



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BQ8	SDG No.:	LB85743
Lab Sample ID:	I1618-01	Matrix:	Solid
Level (low/med):	low	% Solid:	98.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.027	U	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BQ9	SDG No.:	LB85743
Lab Sample ID:	I1618-02	Matrix:	Solid
Level (low/med):	low	% Solid:	99.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.081	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR0	SDG No.:	LB85743
Lab Sample ID:	I1618-03	Matrix:	Solid
Level (low/med):	low	% Solid:	98.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.038	U	1	0.055	0.012	0.5	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR1	SDG No.:	LB85743
Lab Sample ID:	I1618-04	Matrix:	Solid
Level (low/med):	low	% Solid:	98.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.28	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR2	SDG No.:	LB85743
Lab Sample ID:	I1618-05	Matrix:	Solid
Level (low/med):	low	% Solid:	98.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.17	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR3	SDG No.:	LB85743
Lab Sample ID:	I1618-06	Matrix:	Solid
Level (low/med):	low	% Solid:	97.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.34	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR4	SDG No.:	LB85743
Lab Sample ID:	I1618-07	Matrix:	Solid
Level (low/med):	low	% Solid:	91

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.87		1	0.058	0.013	0.52	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR5	SDG No.:	LB85743
Lab Sample ID:	I1618-08	Matrix:	Solid
Level (low/med):	low	% Solid:	99.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.18	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR6	SDG No.:	LB85743
Lab Sample ID:	I1618-09	Matrix:	Solid
Level (low/med):	low	% Solid:	99.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.11	J	1	0.054	0.012	0.5	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR7	SDG No.:	LB85743
Lab Sample ID:	I1618-10	Matrix:	Solid
Level (low/med):	low	% Solid:	82.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.08	J	1	0.064	0.015	0.59	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR8	SDG No.:	LB85743
Lab Sample ID:	I1618-11	Matrix:	Solid
Level (low/med):	low	% Solid:	99.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.12	J	1	0.053	0.012	0.48	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BR9	SDG No.:	LB85743
Lab Sample ID:	I1618-12	Matrix:	Solid
Level (low/med):	low	% Solid:	98.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.17	J	1	0.055	0.012	0.5	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BS0	SDG No.:	LB85743
Lab Sample ID:	I1618-13	Matrix:	Solid
Level (low/med):	low	% Solid:	93

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.058	J	1	0.057	0.013	0.52	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/16/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BS1	SDG No.:	LB85743
Lab Sample ID:	I1618-14	Matrix:	Solid
Level (low/med):	low	% Solid:	99.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.13	J	1	0.054	0.012	0.5	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BS2	SDG No.:	LB85743
Lab Sample ID:	I1618-15	Matrix:	Solid
Level (low/med):	low	% Solid:	99.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.054	J	1	0.054	0.012	0.49	mg/kg	02/07/2017	02/08/2017	ISM02.2_CN



Report of Analysis

Client:		Date Collected:	1/18/2017 12:00:00 AM
Project:	LB85743	Date Received:	1/31/2017 12:00:00 AM
Client Sample ID:	ME5BS2	SDG No.:	LB85743
Lab Sample ID:	I1618-15	Matrix:	Solid
Level (low/med):	low	% Solid:	99.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
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Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

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

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

**Metals
- 13 -**

SAMPLE PREPARATION SUMMARY

Client: <u>LB85743</u>	SDG No.: <u>LB85743</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB85743</u>	SAS No.: <u>LB85743</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB96788							
PB96788BL	PBS006	MB	SOLID	02/08/2017	1.00	50.0	100.00
I1618-01	ME5BQ8	SAM	SOLID	02/08/2017	1.04	50.0	98.50
I1618-03	ME5BR0	SAM	SOLID	02/08/2017	1.02	50.0	98.70
I1618-05	ME5BR2	SAM	SOLID	02/08/2017	1.03	50.0	98.50
I1618-06	ME5BR3	SAM	SOLID	02/08/2017	1.04	50.0	97.30
I1618-07	ME5BR4	SAM	SOLID	02/08/2017	1.05	50.0	91.00
I1618-08	ME5BR5	SAM	SOLID	02/08/2017	1.03	50.0	99.20
I1618-09	ME5BR6	SAM	SOLID	02/08/2017	1.02	50.0	99.10
I1618-10	ME5BR7	SAM	SOLID	02/08/2017	1.03	50.0	82.90
I1618-11	ME5BR8	SAM	SOLID	02/08/2017	1.04	50.0	99.40
I1618-12	ME5BR9	SAM	SOLID	02/08/2017	1.02	50.0	98.40
I1618-13	ME5BS0	SAM	SOLID	02/08/2017	1.03	50.0	93.00
I1618-14	ME5BS1	SAM	SOLID	02/08/2017	1.02	50.0	99.10
I1618-15	ME5BS2	SAM	SOLID	02/08/2017	1.03	50.0	99.60
I1618-16	ME5BS2D	DUP	SOLID	02/08/2017	1.03	50.0	99.60
I1618-17	ME5BS2S	MS	SOLID	02/08/2017	1.02	50.0	99.60
I1618-02	ME5BQ9	SAM	SOLID	02/08/2017	1.03	50.0	99.40
I1618-04	ME5BR1	SAM	SOLID	02/08/2017	1.04	50.0	98.20

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB85743 Contract: _____
Lab Code: CHEM Case No.: LB85743 MA No.: _____ SDG No.: LB85743
Instrument ID: CN Start Date: 02/08/2017
Analytical Method: _____ Run Batch: LB85743.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	0	2.4	0	5	5.5	10	10	10.2	2

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB85743 Contract: _____
Lab Code: CHEM Case No.: LB85743 MA No.: _____ SDG No.: LB85743
Instrument ID: CN Start Date: 02/08/2017
Analytical Method: _____ Run Batch: LB85743.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	100	98.7	-1	250	246	-2	500	502	0



Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB85743

SDG No.: LB85743

Contract: _____ **Lab Code:** CHEM

Case No.: LB85743

SAS No.: LB85743

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV	Cyanide	94.4	99	95	0	85 - 115	CN	02/08/2017	10:24	LB85743

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB85743**SDG No.:** LB85743**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB85743**SAS No.:** LB85743**Initial Calibration Source:** _____**Continuing Calibration Source:** _____

Sample ID	Analyte	Result ug/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV001	Cyanide	240	250	96	0	85 - 115	CN	02/08/2017	10:24	LB85743
CCV002	Cyanide	246	250	98	0	85 - 115	CN	02/08/2017	10:58	LB85743



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB85743 **SDG No.:** LB85743
Contract: **Lab Code:** CHEM **Case No.:** LB85743 **SAS No.:** LB85743

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB	Cyanide	3.4	+/-10.0	J	5.0	10.0	CN	02/08/2017	10:24	LB85743



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB85743

SDG No.: LB85743

Contract:

Lab Code: CHEM

Case No.: LB85743

SAS No.: LB85743

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB001	Cyanide	2.6	+/-10.0	J	5.0	10.0	CN	02/08/2017	10:24	LB85743
CCB002	Cyanide	2.7	+/-10.0	J	5.0	10.0	CN	02/08/2017	10:58	LB85743



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB85743

SDG No.: LB85743

Contract: Lab Code: CHEM

Case No.: LB85743

SAS No.: LB85743

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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SDG No.: LB85743

Instrument: CN

Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB96788BL		SOLID		Batch Number:		PB96788		Prep Date:	02/07/2017	
	Cyanide	0.14	<0.5	J	0.013	0.5	CN	02/08/2017	10:24	LB85743



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB85743 level: low sdg no.: LB85743
contract: lab code: CHEM case no.: LB85743 sas no.: LB85743
matrix: Solid sample id: I1618-15 client id: ME5BS2S
Percent Solids for Sample: 99.6 Spiked ID: I1618-17 Percent Solids for Spike Sample: 99.6

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.5		0.054	J	4.9	91		CN

Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB85743 **Level:** LOW **SDG No.:** LB85743
Contract: **Lab Code:** CHEM **Case No.:** LB85743 **SAS No.:** LB85743
Matrix: Solid **Sample ID:** I1618-15 **Client ID:** ME5BS2D
Percent Solids for Sample: 99.6 **Duplicate ID** I1618-16 **Percent Solids for Spike Sample:** 99.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.054	J	0.033	U	200.0		CN

Daily Analysis Runlog For Sequence/QC Batch ID # LB85743

Review By

Review On

SubDirectory

LB85743

Test :

Cyanide

STD. NAME		STD REF.#				
ICAL Standard		WP52782,WP52781,WP52780,WP52779,WP52778,WP52777				
ICV Standard		WP52783				
CCV Standard		WP52784				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP52810,WP51626,WP50159,WP51615				

Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	02/08/17 09:43		OK
2	S5.0	S5.0	CAL2	02/08/17 09:43		OK
3	S10.0	S10.0	CAL3	02/08/17 09:43		OK
4	S100.0	S100.0	CAL4	02/08/17 09:43		OK
5	S250.0	S250.0	CAL5	02/08/17 09:43		OK
6	S500.0	S500.0	CAL6	02/08/17 09:43		OK
7	ICV	ICV	ICV	02/08/17 10:24		OK
8	ICB	ICB	ICB	02/08/17 10:24		OK
9	CCV001	CCV001	CCV	02/08/17 10:24		OK
10	CCB001	CCB001	CCB	02/08/17 10:24		OK
11	PB96788BL	PBS006	MB	02/08/17 10:24		OK
12	I1618-01	ME5BQ8	SAM	02/08/17 10:24		OK
13	I1618-03	ME5BR0	SAM	02/08/17 10:24		OK
14	I1618-05	ME5BR2	SAM	02/08/17 10:24		OK
15	I1618-06	ME5BR3	SAM	02/08/17 10:24		OK
16	I1618-07	ME5BR4	SAM	02/08/17 10:32		OK
17	I1618-08	ME5BR5	SAM	02/08/17 10:32		OK
18	I1618-09	ME5BR6	SAM	02/08/17 10:32		OK
19	I1618-10	ME5BR7	SAM	02/08/17 10:32		OK
20	I1618-11	ME5BR8	SAM	02/08/17 10:32		OK
21	I1618-12	ME5BR9	SAM	02/08/17 10:32		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB85743

Review By			Review On			
SubDirectory		LB85743		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP52782,WP52781,WP52780,WP52779,WP52778,WP52777				
ICV Standard		WP52783				
CCV Standard		WP52784				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP52810,WP51626,WP50159,WP51615				
22	I1618-13	ME5BS0	SAM	02/08/17 10:32		OK
23	I1618-14	ME5BS1	SAM	02/08/17 10:32		OK
24	I1618-15	ME5BS2	SAM	02/08/17 10:32		OK
25	I1618-16	ME5BS2D	DUP	02/08/17 10:32		OK
26	I1618-17	ME5BS2S	MS	02/08/17 10:32		OK
27	I1618-02	ME5BQ9	SAM	02/08/17 10:58		OK
28	I1618-04	ME5BR1	SAM	02/08/17 10:58		OK
29	CCV002	CCV002	CCV	02/08/17 10:58		OK
30	CCB002	CCB002	CCB	02/08/17 10:58		OK