



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

Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AD9	SDG No.:	LB86273
Lab Sample ID:	I2098-01	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AE0	SDG No.:	LB86273
Lab Sample ID:	I2098-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AE1	SDG No.:	LB86273
Lab Sample ID:	I2098-05	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AE2	SDG No.:	LB86273
Lab Sample ID:	I2098-06	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AE3	SDG No.:	LB86273
Lab Sample ID:	I2098-07	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/27/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/3/2017 12:00:00 AM
Client Sample ID:	MC0AF1	SDG No.:	LB86273
Lab Sample ID:	I2098-08	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	1.5	5	10	ug/L	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ8	SDG No.:	LB86273
Lab Sample ID:	I2104-01	Matrix:	Solid
Level (low/med):	low	% Solid:	86.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.13	J	1	0.059	0.013	0.54	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ9	SDG No.:	LB86273
Lab Sample ID:	I2104-02	Matrix:	Solid
Level (low/med):	low	% Solid:	37.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.32	J	1	0.14	0.031	1.2	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK0	SDG No.:	LB86273
Lab Sample ID:	I2104-03	Matrix:	Solid
Level (low/med):	low	% Solid:	84.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.062	0.014	0.56	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK1	SDG No.:	LB86273
Lab Sample ID:	I2104-06	Matrix:	Solid
Level (low/med):	low	% Solid:	52.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.25	J	1	0.11	0.024	0.96	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK2	SDG No.:	LB86273
Lab Sample ID:	I2104-07	Matrix:	Solid
Level (low/med):	low	% Solid:	70.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.17	J	1	0.073	0.016	0.66	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK3	SDG No.:	LB86273
Lab Sample ID:	I2104-08	Matrix:	Solid
Level (low/med):	low	% Solid:	70.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.1	J	1	0.071	0.016	0.65	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK4	SDG No.:	LB86273
Lab Sample ID:	I2104-09	Matrix:	Solid
Level (low/med):	low	% Solid:	76.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.076	J	1	0.072	0.016	0.66	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK5	SDG No.:	LB86273
Lab Sample ID:	I2104-10	Matrix:	Solid
Level (low/med):	low	% Solid:	79.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.021	U	1	0.063	0.014	0.57	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK6	SDG No.:	LB86273
Lab Sample ID:	I2104-11	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	U	1	0.064	0.015	0.58	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/1/2017 12:00:00 AM
Client Sample ID:	MDABX4	SDG No.:	LB86273
Lab Sample ID:	I2153-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	5.4		1	0.053	0.012	0.49	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABX8	SDG No.:	LB86273
Lab Sample ID:	I2153-04	Matrix:	Solid
Level (low/med):	low	% Solid:	95

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.056	0.013	0.51	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY8	SDG No.:	LB86273
Lab Sample ID:	I2153-07	Matrix:	Solid
Level (low/med):	low	% Solid:	93.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.056	0.013	0.51	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY9	SDG No.:	LB86273
Lab Sample ID:	I2153-08	Matrix:	Solid
Level (low/med):	low	% Solid:	93.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.058	0.013	0.53	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ0	SDG No.:	LB86273
Lab Sample ID:	I2153-09	Matrix:	Solid
Level (low/med):	low	% Solid:	98.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.054	0.012	0.49	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ1	SDG No.:	LB86273
Lab Sample ID:	I2153-10	Matrix:	Solid
Level (low/med):	low	% Solid:	94.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.055	0.012	0.5	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ2	SDG No.:	LB86273
Lab Sample ID:	I2153-11	Matrix:	Solid
Level (low/med):	low	% Solid:	93.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.055	0.012	0.5	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ3	SDG No.:	LB86273
Lab Sample ID:	I2153-12	Matrix:	Solid
Level (low/med):	low	% Solid:	92

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	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ4	SDG No.:	LB86273
Lab Sample ID:	I2153-13	Matrix:	Solid
Level (low/med):	low	% Solid:	94.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.056	0.013	0.51	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/1/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ5	SDG No.:	LB86273
Lab Sample ID:	I2153-14	Matrix:	Solid
Level (low/med):	low	% Solid:	96.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.054	0.012	0.49	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ6	SDG No.:	LB86273
Lab Sample ID:	I2153-15	Matrix:	Solid
Level (low/med):	low	% Solid:	95.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.054	0.012	0.49	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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

Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ7	SDG No.:	LB86273
Lab Sample ID:	I2153-16	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	U	1	0.059	0.013	0.53	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ8	SDG No.:	LB86273
Lab Sample ID:	I2153-17	Matrix:	Solid
Level (low/med):	low	% Solid:	89.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.058	0.013	0.52	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	2/28/2017 12:00:00 AM
Project:	LB86273	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ8	SDG No.:	LB86273
Lab Sample ID:	I2153-17	Matrix:	Solid
Level (low/med):	low	% Solid:	89.1

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>LB86273</u>	SDG No.: <u>LB86273</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB86273</u>	SAS No.: <u>LB86273</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB97473							
PB97473BL	PBS006	MB	SOLID	03/09/2017	1.00	50.0	100.00
I2153-03	MDABX4	SAM	SOLID	03/09/2017	1.03	50.0	100.00
I2153-04	MDABX8	SAM	SOLID	03/09/2017	1.03	50.0	95.00
I2153-05	MDABX8D	DUP	SOLID	03/09/2017	1.03	50.0	95.00
I2153-06	MDABX8S	MS	SOLID	03/09/2017	1.02	50.0	95.00
I2153-07	MDABY8	SAM	SOLID	03/09/2017	1.05	50.0	93.10
I2153-08	MDABY9	SAM	SOLID	03/09/2017	1.01	50.0	93.20
I2153-09	MDABZ0	SAM	SOLID	03/09/2017	1.03	50.0	98.90
I2153-10	MDABZ1	SAM	SOLID	03/09/2017	1.06	50.0	94.90
I2153-11	MDABZ2	SAM	SOLID	03/09/2017	1.07	50.0	93.70
I2153-12	MDABZ3	SAM	SOLID	03/09/2017	1.04	50.0	92.00
I2153-13	MDABZ4	SAM	SOLID	03/09/2017	1.04	50.0	94.40
I2153-14	MDABZ5	SAM	SOLID	03/09/2017	1.06	50.0	96.50
I2153-15	MDABZ6	SAM	SOLID	03/09/2017	1.06	50.0	95.40
I2153-16	MDABZ7	SAM	SOLID	03/09/2017	1.00	50.0	93.60
I2153-17	MDABZ8	SAM	SOLID	03/09/2017	1.07	50.0	89.10

Metals
- 13 -

SAMPLE PREPARATION SUMMARY

Client: <u>LB86273</u>	SDG No.: <u>LB86273</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB86273</u>	SAS No.: <u>LB86273</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB97478							
PB97478BL	PBS006	MB	SOLID	03/09/2017	1.00	50.0	100.00
I2104-01	MC0AJ8	SAM	SOLID	03/09/2017	1.07	50.0	86.90
I2104-02	MC0AJ9	SAM	SOLID	03/09/2017	1.08	50.0	37.30
I2104-03	MC0AK0	SAM	SOLID	03/09/2017	1.05	50.0	84.50
I2104-04	MC0AK0D	DUP	SOLID	03/09/2017	1.02	50.0	84.50
I2104-06	MC0AK1	SAM	SOLID	03/09/2017	1.00	50.0	52.10
I2104-07	MC0AK2	SAM	SOLID	03/09/2017	1.08	50.0	70.20
I2104-08	MC0AK3	SAM	SOLID	03/09/2017	1.10	50.0	70.40
I2104-09	MC0AK4	SAM	SOLID	03/09/2017	1.00	50.0	76.10
I2104-10	MC0AK5	SAM	SOLID	03/09/2017	1.10	50.0	79.40
I2104-11	MC0AK6	SAM	SOLID	03/09/2017	1.02	50.0	83.90
I2104-05	MC0AK0S	MS	SOLID	03/09/2017	1.02	50.0	84.50

Metals
- 13 -

SAMPLE PREPARATION SUMMARY

Client: <u>LB86273</u>	SDG No.: <u>LB86273</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB86273</u>	SAS No.: <u>LB86273</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB97479							
PB97479BL	PBW005	MB	WATER	03/09/2017	50.0	50.0	
I2098-01	MC0AD9	SAM	WATER	03/09/2017	50.0	50.0	
I2098-02	MC0AE0	SAM	WATER	03/09/2017	50.0	50.0	
I2098-03	MC0AE0D	DUP	WATER	03/09/2017	50.0	50.0	
I2098-04	MC0AE0S	MS	WATER	03/09/2017	50.0	50.0	
I2098-05	MC0AE1	SAM	WATER	03/09/2017	50.0	50.0	
I2098-06	MC0AE2	SAM	WATER	03/09/2017	50.0	50.0	
I2098-07	MC0AE3	SAM	WATER	03/09/2017	50.0	50.0	
I2098-08	MC0AF1	SAM	WATER	03/09/2017	50.0	50.0	

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB86273 Contract: _____
Lab Code: CHEM Case No.: LB86273 MA No.: _____ SDG No.: LB86273
Instrument ID: CN Start Date: 03/09/2017
Analytical Method: _____ Run Batch: LB86273.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	0	0	0	5	4.8	-4	10	9.5	-5

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB86273 Contract: _____
Lab Code: CHEM Case No.: LB86273 MA No.: _____ SDG No.: LB86273
Instrument ID: CN Start Date: 03/09/2017
Analytical Method: _____ Run Batch: LB86273.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	100	102	2	250	251	0	500	499	0

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB86273**SDG No.:** LB86273**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB86273 **SAS No.:** LB86273**Initial Calibration Source:** _____**Continuing Calibration Source:** _____

Sample ID	Analyte	Result	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
		ug/L								
ICV	Cyanide	95.5	99	96	0	85 - 115	CN	03/09/2017	17:19	LB86273



Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86273

SDG No.: LB86273

Contract: _____ Lab Code: CHEM

Case No.: LB86273

SAS No.: LB86273

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	03/09/2017	17:19	LB86273
CCV002	Cyanide	254	250	102	0	85 - 115	CN	03/09/2017	17:47	LB86273
CCV003	Cyanide	255	250	102	0	85 - 115	CN	03/09/2017	18:06	LB86273



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86273 **SDG No.:** LB86273
Contract: **Lab Code:** CHEM **Case No.:** LB86273 **SAS No.:** LB86273

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	03/09/2017	17:19	LB86273



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86273

SDG No.: LB86273

Contract:

Lab Code: CHEM

Case No.: LB86273

SAS No.: LB86273

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	03/09/2017	17:19	LB86273
CCB002	Cyanide	0.31	+/-10.0	U	5.0	10.0	CN	03/09/2017	17:47	LB86273
CCB003	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/09/2017	18:06	LB86273



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:

LB86273

SDG No.:

LB86273

Contract:

Lab Code:

CHEM

Case No.:

LB86273

SAS No.:

LB86273

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: LB86273

SDG No.: LB86273

Instrument: CN

Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB97473BL		SOLID		Batch Number:	PB97473			Prep Date:	03/09/2017	
	Cyanide	0.055	<0.5	U	0.013	0.5	CN	03/09/2017	17:19	LB86273
Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB97478BL		SOLID		Batch Number:	PB97478			Prep Date:	03/09/2017	
	Cyanide	0.055	<0.5	U	0.013	0.5	CN	03/09/2017	17:34	LB86273
Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB97479BL		WATER		Batch Number:	PB97479			Prep Date:	03/09/2017	
	Cyanide	1.5	<10	U	5.0	10	CN	03/09/2017	17:42	LB86273



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB86273 level: low sdg no.: LB86273
contract: lab code: CHEM case no.: LB86273 sas no.: LB86273
matrix: WATER sample id: I2098-02 client id: MC0AE0S
Percent Solids for Sample: 0 Spiked ID: I2098-04 Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	ug/L	75 - 125	77.3		10.0	U	100	77		CN



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB86273 level: low sdg no.: LB86273
contract: lab code: CHEM case no.: LB86273 sas no.: LB86273
matrix: Solid sample id: I2104-03 client id: MC0AK0S
Percent Solids for Sample: 84.5 Spiked ID: I2104-05 Percent Solids for Spike Sample: 84.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.7		0.56	U	5.8	81		CN



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB86273 level: low sdg no.: LB86273
contract: lab code: CHEM case no.: LB86273 sas no.: LB86273
matrix: Solid sample id: I2153-04 client id: MDABX8S
Percent Solids for Sample: 95 Spiked ID: I2153-06 Percent Solids for Spike Sample: 95

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.7		0.51	U	5.2	90		CN



Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86273 Level: LOW SDG No.: LB86273
Contract: Lab Code: CHEM Case No.: LB86273 SAS No.: LB86273
Matrix: WATER Sample ID: I2098-02 Client ID: MC0AE0D
Percent Solids for Sample: 0 Duplicate ID I2098-03 Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	ug/L	20	10.0	U		0	U		CN

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86273 **Level:** LOW **SDG No.:** LB86273
Contract: **Lab Code:** CHEM **Case No.:** LB86273 **SAS No.:** LB86273
Matrix: Solid **Sample ID:** I2104-03 **Client ID:** MC0AK0D
Percent Solids for Sample: 84.5 **Duplicate ID** I2104-04 **Percent Solids for Spike Sample:** 84.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.56	U	0.024	U			CN

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86273 **Level:** LOW **SDG No.:** LB86273
Contract: **Lab Code:** CHEM **Case No.:** LB86273 **SAS No.:** LB86273
Matrix: Solid **Sample ID:** I2153-04 **Client ID:** MDABX8D
Percent Solids for Sample: 95 **Duplicate ID** I2153-05 **Percent Solids for Spike Sample:** 95

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.51	U		0	U		CN

Daily Analysis Runlog For Sequence/QC Batch ID # LB86273

Review By		Review On				
SubDirectory		LB86273		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53410,WP53409,WP50408,WP53407,WP53406,WP53405,WP53404				
ICV Standard		WP53411				
CCV Standard		WP53412				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP53413,WP50159,WP51276				
Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	03/09/17 13:10		OK
2	S5.0	S5.0	CAL2	03/09/17 13:10		OK
3	S10.0	S10.0	CAL3	03/09/17 13:10		OK
4	S100.0	S100.0	CAL4	03/09/17 13:10		OK
5	S250.0	S250.0	CAL5	03/09/17 13:10		OK
6	S500.0	S500.0	CAL6	03/09/17 13:10		OK
7	ICV	ICV	ICV	03/09/17 17:19		OK
8	ICB	ICB	ICB	03/09/17 17:19		OK
9	CCV001	CCV001	CCV	03/09/17 17:19		OK
10	CCB001	CCB001	CCB	03/09/17 17:19		OK
11	PB97473BL	PBS006	MB	03/09/17 17:19		OK
12	I2153-03	MDABX4	SAM	03/09/17 17:19		OK
13	I2153-04	MDABX8	SAM	03/09/17 17:27		OK
14	I2153-05	MDABX8D	DUP	03/09/17 17:27		OK
15	I2153-06	MDABX8S	MS	03/09/17 17:27		OK
16	I2153-07	MDABY8	SAM	03/09/17 17:27		OK
17	I2153-08	MDABY9	SAM	03/09/17 17:27		OK
18	I2153-09	MDABZ0	SAM	03/09/17 17:27		OK
19	I2153-10	MDABZ1	SAM	03/09/17 17:27		OK
20	I2153-11	MDABZ2	SAM	03/09/17 17:27		OK
21	I2153-12	MDABZ3	SAM	03/09/17 17:27		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB86273

Review By			Review On			
SubDirectory		LB86273		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53410,WP53409,WP50408,WP53407,WP53406,WP53405,WP53404				
ICV Standard		WP53411				
CCV Standard		WP53412				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP53413,WP50159,WP51276				
22	I2153-13	MDABZ4	SAM	03/09/17 17:27		OK
23	I2153-14	MDABZ5	SAM	03/09/17 17:34		OK
24	I2153-15	MDABZ6	SAM	03/09/17 17:34		OK
25	I2153-16	MDABZ7	SAM	03/09/17 17:34		OK
26	I2153-17	MDABZ8	SAM	03/09/17 17:34		OK
27	PB97478BL	PBS006	MB	03/09/17 17:34		OK
28	I2104-01	MC0AJ8	SAM	03/09/17 17:34		OK
29	I2104-02	MC0AJ9	SAM	03/09/17 17:34		OK
30	I2104-03	MC0AK0	SAM	03/09/17 17:34		OK
31	I2104-04	MC0AK0D	DUP	03/09/17 17:34		OK
32	I2104-06	MC0AK1	SAM	03/09/17 17:34		OK
33	I2104-07	MC0AK2	SAM	03/09/17 17:42		OK
34	I2104-08	MC0AK3	SAM	03/09/17 17:42		OK
35	I2104-09	MC0AK4	SAM	03/09/17 17:42		OK
36	I2104-10	MC0AK5	SAM	03/09/17 17:42		OK
37	I2104-11	MC0AK6	SAM	03/09/17 17:42		OK
38	PB97479BL	PBW005	MB	03/09/17 17:42		OK
39	I2098-01	MC0AD9	SAM	03/09/17 17:42		OK
40	I2098-02	MC0AE0	SAM	03/09/17 17:42		OK
41	I2098-03	MC0AE0D	DUP	03/09/17 17:42		OK
42	I2098-04	MC0AE0S	MS	03/09/17 17:42		OK
43	I2098-05	MC0AE1	SAM	03/09/17 17:42		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB86273

Review By		Review On				
SubDirectory		LB86273		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53410,WP53409,WP50408,WP53407,WP53406,WP53405,WP53404 WP53411 WP53412 WP53413,WP50159,WP51276				
ICV Standard						
CCV Standard						
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard						
44	I2098-06	MC0AE2	SAM	03/09/17 17:47		OK
45	I2098-07	MC0AE3	SAM	03/09/17 17:47		OK
46	I2098-08	MC0AF1	SAM	03/09/17 17:47		OK
47	CCV002	CCV002	CCV	03/09/17 17:47		OK
48	CCB002	CCB002	CCB	03/09/17 17:47		OK
49	I2104-05	MC0AK0S	MS	03/09/17 17:49		OK
50	CCV003	CCV003	CCV	03/09/17 18:06		OK
51	CCB003	CCB003	CCB	03/09/17 18:06		OK