

Daily Analysis Runlog For Sequence/QC Batch ID # LB86257

Review By		Review On				
SubDirectory		LB86257		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53375,WP53374,WP53373,WP53372,WP53371,WP53370				
ICV Standard		WP53376				
CCV Standard		WP53377				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP53380,WP50159,WP51276				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	03/08/17 09:06		OK
2	S5.0	S5.0	CAL2	03/08/17 09:06		OK
3	S10.0	S10.0	CAL3	03/08/17 09:06		OK
4	S100.0	S100.0	CAL4	03/08/17 09:06		OK
5	S250.0	S250.0	CAL5	03/08/17 09:06		OK
6	S500.0	S500.0	CAL6	03/08/17 09:06		OK
7	ICV	ICV	ICV	03/08/17 11:48		OK
8	ICB	ICB	ICB	03/08/17 11:48		OK
9	CCV001	CCV001	CCV	03/08/17 11:48		OK
10	CCB001	CCB001	CCB	03/08/17 11:48		OK
11	PB97407BL	PBS006	MB	03/08/17 11:56		OK
12	I2105-01	MC0AA5	SAM	03/08/17 11:56		OK
13	I2105-02	MC0AA5D	DUP	03/08/17 11:56		OK
14	I2105-03	MC0AA5S	MS	03/08/17 11:56		OK
15	I2105-04	MC0AJ3	SAM	03/08/17 11:56		OK
16	I2105-05	MC0AJ4	SAM	03/08/17 11:56		OK
17	I2105-06	MC0AJ5	SAM	03/08/17 12:03		OK
18	I2105-07	MC0AJ6	SAM	03/08/17 12:03		OK
19	I2105-08	MC0AJ7	SAM	03/08/17 12:03		OK
20	I2105-09	MC0AJ8	SAM	03/08/17 12:03		OK
21	I2105-10	MC0AJ9	SAM	03/08/17 12:03		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB86257

Review By		Review On				
SubDirectory		Test : Cyanide				
LB86257						
STD. NAME		STD REF.#				
ICAL Standard		WP53375,WP53374,WP53373,WP53372,WP53371,WP53370				
ICV Standard		WP53376				
CCV Standard		WP53377				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP53380,WP50159,WP51276				
22	I2105-11	MC0AK0	SAM	03/08/17 12:03		OK
23	I2105-12	MC0AK1	SAM	03/08/17 12:03		OK
24	I2105-13	MC0AK2	SAM	03/08/17 12:03		OK
25	I2105-14	MC0AK9	SAM	03/08/17 12:03		OK
26	I2105-15	MC0AL0	SAM	03/08/17 12:03		OK
27	I2105-16	MC0AL1	SAM	03/08/17 12:09		OK
28	I2105-17	MC0AL3	SAM	03/08/17 12:09		OK
29	CCV002	CCV002	CCV	03/08/17 12:09		OK
30	CCB002	CCB002	CCB	03/08/17 12:09		OK

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB86257**SDG No.:** LB86257**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB86257 **SAS No.:** LB86257**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	92.6	99	94	0	85 - 115	CN	03/08/2017	11:48	LB86257



Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86257

SDG No.: LB86257

Contract: _____ Lab Code: CHEM

Case No.: LB86257

SAS No.: LB86257

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	237	250	95	0	85 - 115	CN	03/08/2017	11:48	LB86257
CCV002	Cyanide	250	250	100	0	85 - 115	CN	03/08/2017	12:09	LB86257



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86257 **SDG No.:** LB86257
Contract: **Lab Code:** CHEM **Case No.:** LB86257 **SAS No.:** LB86257

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	03/08/2017	11:48	LB86257



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86257

SDG No.: LB86257

Contract:

Lab Code: CHEM

Case No.: LB86257

SAS No.: LB86257

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	03/08/2017	11:48	LB86257
CCB002	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/08/2017	12:09	LB86257



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86257

SDG No.: LB86257

Contract: Lab Code: CHEM

Case No.: LB86257

SAS No.: LB86257

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AA5	SDG No.:	LB86257
Lab Sample ID:	I2105-01	Matrix:	Solid
Level (low/med):	low	% Solid:	63.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.1	J	1	0.086	0.02	0.78	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ3	SDG No.:	LB86257
Lab Sample ID:	I2105-04	Matrix:	Solid
Level (low/med):	low	% Solid:	78.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.65		1	0.064	0.015	0.58	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ4	SDG No.:	LB86257
Lab Sample ID:	I2105-05	Matrix:	Solid
Level (low/med):	low	% Solid:	70.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.086	J	1	0.074	0.017	0.68	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ5	SDG No.:	LB86257
Lab Sample ID:	I2105-06	Matrix:	Solid
Level (low/med):	low	% Solid:	75.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.072	J	1	0.068	0.015	0.62	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ6	SDG No.:	LB86257
Lab Sample ID:	I2105-07	Matrix:	Solid
Level (low/med):	low	% Solid:	82.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.58	J	1	0.066	0.015	0.6	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ7	SDG No.:	LB86257
Lab Sample ID:	I2105-08	Matrix:	Solid
Level (low/med):	low	% Solid:	67.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.14	J	1	0.08	0.018	0.73	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ8	SDG No.:	LB86257
Lab Sample ID:	I2105-09	Matrix:	Solid
Level (low/med):	low	% Solid:	53

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.38	J	1	0.098	0.022	0.89	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AJ9	SDG No.:	LB86257
Lab Sample ID:	I2105-10	Matrix:	Solid
Level (low/med):	low	% Solid:	68.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.27	J	1	0.074	0.017	0.67	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK0	SDG No.:	LB86257
Lab Sample ID:	I2105-11	Matrix:	Solid
Level (low/med):	low	% Solid:	78.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.83		1	0.068	0.016	0.62	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK1	SDG No.:	LB86257
Lab Sample ID:	I2105-12	Matrix:	Solid
Level (low/med):	low	% Solid:	64.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.49	J	1	0.084	0.019	0.76	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/2/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK2	SDG No.:	LB86257
Lab Sample ID:	I2105-13	Matrix:	Solid
Level (low/med):	low	% Solid:	59.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.16	J	1	0.089	0.02	0.81	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AK9	SDG No.:	LB86257
Lab Sample ID:	I2105-14	Matrix:	Solid
Level (low/med):	low	% Solid:	69.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.23	J	1	0.078	0.018	0.71	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AL0	SDG No.:	LB86257
Lab Sample ID:	I2105-15	Matrix:	Solid
Level (low/med):	low	% Solid:	72.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.07	0.016	0.63	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AL1	SDG No.:	LB86257
Lab Sample ID:	I2105-16	Matrix:	Solid
Level (low/med):	low	% Solid:	70.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.074	0.017	0.67	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AL3	SDG No.:	LB86257
Lab Sample ID:	I2105-17	Matrix:	Solid
Level (low/med):	low	% Solid:	49.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.027	U	1	0.1	0.023	0.93	mg/kg	03/07/2017	03/08/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86257	Date Received:	3/4/2017 12:00:00 AM
Client Sample ID:	MC0AL3	SDG No.:	LB86257
Lab Sample ID:	I2105-17	Matrix:	Solid
Level (low/med):	low	% Solid:	49.6

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
- 3b -
PREPARATION BLANK SUMMARY

Client: LB86257

SDG No.: LB86257

Instrument: CN

Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB97407BL		SOLID		Batch Number:		PB97407		Prep Date:	03/07/2017	
	Cyanide	0.055	<0.5	U	0.013	0.5	CN	03/08/2017	11:56	LB86257



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB86257 level: low sdg no.: LB86257
contract: lab code: CHEM case no.: LB86257 sas no.: LB86257
matrix: Solid sample id: I2105-01 client id: MC0AA5S
Percent Solids for Sample: 63.8 Spiked ID: I2105-03 Percent Solids for Spike Sample: 63.8

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	6.1		0.1	J	7.8	77		CN

Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB86257 **Level:** LOW **SDG No.:** LB86257
Contract: **Lab Code:** CHEM **Case No.:** LB86257 **SAS No.:** LB86257
Matrix: Solid **Sample ID:** I2105-01 **Client ID:** MC0AA5D
Percent Solids for Sample: 63.8 **Duplicate ID** I2105-02 **Percent Solids for Spike Sample:** 63.8

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.1	J	0.097	J	3		CN

**Metals
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SAMPLE PREPARATION SUMMARY

Client: <u>LB86257</u>	SDG No.: <u>LB86257</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB86257</u>	SAS No.: <u>LB86257</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB97407							
PB97407BL	PBS006	MB	SOLID	03/08/2017	1.00	50.0	100.00
I2105-01	MC0AA5	SAM	SOLID	03/08/2017	1.00	50.0	63.80
I2105-02	MC0AA5D	DUP	SOLID	03/08/2017	1.00	50.0	63.80
I2105-03	MC0AA5S	MS	SOLID	03/08/2017	1.01	50.0	63.80
I2105-04	MC0AJ3	SAM	SOLID	03/08/2017	1.09	50.0	78.60
I2105-05	MC0AJ4	SAM	SOLID	03/08/2017	1.05	50.0	70.50
I2105-06	MC0AJ5	SAM	SOLID	03/08/2017	1.07	50.0	75.50
I2105-07	MC0AJ6	SAM	SOLID	03/08/2017	1.02	50.0	82.30
I2105-08	MC0AJ7	SAM	SOLID	03/08/2017	1.01	50.0	67.90
I2105-09	MC0AJ8	SAM	SOLID	03/08/2017	1.06	50.0	53.00
I2105-10	MC0AJ9	SAM	SOLID	03/08/2017	1.08	50.0	68.70
I2105-11	MC0AK0	SAM	SOLID	03/08/2017	1.03	50.0	78.20
I2105-12	MC0AK1	SAM	SOLID	03/08/2017	1.02	50.0	64.50
I2105-13	MC0AK2	SAM	SOLID	03/08/2017	1.03	50.0	59.80
I2105-14	MC0AK9	SAM	SOLID	03/08/2017	1.02	50.0	69.50
I2105-15	MC0AL0	SAM	SOLID	03/08/2017	1.09	50.0	72.60
I2105-16	MC0AL1	SAM	SOLID	03/08/2017	1.05	50.0	70.80
I2105-17	MC0AL3	SAM	SOLID	03/08/2017	1.08	50.0	49.60