTS

[illegible]

CHEMTECH Preparation Log

PrepBatch ID : PB72527

Lab Sample ID	Client Sample ID	Matrix	Weight/Volume	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3861-02	WC1	SOIL	5.01	NA	N/A	N/A		
E3861-02DUP	WC1DUP	SOIL	5.01	NA	N/A	N/A		
E3861-02MS	WC1MS	SOIL	5.01	NA	N/A	N/A	TV=25PPM	

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH Preparation Log

PrepBatch ID : PB72527

Lab Sample ID	Client Sample ID	Matrix	Weight/ Volume g	PH	Sulfide	Oxidizing	Comments	Prep Pos
E3896-12	P001-S-2002-1	SOIL	5.01	NA	N/A	N/A		
E3896-13	P001-S-2003-1	SOIL	5.00	NA	N/A	N/A		
E3896-14	P001-S-3004-1	SOIL	5.01	NA	N/A	N/A		
E3896-15	P001-S-3005-1	SOIL	5.02	NA	N/A	N/A		
E3897-01	P001-S-3010-1	SOIL	5.01	NA	N/A	N/A		
E3897-02	P001-S-3011-1	SOIL	5.02	NA	N/A	N/A		
E3897-03	P001-S-3012-1	SOIL	5.01	NA	N/A	N/A		
PB72527BL	PB72527BL	SOIL	5.00	NA	N/A	N/A		
PB72527BS	PB72527BS	SOIL	5.00	NA	N/A	N/A		

1 2 3 4 5 6 7 8 9 10 11 12 13

* BL=Blank BS=Blank Spike TB=TCLP Blank

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: PH METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB67936

Review By apatel Review On 10/2/2013 6:34:02 PM

STD. NAME	STD REF.#
ICAL Standard	W1812,W1813,W1779
ICV Standard	W1749
CCV Standard	W1657,W1748
ICSA Standard	
CRI Standard	
Chk Standard	

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	CAL	CAL	CAL	09/28/13 07:30		OK
2	CAL	CAL	CAL	09/28/13 07:34		OK
3	CAL	CAL	CAL	09/28/13 07:38		OK
4	ICV1	ICV1	ICV	09/28/13 07:42		OK
5	CCV1	CCV1	CCV	09/28/13 07:46		OK
6	E3896-01	P001-DW-1016-1	SAM	09/28/13 07:50		OK
7	E3896-01D	P001-DW-1016-1D	DUP	09/28/13 07:54		OK
8	E3896-02	P001-DW-1019-1	SAM	09/28/13 07:58		OK
9	E3896-03	P001-DW-1024-1	SAM	09/28/13 08:02		OK
10	E3896-04	P001-DW-2090-1	SAM	09/28/13 08:06		OK
11	E3896-05	P001-DW-2090-2	SAM	09/28/13 08:10		OK
12	E3896-06	P001-DW-2093-1	SAM	09/28/13 08:14		OK
13	E3896-07	P001-DW-2094-1	SAM	09/28/13 08:18		OK
14	E3896-08	P001-DW-2100-1	SAM	09/28/13 08:22		OK
15	E3896-09	P001-DW-2112-1	SAM	09/28/13 08:26		OK
16	CCV2	CCV2	CCV	09/28/13 08:30		OK
17	E3896-10	P001-DW-2121-1	SAM	09/28/13 08:34		OK
18	E3896-10D	P001-DW-2121-1D	DUP	09/28/13 08:38		OK
19	E3896-11	P001-DW-4006-1	SAM	09/28/13 08:42		OK
20	E3896-12	P001-S-2002-1	SAM	09/28/13 08:46		OK
21	E3896-13	P001-S-2003-1	SAM	09/28/13 08:50		OK

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: PH METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB67936

Review By	apatel	Review On	10/2/2013 6:34:02 PM

STD. NAME	STD REF.#
ICAL Standard	W1812,W1813,W1779
ICV Standard	W1749
CCV Standard	W1657,W1748
ICSA Standard	
CRI Standard	
Chk Standard	

22	E3896-14	P001-S-3004-1	SAM	09/28/13 08:54		OK
23	E3896-15	P001-S-3005-1	SAM	09/28/13 08:58		OK
24	E3896-16	P001-S-3006-1	SAM	09/28/13 09:02		OK
25	E3896-17	P001-S-3007-1	SAM	09/28/13 09:06		OK
26	E3896-18	P001-S-3008-1	SAM	09/28/13 09:10		OK
27	CCV3	CCV3	CCV	09/28/13 09:14		OK
28	E3896-19	P001-S-3009-1	SAM	09/28/13 09:18		OK
29	E3896-19D	P001-S-3009-1D	DUP	09/28/13 09:22		OK
30	E3896-20	P001-TW-2115-1	SAM	09/28/13 09:26		OK
31	E3896-21	P001-TW-6038-1	SAM	09/28/13 09:30		OK
32	E3896-22	P001-TW-6038-2	SAM	09/28/13 09:34		OK
33	E3896-24	P001-DW-2113-1	SAM	09/28/13 09:38		OK
34	CCV4	CCV4	CCV	09/28/13 09:42		OK

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Instrument ID: GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67938

Review By apatel Review On 10/2/2013 6:33:48 PM

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
Chk Standard	

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	E3896-12	P001-S-2002-1	SAM	09/28/13 10:00		OK
2	E3896-12D	P001-S-2002-1D	DUP	09/28/13 10:00		OK
3	E3896-13	P001-S-2003-1	SAM	09/28/13 10:00		OK
4	E3896-14	P001-S-3004-1	SAM	09/28/13 10:00		OK
5	E3896-15	P001-S-3005-1	SAM	09/28/13 10:00		OK
6	E3896-16	P001-S-3006-1	SAM	09/28/13 10:00		OK
7	E3896-17	P001-S-3007-1	SAM	09/28/13 10:00		OK
8	E3896-18	P001-S-3008-1	SAM	09/28/13 10:00		OK
9	E3896-19	P001-S-3009-1	SAM	09/28/13 10:00		OK

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Instrument ID: GRAVIMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67940

Review By apatel Review On 10/2/2013 6:33:40 PM

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	W1585
CCV Standard	
ICSA Standard	
CRI Standard	
Chk Standard	

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	ICV1	ICV1	ICV	09/28/13 12:00		OK
2	E3896-01	P001-DW-1016-1	SAM	09/28/13 12:00		OK
3	E3896-01D	P001-DW-1016-1D	DUP	09/28/13 12:00		OK
4	E3896-02	P001-DW-1019-1	SAM	09/28/13 12:00		OK
5	E3896-03	P001-DW-1024-1	SAM	09/28/13 12:00		OK
6	E3896-04	P001-DW-2090-1	SAM	09/28/13 12:00		OK
7	E3896-05	P001-DW-2090-2	SAM	09/28/13 12:00		OK
8	E3896-06	P001-DW-2093-1	SAM	09/28/13 12:00		OK
9	E3896-07	P001-DW-2094-1	SAM	09/28/13 12:00		OK
10	E3896-08	P001-DW-2100-1	SAM	09/28/13 12:00		OK
11	E3896-09	P001-DW-2112-1	SAM	09/28/13 12:00		OK
12	E3896-10	P001-DW-2121-1	SAM	09/28/13 12:00		OK
13	E3896-11	P001-DW-4006-1	SAM	09/28/13 12:00		OK
14	E3896-20	P001-TW-2115-1	SAM	09/28/13 12:00		OK
15	E3896-21	P001-TW-6038-1	SAM	09/28/13 12:00		OK
16	E3896-22	P001-TW-6038-2	SAM	09/28/13 12:00		OK
17	E3896-24	P001-DW-2113-1	SAM	09/28/13 12:00		OK

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Instrument ID: KONELAB 20

Daily Analysis Runlog For Sequence/QCBatch ID # LB67944

Review By apatel Review On 10/2/2013 6:33:31 PM

STD. NAME	STD REF.#
ICAL Standard	WP28972,WP28973,WP28974,WP28975,WP28976,WP28977,WP28978
ICV Standard	WP28980
CCV Standard	WP28979
ICSA Standard	
CRI Standard	
Chk Standard	WP25452,WP25453,WP28970

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL	09/30/13 09:47		OK
2	5.0PPBCN	5.0PPBCN	CAL	09/30/13 09:47		OK
3	10PPBCN	10PPBCN	CAL	09/30/13 09:47		OK
4	50PPBCN	50PPBCN	CAL	09/30/13 09:47		OK
5	100PPBCN	100PPBCN	CAL	09/30/13 09:47		OK
6	250PPBCN	250PPBCN	CAL	09/30/13 09:47		OK
7	500PPBCN	500PPBCN	CAL	09/30/13 09:47		OK
8	LOW	LOW	LDS	09/30/13 10:06		OK
9	HIGH	HIGH	HDS	09/30/13 10:06		OK
10	ICV1	ICV1	ICV	09/30/13 11:32		OK
11	ICB1	ICB1	ICB	09/30/13 11:32		OK
12	CCV1	CCV1	CCV	09/30/13 11:32		OK
13	CCB1	CCB1	CCB	09/30/13 11:32		OK
14	LB67944BLS	LB67944BLS	MB	09/30/13 11:32		OK
15	LB67944BSS	LB67944BSS	LCS	09/30/13 11:32		OK
16	E3896-01	P001-DW-1016-1	SAM	09/30/13 11:32		OK
17	E3896-01D	P001-DW-1016-1D	DUP	09/30/13 11:32		OK
18	E3896-01S	P001-DW-1016-1S	MS	09/30/13 11:32		OK
19	E3896-02	P001-DW-1019-1	SAM	09/30/13 11:32		OK
20	E3896-03	P001-DW-1024-1	SAM	09/30/13 11:32		OK
21	E3896-04	P001-DW-2090-1	SAM	09/30/13 11:40		OK

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Instrument ID: KONELAB 20

Daily Analysis Runlog For Sequence/QCBatch ID # LB67944

Review By apatel Review On 10/2/2013 6:33:31 PM

STD. NAME	STD REF.#
ICAL Standard	WP28972,WP28973,WP28974,WP28975,WP28976,WP28977,WP28978
ICV Standard	WP28980
CCV Standard	WP28979
ICSA Standard	
CRI Standard	
Chk Standard	WP25452,WP25453,WP28970

22	E3896-05	P001-DW-2090-2	SAM	09/30/13 11:40		OK
23	E3896-06	P001-DW-2093-1	SAM	09/30/13 11:40		OK
24	CCV2	CCV2	CCV	09/30/13 11:40		OK
25	CCB2	CCB2	CCB	09/30/13 11:40		OK
26	E3896-07	P001-DW-2094-1	SAM	09/30/13 11:40		OK
27	E3896-08	P001-DW-2100-1	SAM	09/30/13 11:40		OK
28	E3896-09	P001-DW-2112-1	SAM	09/30/13 11:40		OK
29	E3896-10	P001-DW-2121-1	SAM	09/30/13 11:40		OK
30	E3896-11	P001-DW-4006-1	SAM	09/30/13 11:40		OK
31	E3896-16	P001-S-3006-1	SAM	09/30/13 11:40		OK
32	E3896-17	P001-S-3007-1	SAM	09/30/13 11:47		OK
33	E3896-18	P001-S-3008-1	SAM	09/30/13 11:47		OK
34	E3896-19	P001-S-3009-1	SAM	09/30/13 11:47		OK
35	E3896-20	P001-TW-2115-1	SAM	09/30/13 11:47		OK
36	CCV3	CCV3	CCV	09/30/13 11:47		OK
37	CCB3	CCB3	CCB	09/30/13 11:47		OK
38	E3896-21	P001-TW-6038-1	SAM	09/30/13 11:47		OK
39	E3896-22	P001-TW-6038-2	SAM	09/30/13 11:47		OK
40	E3896-24	P001-DW-2113-1	SAM	09/30/13 11:47		OK
41	CCV4	CCV4	CCV	09/30/13 11:47		OK
42	CCB4	CCB4	CCB	09/30/13 11:47		OK

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Instrument ID: KONELAB 20

Daily Analysis Runlog For Sequence/QCBatch ID # LB67946

Review By heta Review On 10/1/2013 6:38:04 PM

STD. NAME	STD REF.#
ICAL Standard	WP28972,WP28973,WP28974,WP28975,WP28976,WP28977,WP28978
ICV Standard	WP28980
CCV Standard	WP28979
ICSA Standard	
CRI Standard	
Chk Standard	WP25452,WP25453,WP28970

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL	09/30/13 09:47		OK
2	5.0PPBCN	5.0PPBCN	CAL	09/30/13 09:47		OK
3	10PPBCN	10PPBCN	CAL	09/30/13 09:47		OK
4	50PPBCN	50PPBCN	CAL	09/30/13 09:47		OK
5	100PPBCN	100PPBCN	CAL	09/30/13 09:47		OK
6	250PPBCN	250PPBCN	CAL	09/30/13 09:47		OK
7	500PPBCN	500PPBCN	CAL	09/30/13 09:47		OK
8	LOW	LOW	LDS	09/30/13 10:06		OK
9	HIGH	HIGH	HDS	09/30/13 10:06		OK
10	ICV1	ICV1	ICV	09/30/13 12:27		OK
11	ICB1	ICB1	ICB	09/30/13 12:27		OK
12	CCV1	CCV1	CCV	09/30/13 12:27		OK
13	CCB1	CCB1	CCB	09/30/13 12:27		OK
14	LB67946BLS	LB67946BLS	MB	09/30/13 12:27		OK
15	LB67946BSS	LB67946BSS	LCS	09/30/13 12:27		OK
16	E3896-12	P001-S-2002-1	SAM	09/30/13 12:27		OK
17	E3896-13	P001-S-2003-1	SAM	09/30/13 12:27		OK
18	E3896-14	P001-S-3004-1	SAM	09/30/13 12:34		OK
19	E3896-15	P001-S-3005-1	SAM	09/30/13 12:34		OK
20	E3897-01	P001-S-3010-1	SAM	09/30/13 12:34		OK
21	CCV2	CCV2	CCV	09/30/13 12:34		OK

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Instrument ID: KONELAB 20

Daily Analysis Runlog For Sequence/QCBatch ID # LB67946

Review By heta Review On 10/1/2013 6:38:04 PM

STD. NAME	STD REF.#
ICAL Standard	WP28972,WP28973,WP28974,WP28975,WP28976,WP28977,WP28978
ICV Standard	WP28980
CCV Standard	WP28979
ICSA Standard	
CRI Standard	
Chk Standard	WP25452,WP25453,WP28970

22	CCB2	CCB2	CCB	09/30/13 12:34		OK
23	E3897-02	P001-S-3011-1	SAM	09/30/13 12:34		OK
24	E3897-03	P001-S-3012-1	SAM	09/30/13 12:34		OK
25	E3861-02	WC1	SAM	09/30/13 12:58		OK
26	E3861-02D	WC1D	DUP	09/30/13 12:58		OK
27	E3861-02S	WC1S	MS	09/30/13 12:58		OK
28	CCV3	CCV3	CCV	09/30/13 12:58		OK
29	CCB3	CCB3	CCB	09/30/13 12:58		OK

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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67948

Review By apatel Review On 10/2/2013 6:33:23 PM

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
Chk Standard	W1700,W1757,W1805

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	LB67948BLS	LB67948BLS	MB	09/28/13 16:45		OK
2	LB67948BSS	LB67948BSS	LCS	09/28/13 16:45		OK
3	E3896-01	P001-DW-1016-1	SAM	09/28/13 16:45		OK
4	E3896-01D	P001-DW-1016-1D	DUP	09/28/13 16:45		OK
5	E3896-01S	P001-DW-1016-1S	MS	09/28/13 16:45		OK
6	E3896-02	P001-DW-1019-1	SAM	09/28/13 16:45		OK
7	E3896-03	P001-DW-1024-1	SAM	09/28/13 16:45		OK
8	E3896-04	P001-DW-2090-1	SAM	09/28/13 16:45		OK
9	E3896-05	P001-DW-2090-2	SAM	09/28/13 16:45		OK
10	E3896-06	P001-DW-2093-1	SAM	09/28/13 16:45		OK
11	E3896-07	P001-DW-2094-1	SAM	09/28/13 16:45		OK
12	E3896-08	P001-DW-2100-1	SAM	09/28/13 16:45		OK
13	E3896-09	P001-DW-2112-1	SAM	09/28/13 16:45		OK
14	E3896-10	P001-DW-2121-1	SAM	09/28/13 16:45		OK
15	E3896-11	P001-DW-4006-1	SAM	09/28/13 16:45		OK
16	E3896-16	P001-S-3006-1	SAM	09/28/13 16:45		OK
17	E3896-17	P001-S-3007-1	SAM	09/28/13 16:45		OK
18	E3896-18	P001-S-3008-1	SAM	09/28/13 16:45		OK
19	E3896-19	P001-S-3009-1	SAM	09/28/13 16:45		OK
20	E3896-20	P001-TW-2115-1	SAM	09/28/13 16:45		OK
21	E3896-21	P001-TW-6038-1	SAM	09/28/13 16:45		OK

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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67948

Review By	apatel	Review On	10/2/2013 6:33:23 PM

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
Chk Standard	W1700,W1757,W1805

22	E3896-22	P001-TW-6038-2	SAM	09/28/13 16:45		OK
23	E3896-24	P001-DW-2113-1	SAM	09/28/13 16:45		OK

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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB67949

Review By	AHPatel	Review On	10/3/2013 6:32:45 AM

STD. NAME	STD REF.#
ICAL Standard	
ICV Standard	
CCV Standard	
ICSA Standard	
CRI Standard	
Chk Standard	W1700,W1757,W1805

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	LB67949BLS	LB67949BLS	MB	09/28/13 11:45		OK
2	LB67949BSS	LB67949BSS	LCS	09/28/13 11:45		OK
3	E3861-02	WC1	SAM	09/28/13 11:45		OK
4	E3861-02D	WC1D	DUP	09/28/13 11:45		OK
5	E3861-02S	WC1S	MS	09/28/13 11:45		OK
6	E3896-12	P001-S-2002-1	SAM	09/28/13 11:45		OK
7	E3896-13	P001-S-2003-1	SAM	09/28/13 11:45		OK
8	E3896-14	P001-S-3004-1	SAM	09/28/13 11:45		OK
9	E3896-15	P001-S-3005-1	SAM	09/28/13 11:45		OK
10	E3897-01	P001-S-3010-1	SAM	09/28/13 11:45		OK
11	E3897-02	P001-S-3011-1	SAM	09/28/13 11:45		OK
12	E3897-03	P001-S-3012-1	SAM	09/28/13 11:45		OK

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Prep Standard - Chemical Standard Summary

Order ID : E3896

Test : Corrosivity,Flash Point,Ignitability,Reactive Cyanide,Reactive Sulfide

Prepbatch ID : PB72521,PB72524,PB72526,PB72527,

Sequence ID/Qc Batch ID: LB67936,LB67938,LB67940,lb67944,lb67946,LB67948,LB67949,

Standard ID :
WP24646,WP25452,WP25453,WP25493,WP26017,WP27067,WP27069,WP27189,WP27336,WP28340,WP28378,WP28967,WP28968,WP28970,WP28971,WP28972,WP28973,WP28974,WP28975,WP28976,WP28977,WP28978,WP28979,WP28980,

Chemical ID :
W1031,W1059,W1096,W1098,W1120,W1152,W1209,W1210,W1268,W1339,W1585,W1618,W1657,W1692,W1700,W1722,W1748,W1749,W1752,W1757,W1779,W1785,W1789,W1805,W1812,W1813,

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	WP24646	03/07/2013	09/07/2013	roberto

FROM 21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity: 21.000 L

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
539	CN BUFFER	WP25452	04/11/2013	10/11/2013	heta

FROM 138.000gram of W1059(SODIUM PHOSPHATE, MONOBAS/HYD, CRYS, ACS, 2.5 KG) + 862.000ml of W1152(DI Water) = Final Quantity: 1000.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
607	PYRIDINE-BARBITURIC ACID	WP25453	04/11/2013	10/11/2013	heta

FROM 145.000ml of W1152(DI Water) + 15.000gram of W1210(Barbituric Acid, 100 gms) + 15.000ml of W1096(Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)) + 75.000ml of W1209(Pyridine, 4L) = Final Quantity: 250.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2046	SULFURIC ACID 1:1	WP25493	04/15/2013	10/15/2013	jim

FROM 500.000ml of W1152(DI Water) + 500.000ml of W1692(Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)) = Final Quantity: 1000.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1749	Reactive Cyanide Spike solution, 5PPM	WP26017	05/09/2013	09/30/2013	jim

FROM 5.000ml of W1789(CYANIDE STD 1000PPM 4OZ) + 995.000ml of WP24646(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 1000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
143	Reactive sulfide stock std. 1000 ppm	WP27067	07/03/2013	01/03/2014	jim

FROM 0.993L of W1152(DI Water) + 7.500gram of W1031(Sodium Sulfide, 500 g) = Final Quantity: 1.000 L

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
160	0.5M ZINC ACETATE	WP27069	07/03/2013	01/03/2014	jim

FROM 0.889L of W1152(DI Water) + 1.000ml of W1098(Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)) + 110.000gram of W1752(ZINC ACETATE,DIHYD,CRYS,ACS,500G) = Final Quantity: 1000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	WP27189	07/10/2013	01/10/2014	roberto

FROM 21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity: 21.000 L

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
294	Working Std for CN Spike (5 ppm)	WP27336	07/17/2013	09/30/2013	roberto

FROM 5.000ml of W1785(CYANIDE STD 1000PPM 4OZ) + 995.000ml of WP27189(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 1000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
11	Sodium hydroxide absorbing solution 0.25 N	WP28340	09/03/2013	03/03/2014	roberto

FROM 21.000L of W1152(DI Water) + 210.000gram of W1618(Sodium Hydroxide Pellets 12 Kg) = Final Quantity: 21.000 L

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1768	Magnesium chloride solution, 51% (w/v)	WP28378	09/04/2013	03/04/2014	jim

FROM 490.000ml of W1152(DI Water) + 510.000gram of W1339(MAGNESIUM CHLORIDE, 6-HYD, CRYS, 12KG) = Final Quantity: 1000.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
146	Reactive sulfide LCS std.	WP28967	09/28/2013	09/29/2013	jim

FROM 48.750ml of W1152(DI Water) + 1.250ml of WP27067(Reactive sulfide stock std. 1000 ppm) = Final Quantity: 50.000 ml

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
146	Reactive sulfide LCS std.	WP28968	09/28/2013	09/29/2013	jim

FROM 48.750ml of W1152(DI Water) + 1.250ml of WP27067(Reactive sulfide stock std. 1000 ppm) = Final Quantity: 50.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
10	Chloramine T solution	WP28970	09/30/2013	10/01/2013	heta

FROM 1.000gram of W1120(CHLORAMINE-T BAKER 250GM) + 99.000ml of W1152(DI Water) = Final Quantity: 100.000 ml

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
3	Standard Cyanide Working Solution 5 ppm	WP28971	09/30/2013	09/30/2013	heta

FROM 0.500ml of W1785(CYANIDE STD 1000PPM 4OZ) + 99.500ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
4	Calibation standard 500 ppb	WP28972	09/30/2013	09/30/2013	heta

FROM 10.000ml of WP28971(Standard Cyanide Working Solution 5 ppm) + 90.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
5	Calibration Standard 250 ppb	WP28973	09/30/2013	09/30/2013	heta

FROM 5.000ml of WP28971(Standard Cyanide Working Solution 5 ppm) + 95.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
6	Calibration Standard 100 ppb	WP28974	09/30/2013	09/30/2013	heta

FROM 2.000ml of WP28971(Standard Cyanide Working Solution 5 ppm) + 98.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
7	Calibration Standard 50 ppb	WP28975	09/30/2013	09/30/2013	heta

FROM 1.000ml of WP28971(Standard Cyanide Working Solution 5 ppm) + 99.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
8	Calibration Standard 10 ppb	WP28976	09/30/2013	09/30/2013	heta

FROM 2.000ml of WP28972(Calibation standard 500 ppb) + 98.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
9	Calibration Standard 5 ppb	WP28977	09/30/2013	09/30/2013	heta

FROM 1.000ml of WP28972(Calibation standard 500 ppb) + 99.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
167	0 ppb CN calibration std	WP28978	09/30/2013	10/01/2013	heta

FROM 100.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

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STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1593	CN CCV std, 250PPB	WP28979	09/30/2013	09/30/2013	heta

FROM 5.000ml of WP28971(Standard Cyanide Working Solution 5 ppm) + 95.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
2168	RCN ICV STD, 100 PPB	WP28980	09/30/2013	09/30/2013	heta

FROM 2.000ml of WP26017(Reactive Cyanide Spike solution, 5PPM) + 98.000ml of WP28340(Sodium hydroxide absorbing solution 0.25 N) = Final Quantity: 100.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3910-1 / Sodium Sulfide, 500 g	H23586	10/02/2019	10/02/2009 /	10/02/2009 / jmoore	W1031

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYS, ACS, 2.5 KG	H29154	01/30/2020	03/03/2010 /	01/08/2010 / jmoore	W1059

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	h04040	11/24/2019	03/03/2010 /	11/25/2009 / jmoore	W1096

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	h04040	11/24/2019	04/23/2010 / jmoore	11/25/2009 / jmoore	W1098

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	JTE494-6 / CHLORAMINE-T BAKER 250GM	h23602	12/14/2019	03/03/2010 /	12/15/2009 / jmoore	W1120

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Res-Kem General water	DIW / DI Water	Lab certified	02/23/2015	02/23/2010 /	02/23/2010 / divya	W1152

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9393-3 / Pyridine, 4L	L15470	05/31/2018	05/30/2008 / jmoore	05/30/2008 / jmoore	W1209

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	Y32603	10/28/2023	10/27/2003 / jmoore	10/27/2003 / jmoore	W1210

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	H36602	05/26/2020	08/18/2010 / jmoore	05/25/2010 / jmoore	W1268

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1.05832.9012 / MAGNESIUM CHLORIDE, 6-HYD, CRYS, 12KG	a0031132	07/21/2020	07/21/2010 / jmoore	07/20/2010 / jmoore	W1339

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EMD Chemicals Inc.	xx0045-3 / p-xylene	50225035	09/28/2016	09/18/2012 / jim	09/28/2011 / apatel	W1585

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	PB002849SP	12/20/2016	01/07/2013 / jim	12/20/2011 / apatel	W1618

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	2203102	02/28/2014	05/01/2012 / jim	04/10/2012 / apatel	W1657

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	K43061	06/06/2017	12/26/2012 / roberto	06/06/2012 / apatel	W1692

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITRE	2203415	09/30/2013	07/08/2013 / apatel	06/08/2012 / apatel	W1700

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EMD-FX0410-5 / FORMALDEHYDE SOLUTION 450ML	52062	08/23/2017	08/01/2013 / jim	08/23/2012 / apatel	W1722

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2210864	10/31/2013	12/13/2012 / jim	12/10/2012 / apatel	W1748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	2205272	04/30/2014	01/02/2013 / jim	12/10/2012 / apatel	W1749

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J4296-1 / ZINC ACETATE,DIHYD,CRYS,ACS,500G	0000020964	08/22/2017	06/24/2013 / jim	12/27/2012 / apatel	W1752

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL35830-4 / IODINE SOLUTION .025N 1L	2301004	12/31/2013	09/28/2013 / jim	01/08/2013 / apatel	W1757

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	2301099	06/30/2014	04/30/2013 /	04/05/2013 / apatel	W1779

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	2303D97	09/30/2013	04/30/2013 / apatel	04/24/2013 / apatel	W1785

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	4303B10	09/30/2013	05/06/2013 / apatel	05/06/2013 / apatel	W1789

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	2306598	05/31/2015	07/03/2013 / roberto	06/20/2013 / apatel	W1805

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	2303957	03/31/2015	08/20/2013 / jim	08/08/2013 / apatel	W1812

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	2304659	03/31/2015	09/28/2013 / jim	08/08/2013 / apatel	W1813

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Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 2205272 Product Number: BDH0194 Expiration Date: APR 2014 Manufacture Date:5/11/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist.

Contains:

Name	CAS#	Grade
Inert Dye	Proprietary	Commercial Grade
Potassium Phosphate, Monobasic	7778-77-0	ACS
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade
Sodium Phosphate, Dibasic	7558-79-4	ACS
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, yellow, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 186 & 191)	pH determination	7.00 ± 0.01 pH at 25.0 °C	7.01 pH at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
BDH0194-20L	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Iodine (Iodine-Iodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S2-

Lot Number: 2301004 Product Number: 3975 Expiration Date: DEC 2013 Manufacture Date:1/2/2013

Contains:

Name	CAS#	Grade
Iodine, I2	7553-56-2	ACS
Potassium Iodide, KI	7681-11-0	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, brown, Iodine odor	Passed Test
Assay at 20 °C (traceable to NIST SRM 136)	Titrimetric vs. Sodium Thiosulfate (Starch Indicator)	0.02500 ± 0.00002 N at 20.0 °C	0.02502 N at 20.0 °C

Specification	Reference	Method Number
Standard Iodine Solution, 0.0250 N	APHA	4500-S2- F
Iodine Solution (approximately 0.025 N)	EPA (SW-846)	9031
Standard Iodine Solution, 0.0250 N	EPA	376.1
Iodine Solution (approximately 0.025 N)	EPA (SW-846)	9034

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
3975-32	12 months
3975-1	12 months
3975-16	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 2301099 Product Number: 1601 Expiration Date: JUN 2014 Manufacture Date:1/8/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.
pH 10.31 (0 °C), pH 10.23 (5 °C), pH 10.17 (10 °C), 10.11 (15 °C), 10.05 (20 °C), 9.95 (30 °C), 9.91 (35 °C), 9.87 (40 °C), 9.81 (50 °C)

Contains:

Name	CAS#	Grade
Inert Dye	Proprietary	Commercial Grade
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade
Sodium Bicarbonate, NaHCO3	144-55-8	ACS
Sodium Carbonate, Na2CO3	497-19-8	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, blue, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 186 & 191)	pH determination	10.000 ± 0.010 pH at 25.0 °C	10.006 pH at 25.0 °C

Specification	Reference	Method Number
Commercial Buffer Solutions	ASTM	D 1293 B
Buffer C	ASTM	D 5464
Buffer C	ASTM	D 5128

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
1601-2.5	18 months
1601-4	18 months
1601-32CS	18 months
1601-16CS	18 months
1601-32	18 months
1601-20B	18 months
1601-5	18 months
1601-20	18 months
1601-1	18 months
1601-1CT	18 months
1601-1CS	18 months
1601-16	18 months
1601-55	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 2303957 Product Number: BDH0198 Expiration Date: MAR 2015 Manufacture Date:3/18/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.

Contains:

Name	CAS#	Grade
Inert Dye	Proprietary	Commercial Grade
Potassium Acid Phthalate	877-24-7	Buffer or ACS
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, light red, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 185 & 186)	pH determination	4.00 ± 0.01 pH at 25.0 °C	3.99 pH at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
BDH0198-20L	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Cyanide Standard, 1 mL = 1 mg CN, 1000 ppm CN

Lot Number: 2303D97 Product Number: 2543 Expiration Date: SEP 2013 Manufacture Date:3/29/2013

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard.
Restandardize weekly if extreme accuracy is required.

Contains:

Name	CAS#	Grade
Potassium Cyanide, KCN	151-50-8	ACS
Sodium Hydroxide, NaOH	1310-73-2	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, cyanide odor	Passed Test
Certified Concentration	Based on accurate volumetric preparation	1000 ± 5 ppm CN-	1000 ppm CN-

Specification	Reference	Method Number
Stock Standard Cyanide Solution	APHA	4500-CN- F
Stock Cyanide Solution	APHA	4500-CN- E
Stock Cyanide Solution	APHA	4500-CN- K
Stock Cyanide Solution	APHA	4500-CN- H
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846)	7.3.3.2
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846)	9213
Stock Cyanide Solution	EPA	335.3
Stock Cyanide Solution	EPA	335.2
Cyanide Solution Stock	ASTM	D 4282
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM	D 4374

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
2543-4	6 months
2543-32	6 months
2543-16	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

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Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 2304659 Product Number: BDH0194 Expiration Date: MAR 2015 Manufacture Date:4/3/2013

The certified value for this product is confirmed in independent testing by a second qualified chemist.

Contains:

Name	CAS#	Grade
Inert Dye	Proprietary	Commercial Grade
Potassium Phosphate, Monobasic	7778-77-0	ACS
Preservative (No Mercury compounds or Formaldehyde)	Proprietary	Commercial Grade
Sodium Phosphate, Dibasic	7558-79-4	ACS
Water, Deionized	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, yellow, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 186 & 191)	pH determination	7.00 ± 0.01 pH at 25.0 °C	7.01 pH at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
BDH0194-20L	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

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Certificate of Analysis

Starch Indicator, 0.5% (w/v) Aqueous Solution, Mercury Free, for Iodometric Titrations

Lot Number: 2306598 Product Number: 8000 Expiration Date: MAY 2015 Manufacture Date:6/6/2013

This product is Mercury-free.

Contains:

Name	CAS#	Grade
Salicylic acid, C7H6O3	69-72-7	ACS
Starch, soluble, (C6H10O5)n	9005-84-9	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Translucent, odorless	Passed Test
Suitability for Use	Characteristic Check	Colorless (Iodine absent) - Blue (Iodine present)	Passed Test

Specification	Reference	Method Number
Starch Solution	APHA	4500-S2- F
Starch Indicator Solution	APHA	4500-Cl B
Starch Indicator	APHA	4500-SO32- B
Starch indicator solution	APHA	2350 B
Starch indicator solution	APHA	2350 E
Starch Solution	APHA	510 B
Starch Solution	APHA	5530 C
Starch Indicator	APHA	4500-Cl C
Starch Indicator	EPA	345.1

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
8000-2.5	24 months
8000-32	24 months
8000-5	24 months
8000-1	24 months
8000-16	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials – Contents of Certificates and Labels."

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.

Version: 1

RICCA CHEMICAL COMPANY

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Cyanide Standard, 1 mL = 1 mg CN, 1000 ppm CN

Lot Number: 4303B10 Product Number: 2543 Expiration Date: SEP 2013 Manufacture Date:3/29/2013

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard.
Restandardize weekly if extreme accuracy is required.

Contains:

Name	CAS#	Grade
Potassium Cyanide, KCN	151-50-8	ACS
Sodium Hydroxide, NaOH	1310-73-2	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, cyanide odor	Passed Test
Certified Concentration	Based on accurate volumetric preparation	1000 ± 5 ppm CN-	1000 ppm CN-

Specification	Reference	Method Number
Stock Standard Cyanide Solution	APHA	4500-CN- F
Stock Cyanide Solution	APHA	4500-CN- E
Stock Cyanide Solution	APHA	4500-CN- K
Stock Cyanide Solution	APHA	4500-CN- H
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846)	7.3.3.2
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846)	9213
Stock Cyanide Solution	EPA	335.3
Stock Cyanide Solution	EPA	335.2
Cyanide Solution Stock	ASTM	D 4282
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM	D 4374

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
2543-4	6 months
2543-32	6 months
2543-16	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Version: 2

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.

W1948
RS 12/10/12

RICCA CHEMICAL COMPANY

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C

Lot Number: 2210864 Product Number: 1615 Expiration Date: OCT 2013 Manufacture Date: 11/2/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist.

Contains:

Name	CAS#	Grade
Potassium Chloride, KCl	7447-40-7	ACS
Sodium Hydroxide, NaOH	1310-73-2	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 186 & 191)	pH determination	12.000 ± 0.010 pH at 25.0 °C	12.000 pH at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
1615-2.5	12 months
1615-32	12 months
1615-20B	12 months
1615-5	12 months
1615-1	12 months
1615-1CT	12 months
1615-16	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials – Contents of Certificates and Labels."

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.

Version: 1

RICCA CHEMICAL COMPANY

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 2203102 Product Number: 1493 Expiration Date: FEB 2014 Manufacture Date:3/6/2012

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.
pH 1.93 (10 °C), 1.98 (15 °C), 1.98 (20 °C), 2.01 (30 °C), 2.03 (35 °C), 2.03 (40 °C), 2.04 (45 °C), 2.04 (50 °C)

Contains:

Name	CAS#	Grade
Hydrochloric Acid, HCl	7647-01-0	ACS
Potassium Chloride, KCl	7447-40-7	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, odorless	Passed Test
pH at 25 °C (traceable to NIST SRM 185 & 186)	pH determination	2.000 ± 0.010 pH at 25.0 °C	2.003 pH at 25.0 °C

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Shelf Life (unopened container):

Part Number	Shelf Life
1493-2.5	24 months
1493-32	24 months
1493-5	24 months
1493-1	24 months
1493-1CT	24 months
1493-16	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials – Contents of Certificates and Labels."

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.

Version: 3

RICCA CHEMICAL COMPANY

Arlington, TX 76012
Pocomoke City, MD 21851
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 2203415 Product Number: 7900 Expiration Date: SEP 2013 Manufacture Date:3/14/2012

Contains:

Name	CAS#	Grade
Organic Preservative	Proprietary	Commercial Grade
Sodium Carbonate, Na2CO3	497-19-8	ACS
Sodium Thiosulfate Pentahydrate, Na2S2O3.5H2O	10102-17-7	ACS
Water, Deionized, H2O	7732-18-5	ACS, ASTM D 1193 (Type I), EP, USP

Test Name	Assay Method	Specification	Result
Appearance	Clarity, Color, Odor	Clear, colorless, slight organic odor	Passed Test
Assay at 20 °C (traceable to NIST SRM 136)	Titrimetric vs. Potassium Iodate (Starch Indicator)	0.02500 ± 0.00001 N at 20.0 °C	0.02501 N at 20.0 °C

Specification	Reference	Method Number
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA	4500-S2- F
Standard Sodium Thiosulfate Titrant	APHA	4500-O D
Standard Sodium Thiosulfate Titrant	APHA	4500-O E
Standard Sodium Thiosulfate Titrant	APHA	4500-O F
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA	4500-Cl B
Standard Sodium Thiosulfate Titrant	APHA	4500-O C
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA	5530 C
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846)	9031
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846)	9034

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Shelf Life (unopened container):

Part Number	Shelf Life
7900-2.5	18 months
7900-32	18 months
7900-5	18 months
7900-1	18 months
7900-16	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

LaNelle Ohlhausen
Quality Assurance

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

To determine manufacture site using lot number, visit http://www.riccachemical.com/Documents/lot.pdf.

Version: 1

EMD Chemicals Inc.
480 S. Democrat Road
Gibbstown, NJ 08027
Phone 856-423-6300
Fax 856-423-4389

Name: Magnesium Chloride Hexahydrate Extra Pure USP,Ph Eur,BP,FCC,E511

Formula: $MgCl_2 \cdot 6H_2O$

Item Number: 1.05832.9027, 1.05832.9028, 1.05832.9524, 1.05832.9527, 00583292, 1.05832.1000, 1.05832.1000A, 1.05832.9012

Formula Wt: 203.30

Lot Number: A0031132

Data Order No: 000178869

CHARACTERISTIC	REQUIREMENT		RESULTS	UNITS
	Min.	Max.		
Aluminium (Al)		0.0001	< 0.0001	%
pH (5%, water)	4.5	7.0	5.5	
Original Examination Date			6-FEB-2009	
Minimum shelf life			28-FEB-2011	
Assay (complexometric)	99.0	101.0	100.4	%
Mercury (Hg)		0.0001	< 0.0001	%
Water	51.0	55.0	53.7	%
Lead (Pb)		0.0004	< 0.0004	%
Arsenic (As)		0.0002	< 0.0002	%
Iron (Fe)		0.0005	< 0.0005	%
Heavy metals (as Pb)		0.001	< 0.001	%
Sulfate (SO4)		0.005	< 0.002	%
Identification			Passes test	
Acidity or alkalinity			Passes test	
Residual Solvents (Ph.Eur./ICH)			Excluded by manufacturing process	
Insoluble matter		0.005	< 0.005	%
Organic volatile impurities (according to USP)			Meets requirements	
Endotoxins		3.0	< 3.0	I.U./g
Bromide (Br)		0.05	< 0.05	%
Potassium (K)		0.05	< 0.05	%
Calcium (Ca)		0.01	< 0.001	%
Ammonium (NH4)		0.005	< 0.005	%
Appearance of solution			Passes	
Barium (Ba)			Passes test	
Microbial limits-Total aerobic bacteria		100	<100	
Microbial limits-Total combined mold and yeast		100	<100	

Jim Morgera,
Quality Control Manager

Release Date: 4/2/2009

EMD Chemicals Inc.
480 S. Democrat Road
Gibbstown, NJ 08027
Phone 856-423-6300
Fax 856-423-4389

Name: Formaldehyde Solution
GR ACS
Meets ACS Specifications

Formula: HCHO

Item Number: FX0410-1, FX0410-20, FX0410-3, FX0410-5

Formula Wt: 30.03

Lot Number: 52062

Data Order No: 000428713

CHARACTERISTIC	REQUIREMENT		RESULTS	UNITS
	Min.	Max.		
Assay	36.5	38.0	36.55	%
Chloride (Cl)		5	<5	ppm
Color (APHA)		10	<10	
Form			Passes test	
Heavy metals (as Pb)		5	<5	ppm
Iron (Fe)		5	<5	ppm
Residue after ignition		0.005	<0.005	%
Sulfate (SO4)		0.002	<0.002	%
Titrable acid		0.006	<0.006	meq/g

Gene A. Desotelle

Gene A. Desotelle,
Quality Control Manager

Release Date: 3/7/2012

EMD Chemicals Inc.
(Formerly EM Science, A Division of EM Industries, Inc.)

An Affiliate of Merck KGaA, Darmstadt, Germany

Hydrochloric Acid, 36.5-38.0%

`BAKER INSTRA-ANALYZED'® Reagent (For Trace Metal Analysis)

Product No. 9530
Lot No. H04040
Release Date 01/26/2009

Certificate of Analysis

TEST	SPECIFICATION	RESULT
Meets A.C.S. Specifications		
Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.5 %
Color (APHA)	10 max.	5
Residue after Ignition	3 ppm max.	1 ppm
Specific Gravity at 60°/60°F	1.185 - 1.192	1.187
Bromide (Br)	0.005 % max.	< 0.005 %
Extractable Organic Substances	5 ppm max.	< 1 ppm
Free Chlorine (as Cl)	0.5 ppm max.	< 0.5 ppm
Trace Impurities (in ppm):		
Phosphate (PO_4)	0.05 max.	< 0.03
Sulfate (SO_4)	0.5 max.	< 0.3
Sulfite (SO_3)	0.8 max.	< 0.2
Ammonium (NH_4)	3 max.	< 1
Arsenic (As)	0.01 max.	< 0.003
Trace Impurities (in ppb):		
Aluminum (Al)	10 max.	< 0.2
Arsenic and Antimony (as As)	5 max.	< 3
Barium (Ba)	1 max.	< 0.2
Beryllium (Be)	1 max.	< 0.2
Bismuth (Bi)	10 max.	< 1
Boron (B)	20 max.	1
Cadmium (Cd)	1 max.	< 0.3
Calcium (Ca)	50 max.	3
Chromium (Cr)	1 max.	0.5
Cobalt (Co)	1 max.	< 0.3
Copper (Cu)	1 max.	< 0.1
Gallium (Ga)	1 max.	< 0.2
Germanium (Ge)	3 max.	< 2
Gold (Au)	4 max.	< 0.2
Heavy Metals (as Pb)	100 max.	< 50
Iron (Fe)	15 max.	1
Lead (Pb)	1 max.	< 0.5
Lithium (Li)	1 max.	< 0.2
Magnesium (Mg)	10 max.	0.6
Manganese (Mn)	1 max.	< 0.4
Mercury (Hg)	0.5 max.	< 0.1
Molybdenum (Mo)	10 max.	< 3
Nickel (Ni)	4 max.	0.3

Niobium (Nb)	1 max.	0.2
Potassium (K)	9 max.	< 2
Selenium (Se)	Information Only	1
Silicon (Si)	100 max.	< 0.4
Silver (Ag)	1 max.	< 0.3
Sodium (Na)	100 max.	3
Strontium (Sr)	1 max.	< 0.2
Tantalum (Ta)	1 max.	< 0.9
Thallium (Tl)	5 max.	< 2
Tin (Sn)	5 max.	< 0.8
Titanium (Ti)	1 max.	< 0.2
Vanadium (V)	1 max.	< 0.2
Zinc (Zn)	5 max.	4
Zirconium (Zr)	1 max.	< 0.1
Product Information (not specifications):		
Appearance (clear, fuming liquid)		
For Laboratory, Research or Manufacturing Use		

Country of Origin: USA

ISO
Phillipsburg, NJ 9001:2000 & 14001:1996
Paris, KY 9001:2000
Mexico City, Mexico 9001:2000
Deventer, Holland 9001:2000 & 14001:1996
Selangor, Malaysia 9001:2000

Mary M. Matloz
Mary M. Matloz
Director of QA & Regulatory Affairs

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151
Mallinckrodt Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905

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SEIDLER CHEMICAL
973-465-1122

Potassium Phosphate, Monobasic, Crystal

`BAKER ANALYZED'® A.C.S. Reagent (potassium dihydrogen phosphate)

Product No. 3246
Lot No. H21149
Release Date 07/13/2009

Certificate of Analysis

TEST	SPECIFICATION	RESULT
Exceeds A.C.S. Specifications		
Meets Reagent Specifications for testing USP/NF monographs		
Assay (KH_2PO_4) (by acidimetry)	99.0 % min.	100.1 %
Insoluble Matter	0.01 % max.	< 0.002 %
Loss on Drying at 105°C	0.2 % max.	< 0.02 %
pH of 5% Solution at 25°C	4.1 - 4.5	4.4
Chloride (Cl)	0.001 % max.	< 0.001 %
Fluoride (F)	0.001 % max.	< 0.0002 %
Nitrogen Compounds (as N)	0.001 % max.	< 0.001 %
Sulfate (SO_4)	0.003 % max.	< 0.002 %
Heavy Metals (as Pb)	0.001 % max.	< 0.0005 %
Iron (Fe)	0.002 % max.	< 0.001 %
Lead (Pb)	0.001 % max.	< 0.001 %
Sodium (Na)	0.005 % max.	0.0009 %
Trace Impurities (in ppm):		
Arsenic (As)	3 max.	< 3

For Laboratory, Research or Manufacturing Use

Country of Origin: USA

ISO
Phillipsburg, NJ 9001:2000 & 14001:1996
Paris, KY 9001:2000
Mexico City, Mexico 9001:2000
Deventer, Holland 9001:2000 & 14001:1996
Selangor, Malaysia 9001:2000

Marcy M. Matlosz
Director of Q.A. Regulatory Affairs

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151
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8 of 8

Sodium Sulfide, 9-Hydrate, Crystal

'BAKER ANALYZED'® A.C.S. Reagent

Product No. 3910
Lot No. H23586
Release Date 06/05/2009

Certificate of Analysis

TEST	SPECIFICATION	RESULT
Meets A.C.S. Specifications		
Meets Reagent Specifications for testing USP/NF monographs		
Assay ($Na_2S \cdot 9H_2O$)	98.0 % min.	100.1 %
Sulfite and Thiosulfate (as SO_2)	0.1 % max.	0.002 %
Ammonium (NH_4)	0.005 % max.	< 0.005 %
Iron (Fe)	Passes Test	Passes Test

For Laboratory, Research or Manufacturing Use

Product may turn slightly yellow on exposure to air. Color has no effect on specifications.

Keep material refrigerated between 2-8°C (36-46°F).

Country of Origin: USA

ISO

Phillipsburg, NJ 9001:2000 & 14001:1996
Paris, KY 9001:2000
Mexico City, Mexico 9001:2000
Deventer, Holland 9001:2000 & 14001:1996
Selangor, Malaysia 9001:2000

Merry M. Mathers
Director of Jt. & Vendor Affairs

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151
Mallinckrodt Baker, Inc. • 222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905

Sand

Purified
Washed and Ignited

Product No. 3382
Lot No. H36602
Release Date 09/14/2009

Certificate of Analysis

TEST	SPECIFICATION	RESULT
Meets Reagent Specifications for testing USP/NF monographs		
Substances Soluble in HCl	0.16 % max.	< 0.01 %
For Laboratory, Research or Manufacturing Use		

Country of Origin: USA

ISO

Phillipsburg, NJ 9001:2000 & 14001:1996
Paris, KY 9001:2000
Mexico City, Mexico 9001:2000
Deventer, Holland 9001:2000 & 14001:1996
Selangor, Malaysia 9001:2000

Mary M. Matloz
Director of Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151
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Sulfuric Acid

`BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

Product No. 9673
Lot No. K43061
Release Date 10/26/2011

Certificate of Analysis

TEST	SPECIFICATION	RESULT
Meets A.C.S. Specifications		
Assay (H_2SO_4)	95.0 - 98.0 %	96.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	10 max.	5
Residue after Ignition	3 ppm max.	< 1 ppm
Substances Reducing Permanganate (as SO_2)	2 ppm max.	< 2 ppm
Trace Impurities (in ppm):		
Ammonium (NH_4)	1 max.	< 0.5
Chloride (Cl)	0.1 max.	< 0.05
Nitrate (NO_3)	0.2 max.	< 0.1
Phosphate (PO_4)	0.5 max.	< 0.05
Trace Impurities (in ppb):		
Aluminum (Al)	30 max.	< 0.2
Arsenic and Antimony (as As)	4 max.	< 2
Barium (Ba)	10 max.	< 0.2
Beryllium (Be)	10 max.	< 0.2
Bismuth (Bi)	10 max.	1
Boron (B)	10 max.	2
Cadmium (Cd)	2 max.	< 0.3
Calcium (Ca)	50 max.	0.4
Chromium (Cr)	6 max.	< 0.4
Cobalt (Co)	0.5 max.	< 0.3
Copper (Cu)	1 max.	< 0.1
Gallium (Ga)	10 max.	< 0.2
Germanium (Ge)	10 max.	< 2
Gold (Au)	10 max.	< 0.2
Heavy Metals (as Pb)	500 max.	< 100
Iron (Fe)	50 max.	4.5
Lead (Pb)	0.5 max.	< 0.5
Lithium (Li)	10 max.	< 0.2
Magnesium (Mg)	7 max.	< 0.2
Manganese (Mn)	1 max.	< 0.4
Mercury (Hg)	0.5 max.	0.1
Molybdenum (Mo)	10 max.	< 3
Nickel (Ni)	2 max.	< 0.3
Niobium (Nb)	10 max.	0.2

Potassium (K)	500 max.	< 2
Selenium (Se)	50 max.	19
Silicon (Si)	100 max.	4.3
Silver (Ag)	1 max.	< 0.3
Sodium (Na)	500 max.	< 0.5
Strontium (Sr)	5 max.	< 0.2
Tantalum (Ta)	10 max.	< 0.9
Thallium (Tl)	20 max.	< 2
Tin (Sn)	5 max.	< 0.8
Titanium (Ti)	10 max.	< 0.2
Vanadium (V)	10 max.	< 0.2
Zinc (Zn)	5 max.	< 0.3
Zirconium (Zr)	10 max.	< 0.1

For Laboratory, Research or Manufacturing Use

Country of Origin: USA

ISO
Phillipsburg, NJ 9001:2000 & 14001:2004
Paris, KY 9001:2000
Mexico City, Mexico 9001:2000
Deventer, Holland 9001:2000 & 14001:2004
Selangor, Malaysia 9001:2000

Richard M. Siberski
Global Director of Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 855-282-6867 or 610-573-2600
Avantor ™ Performance Materials, Inc.
3477 Corporate Parkway • Suite #200 • Center Valley, PA 18034 • U.S.A. • Phone: 610.573.2600 • Fax: 610.573.2610

THE POWER OF THREE[3]

PHARMCO-AAPER

AND COMMERCIAL ALCOHOLS

CERTIFICATE OF ANALYSIS
SODIUM HYDROXIDE PELLETS
ACS/USP/NF/FCC GRADE

Lot # PB002849SP
QC # NP9044
Date of Manufacture: 01/20/10
Expiration Date: Three Years from Date of Manufacture
Main Catalog #: 289USP/NF, xf2890000NF

Parameter	Monograph	Specification	Result
Assay (as NaOH)	ACS NF FCC	97.0% min. 95.0% - 100.5% 95.0% - 100.5%	99.52%
Identification	NF	To Pass Test	Pass
Na_2CO_3	ACS NF FCC	1.0% max. 3.0% max 3.0% max	0.31%
Sulfate (SO_4)	ACS	0.003% max.	<0.003%
Chloride (Cl)	ACS	0.005% max.	<0.005%
Nitrogen Compounds (as N)	ACS	0.001% max.	<0.001%
Phosphate (PO_4)	ACS	0.001% max.	<0.001%
Heavy Metals (as Ag) Heavy Metals (as Pb) Lead (Pb)	ACS NF FCC	0.002% max 0.003% max. 2ppm max.	<0.002% <0.002% <2ppm
Iron (Fe)	ACS	0.001%	<0.001%
Nickel (Ni)	ACS	0.001% max.	<0.001%
Mercury (Hg)	ACS FCC	0.1ppm max.	<0.1ppm
Calcium (Ca)	ACS	0.005% max.	<0.005%
Magnesium (Mg)	ACS	0.002% max.	<0.002%
Potassium (K)	ACS NF	0.02% To Pass Test	<0.02% Pass
Arsenic (As)	FCC	3ppm max.	<3ppm
Insoluble Substances and Organic Matter	NF FCC	To Pass Test	Pass

Form: Sodium Hydroxide, ACS/USP/NF/FCC, #101, rev. 2.6, 09/08, EF

Approved by: E. Frenkel, Director of Quality Control

Disclaimer: For Industrial, Pharmaceutical, Flavor & Fragrance or Lab Use. Not intended for use as an active substance in Food or Drug. Not to be considered a Medical Device. Not intended for use as a Disinfectant as defined by the EPA. The appropriate use of this product is the sole responsibility of the user. (Rev. # disclaimer only, rev 3.3 10/05/05 PD)

PHARMCO-AAPER www.pharmcoaaper.com 1-800-243-5360

SHIPPING DOCUMENTS

E3896

USEPA
DateShipped 9/27/2013
CarrierName: Courier Pick Up
AirbillNo N/A

CHAIN OF CUSTODY RECORD
RFP No. 265 / Weston Solutions
Contact Name: Scott Snyder
Contact Phone: 732-570-4993

No: 2-092713-140902-0045
Cooler # 1 of 1
Lab: ChemTech
Lab Phone:

Lab #	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
1	P001-DW-1016-1	Area 01	RCRA Characteristics	Liquid Waste	9/27/2013	09:20	1	8-oz. jar	4 C	N
2	P001-DW-1019-1	Area 01	RCRA Characteristics	Liquid Waste	9/27/2013	09:30	1	8-oz. jar	4 C	N
3	P001-DW-1024-1	Area 01	RCRA Characteristics	Liquid Waste	9/27/2013	09:45	1	8-oz. jar	4 C	N
4	P001-DW-2090-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:00	1	8-oz. jar	4 C	N
5	P001-DW-2090-2	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:00	1	8-oz. jar	4 C	N
6	P001-DW-2093-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:05	1	8-oz. jar	4 C	N
7	P001-DW-2094-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:15	1	8-oz. jar	4 C	N
8	P001-DW-2100-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:25	1	8-oz. jar	4 C	N
9	P001-DW-2112-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:30	1	8-oz. jar	4 C	N
24	P001-DW-2113-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:40	1	8-oz. jar	4 C	N
10	P001-DW-2121-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:50	1	8-oz. jar	4 C	N
11	P001-DW-4006-1	Area 06	RCRA Characteristics	Liquid Waste	9/27/2013	11:00	1	8-oz. jar	4 C	N
12	P001-S-2002-1	Area 02	RCRA Characteristics	Soil	9/26/2013	14:25	1	8-oz. jar	4 C	N
13	P001-S-2003-1	Area 02	RCRA Characteristics	Soil	9/26/2013	14:52	1	8-oz. jar	4 C	N
14	P001-S-3004-1	Area 03	RCRA Characteristics	Soil	9/26/2013	13:55	1	8-oz. jar	4 C	N
15	P001-S-3005-1	Area 03	RCRA Characteristics	Soil	9/26/2013	14:10	1	8-oz. jar	4 C	N
16	P001-S-3006-1	Area 03	RCRA Characteristics	Soil	9/27/2013	09:30	1	8-oz. jar	4 C	N
17	P001-S-3007-1	Area 03	RCRA Characteristics	Soil	9/27/2013	09:45	1	8-oz. jar	4 C	N
18	P001-S-3008-1	Area 03	RCRA Characteristics	Soil	9/27/2013	09:55	1	8-oz. jar	4 C	N

Special Instructions: RFP No. 265

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #
N/A

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Lab Analysis	[signature]	9/27/13	[signature]	9-27-13	1630						
	[signature]	1900 9-27-13					Palak Shah	9/27/13 1900	[signature]		

Temp: 4°C

E3896

USEPA
DateShipped 9/27/2013
CarrierName: Courier Pick Up
AirbillNo N/A

CHAIN OF CUSTODY RECORD
RFP No. 265 / Weston Solutions
Contact Name: Scott Snyder
Contact Phone: 732-570-4993

No: 2-092713-140902-0045
Cooler # 1 of 1
Lab: ChemTech
Lab Phone:

Lab #	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
19	P001-S-3009-1	Area 03	RCRA Characteristics	Soil	9/27/2013	10:15	1	8-oz. jar	4 C	N
*	P001-S-3010-1	Area 03	RCRA Characteristics	Soil	9/27/2013	10:25	1	8-oz. jar	4 C	N
	P001-S-3011-1	Area 03	RCRA Characteristics	Soil	9/27/2013	10:40	1	8-oz. jar	4 C	N
	P001-S-3012-1	Area 03	RCRA Characteristics	Soil	9/27/2013	10:50	1	8-oz. jar	4 C	N
	P001-S-3013-1	Area 03	RCRA Characteristics	Soil	9/26/2013	14:00	1	8-oz. jar	4 C	N
	P001-S-4001-1	Area 04	RCRA Characteristics	Soil	9/26/2013	13:25	1	8-oz. jar	4 C	N
	P001-S-4002-1	Area 04	RCRA Characteristics	Soil	9/26/2013	13:30	1	8-oz. jar	4 C	N
	P001-S-4003-1	Area 04	RCRA Characteristics	Soil	9/26/2013	13:40	1	8-oz. jar	4 C	N
	P001-S-5001-1	Area 05	RCRA Characteristics	Soil	9/26/2013	10:00	1	8-oz. jar	4 C	N
	P001-S-5002-1	Area 05	RCRA Characteristics	Soil	9/26/2013	10:10	1	8-oz. jar	4 C	N
	P001-S-5003-1	Area 05	RCRA Characteristics	Soil	9/26/2013	10:30	1	8-oz. jar	4 C	N
	P001-S-5004-1	Area 05	RCRA Characteristics	Soil	9/26/2013	10:45	1	8-oz. jar	4 C	N
	P001-S-5005-1	Area 05	RCRA Characteristics	Soil	9/26/2013	10:55	1	8-oz. jar	4 C	N
	P001-S-6004-1	Area 06	RCRA Characteristics	Soil	9/26/2013	13:10	1	8-oz. jar	4 C	N
	P001-S-6005-1	Area 06	RCRA Characteristics	Soil	9/26/2013	11:40	1	8-oz. jar	4 C	N
	P001-S-6005-2	Area 06	RCRA Characteristics	Soil	9/26/2013	11:40	1	8-oz. jar	4 C	N
	P001-S-6006-1	Area 06	RCRA Characteristics	Soil	9/26/2013	11:06	1	8-oz. jar	4 C	N
	P001-S-6007-1	Area 06	RCRA Characteristics	Soil	9/26/2013	11:20	1	8-oz. jar	4 C	N
	P001-S-6008-1	Area 06	RCRA Characteristics	Soil	9/26/2013	11:30	1	8-oz. jar	4 C	N

Special Instructions: RFP No. 265

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #
N/A

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Lab Analysis	[signature]	9/27/13	[signature]	9-27-13	1630						
	[signature]	1900 9-27-13							Palak Shah	9/27/13 1900	

*: in E3897

Temp 4°C

E3896

USEPA
DateShipped 9/27/2013
CarrierName: Courier Pick Up
AirbillNo N/A

CHAIN OF CUSTODY RECORD
RFP No. 265 / Weston Solutions
Contact Name: Scott Snyder
Contact Phone: 732-570-4993

No: 2-092713-140902-0045
Cooler # 1 of 1
Lab: ChemTech
Lab Phone:

Lab #	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
*	P001-S-7001-1	Area 07	RCRA Characteristics	Soil	9/26/2013	12:52	1	8-oz. jar	4 C	N
	P001-S-7002-1	Area 07	RCRA Characteristics	Soil	9/26/2013	12:58	1	8-oz. jar	4 C	N
	P001-S-7003-1	Area 07	RCRA Characteristics	Soil	9/26/2013	13:05	1	8-oz. jar	4 C	N
20	P001-TW-2115-1	Area 02	RCRA Characteristics	Liquid Waste	9/27/2013	10:45	1	8-oz. jar	4 C	N
21	P001-TW-6038-1	Area 06	RCRA Characteristics	Liquid Waste	9/27/2013	11:10	1	8-oz. jar	4 C	N
22	P001-TW-6038-2	Area 06	RCRA Characteristics	Liquid Waste	9/27/2013	11:10	1	8-oz. jar	4 C	N

9/27/13

Special Instructions: RFP No. 265

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #
N/A

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
Lab Analysis	[signature]	9/27/13	[signature]	9.27.13	1670						
	[signature]	1900 9.27.13							Palak Shah	9/27/13	1900

CHEMTECH 284 Sheffield Street Mountainside NJ 07092 Tel. 908-7898900

Laboratory Certification

State	License No.
New Jersey	20012
New York	11376
Connecticut	PH-0649
Florida	E87935
Louisiana	5035
Maryland	296
Massachusetts	M-NJ503
Pennsylvania	68-548
Rhode Island	LAO00259
Virginia	460220
Texas	T10470448-10-1

Other :

DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025	L2219
Soil Permit	P330-11-00012
CLP Inorganic Contract	EPW09038
CLP Organic Contract	EPW11030

QA Control Code: A2070148