



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

Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8B5	SDG No.:	LB89177
Lab Sample ID:	I4520-01	Matrix:	Solid
Level (low/med):	low	% Solid:	92.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.057	0.013	0.52	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8B7	SDG No.:	LB89177
Lab Sample ID:	I4520-02	Matrix:	Solid
Level (low/med):	low	% Solid:	83.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.14	J	1	0.062	0.014	0.57	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8B8	SDG No.:	LB89177
Lab Sample ID:	I4520-03	Matrix:	Solid
Level (low/med):	low	% Solid:	79.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.11	J	1	0.067	0.015	0.61	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8B9	SDG No.:	LB89177
Lab Sample ID:	I4520-04	Matrix:	Solid
Level (low/med):	low	% Solid:	91.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.076	J	1	0.058	0.013	0.53	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8C0	SDG No.:	LB89177
Lab Sample ID:	I4520-05	Matrix:	Solid
Level (low/med):	low	% Solid:	93.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.013	U	1	0.057	0.013	0.52	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8C1	SDG No.:	LB89177
Lab Sample ID:	I4520-08	Matrix:	Solid
Level (low/med):	low	% Solid:	93.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.057	0.013	0.52	mg/kg	07/31/2017	08/01/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	7/27/2017 12:00:00 AM
Project:	LB89177	Date Received:	7/28/2017 12:00:00 AM
Client Sample ID:	MBC8C1	SDG No.:	LB89177
Lab Sample ID:	I4520-08	Matrix:	Solid
Level (low/med):	low	% Solid:	93.4

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
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SAMPLE PREPARATION SUMMARY

Client: <u>LB89177</u>	SDG No.: <u>LB89177</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB89177</u>	SAS No.: <u>LB89177</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB101102							
PB101102BL	PBS006	MB	SOLID	08/01/2017	1.02	50.0	100.00
I4520-01	MBC8B5	SAM	SOLID	08/01/2017	1.04	50.0	92.70
I4520-02	MBC8B7	SAM	SOLID	08/01/2017	1.05	50.0	83.90
I4520-03	MBC8B8	SAM	SOLID	08/01/2017	1.04	50.0	79.20
I4520-04	MBC8B9	SAM	SOLID	08/01/2017	1.03	50.0	91.90
I4520-05	MBC8C0	SAM	SOLID	08/01/2017	1.03	50.0	93.60
I4520-06	MBC8C0D	DUP	SOLID	08/01/2017	1.03	50.0	93.60
I4520-07	MBC8C0S	MS	SOLID	08/01/2017	1.04	50.0	93.60
I4520-08	MBC8C1	SAM	SOLID	08/01/2017	1.03	50.0	93.40

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB89177 Contract: _____
Lab Code: CHEM Case No.: LB89177 MA No.: _____ SDG No.: LB89177
Instrument ID: CN Start Date: 08/01/2017
Analytical Method: _____ Run Batch: LB89177.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	0	0	0	5	4.5	-10	10	9.3	-7

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB89177 Contract: _____
Lab Code: CHEM Case No.: LB89177 MA No.: _____ SDG No.: LB89177
Instrument ID: CN Start Date: 08/01/2017
Analytical Method: _____ Run Batch: LB89177.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	100	98.8	-1	250	257	3	500	497	-1



Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB89177

SDG No.: LB89177

Contract: _____ Lab Code: CHEM

Case No.: LB89177

SAS No.: LB89177

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	96.9	99	98	0	85 - 115	CN	08/01/2017	13:29	LB89177

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB89177**SDG No.:** LB89177**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB89177**SAS No.:** LB89177**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	250	250	100	0	85 - 115	CN	08/01/2017	13:29	LB89177
CCV002	Cyanide	257	250	103	0	85 - 115	CN	08/01/2017	13:38	LB89177



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89177 **SDG No.:** LB89177
Contract: **Lab Code:** CHEM **Case No.:** LB89177 **SAS No.:** LB89177

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	08/01/2017	13:29	LB89177



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89177

SDG No.: LB89177

Contract:

Lab Code: CHEM

Case No.: LB89177

SAS No.: LB89177

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB001	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	08/01/2017	13:29	LB89177
CCB002	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	08/01/2017	13:38	LB89177



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:

LB89177

SDG No.:

LB89177

Contract:

Lab Code:

CHEM

Case No.:

LB89177

SAS No.:

LB89177

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: LB89177

SDG No.: LB89177

Instrument: CN

Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB101102BL		SOLID		Batch Number:		PB101102		Prep Date:	07/31/2017	
	Cyanide	0.054	<0.49	J	0.012	0.49	CN	08/01/2017	13:29	LB89177



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB89177 level: low sdg no.: LB89177
contract: lab code: CHEM case no.: LB89177 sas no.: LB89177
matrix: Solid sample id: I4520-05 client id: MBC8C0S
Percent Solids for Sample: 93.6 Spiked ID: I4520-07 Percent Solids for Spike Sample: 93.6

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.4		0.52	U	5.1	86		CN

Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB89177 **Level:** LOW **SDG No.:** LB89177
Contract: **Lab Code:** CHEM **Case No.:** LB89177 **SAS No.:** LB89177
Matrix: Solid **Sample ID:** I4520-05 **Client ID:** MBC8C0D
Percent Solids for Sample: 93.6 **Duplicate ID** I4520-06 **Percent Solids for Spike Sample:** 93.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.52	U		0	U		CN

Daily Analysis Runlog For Sequence/QC Batch ID # LB89177

Review By

SubDirectory

Review On

Test : Cyanide

LB89177

STD. NAME		STD REF.#				
ICAL Standard		WP56816,WP56815,WP56814,WP56813,WP56812,WP56811				
ICV Standard		WP56817				
CCV Standard		WP56818				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP56835,WP55836,WP53945				

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	08/01/17 12:56		OK
2	S5.0	S5.0	CAL2	08/01/17 12:56		OK
3	S10.0	S10.0	CAL3	08/01/17 12:56		OK
4	S100.0	S100.0	CAL4	08/01/17 12:56		OK
5	S250.0	S250.0	CAL5	08/01/17 12:56		OK
6	S500.0	S500.0	CAL6	08/01/17 12:56		OK
7	ICV	ICV	ICV	08/01/17 13:29		OK
8	ICB	ICB	ICB	08/01/17 13:29		OK
9	CCV001	CCV001	CCV	08/01/17 13:29		OK
10	CCB001	CCB001	CCB	08/01/17 13:29		OK
11	PB101102BL	PBS006	MB	08/01/17 13:29		OK
12	I4520-01	MBC8B5	SAM	08/01/17 13:29		OK
13	I4520-02	MBC8B7	SAM	08/01/17 13:34		OK
14	I4520-03	MBC8B8	SAM	08/01/17 13:34		OK
15	I4520-04	MBC8B9	SAM	08/01/17 13:34		OK
16	I4520-05	MBC8C0	SAM	08/01/17 13:34		OK
17	I4520-06	MBC8C0D	DUP	08/01/17 13:34		OK
18	I4520-07	MBC8C0S	MS	08/01/17 13:38		OK
19	I4520-08	MBC8C1	SAM	08/01/17 13:38		OK
20	CCV002	CCV002	CCV	08/01/17 13:38		OK
21	CCB002	CCB002	CCB	08/01/17 13:38		OK