

Daily Analysis Runlog For Sequence/QC Batch ID # LB86270

Review By		Review On				
SubDirectory		LB86270		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 13:44		OK
8	ICB	ICB	ICB	03/09/17 13:44		OK
9	CCV001	CCV001	CCV	03/09/17 13:44		OK
10	CCB001	CCB001	CCB	03/09/17 13:44		OK
11	PB97436BL	PBS006	MB	03/09/17 13:44		OK
12	I2151-03	MDABX3	SAM	03/09/17 13:51		OK
13	I2151-07	MDABX9	SAM	03/09/17 13:51		OK
14	I2151-08	MDABY0	SAM	03/09/17 13:51		OK
15	I2151-09	MDABY1	SAM	03/09/17 13:51		OK
16	I2151-10	MDABY2	SAM	03/09/17 13:51		OK
17	I2151-11	MDABY3	SAM	03/09/17 13:51		OK
18	I2151-12	MDABY4	SAM	03/09/17 13:51		OK
19	I2151-13	MDABY5	SAM	03/09/17 13:51		OK
20	I2151-14	MDABY6	SAM	03/09/17 13:58		OK
21	I2151-15	MDABY7	SAM	03/09/17 13:58		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB86270

Review By		Review On				
SubDirectory LB86270		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	I2151-16	MDABZ9	SAM	03/09/17 13:58		OK
23	I2151-17	MDAC00	SAM	03/09/17 13:58		OK
24	I2151-18	MDAC01	SAM	03/09/17 13:58		OK
25	I2151-19	MDAC02	SAM	03/09/17 13:58		OK
26	CCV002	CCV002	CCV	03/09/17 13:58		OK
27	CCB002	CCB002	CCB	03/09/17 13:58		OK
28	I2151-04	MDABX7	SAM	03/09/17 14:20		OK
29	I2151-05	MDABX7D	DUP	03/09/17 14:20		OK
30	I2151-06	MDABX7S	MS	03/09/17 14:20		OK
31	CCV003	CCV003	CCV	03/09/17 14:20		OK
32	CCB003	CCB003	CCB	03/09/17 14:20		OK



Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86270

SDG No.: LB86270

Contract: _____ **Lab Code:** CHEM

Case No.: LB86270

SAS No.: LB86270

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	97.6	99	99	0	85 - 115	CN	03/09/2017	13:44	LB86270

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB86270**SDG No.:** LB86270**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB86270**SAS No.:** LB86270**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	246	250	98	0	85 - 115	CN	03/09/2017	13:44	LB86270
CCV002	Cyanide	243	250	97	0	85 - 115	CN	03/09/2017	13:58	LB86270
CCV003	Cyanide	251	250	100	0	85 - 115	CN	03/09/2017	14:20	LB86270



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86270 **SDG No.:** LB86270
Contract: **Lab Code:** CHEM **Case No.:** LB86270 **SAS No.:** LB86270

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB	Cyanide	0.83	+/-10.0	U	5.0	10.0	CN	03/09/2017	13:44	LB86270



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86270

SDG No.: LB86270

Contract:

Lab Code: CHEM

Case No.: LB86270

SAS No.: LB86270

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB001	Cyanide	1.4	+/-10.0	U	5.0	10.0	CN	03/09/2017	13:44	LB86270
CCB002	Cyanide	1.3	+/-10.0	U	5.0	10.0	CN	03/09/2017	13:58	LB86270
CCB003	Cyanide	0.42	+/-10.0	U	5.0	10.0	CN	03/09/2017	14:20	LB86270



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86270

SDG No.: LB86270

Contract: Lab Code: CHEM

Case No.: LB86270

SAS No.: LB86270

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:	2/28/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/1/2017 12:00:00 AM
Client Sample ID:	MDABX3	SDG No.:	LB86270
Lab Sample ID:	I2151-03	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	1.2		1	0.055	0.013	0.5	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABX7	SDG No.:	LB86270
Lab Sample ID:	I2151-04	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	0.036	U	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABX9	SDG No.:	LB86270
Lab Sample ID:	I2151-07	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	0.054	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY0	SDG No.:	LB86270
Lab Sample ID:	I2151-08	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	0.011	U	1	0.057	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY1	SDG No.:	LB86270
Lab Sample ID:	I2151-09	Matrix:	Solid
Level (low/med):	low	% Solid:	92.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.013	U	1	0.058	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:	3/2/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY2	SDG No.:	LB86270
Lab Sample ID:	I2151-10	Matrix:	Solid
Level (low/med):	low	% Solid:	91.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.018	U	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY3	SDG No.:	LB86270
Lab Sample ID:	I2151-11	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	0.014	U	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY4	SDG No.:	LB86270
Lab Sample ID:	I2151-12	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	03/09/2017	03/09/2017	ISM02.2_CN

Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY5	SDG No.:	LB86270
Lab Sample ID:	I2151-13	Matrix:	Solid
Level (low/med):	low	% Solid:	91.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.059	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:	2/28/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY6	SDG No.:	LB86270
Lab Sample ID:	I2151-14	Matrix:	Solid
Level (low/med):	low	% Solid:	94.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.47	J	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABY7	SDG No.:	LB86270
Lab Sample ID:	I2151-15	Matrix:	Solid
Level (low/med):	low	% Solid:	93.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.028	U	1	0.056	0.013	0.51	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDABZ9	SDG No.:	LB86270
Lab Sample ID:	I2151-16	Matrix:	Solid
Level (low/med):	low	% Solid:	91.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.007	U	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDAC00	SDG No.:	LB86270
Lab Sample ID:	I2151-17	Matrix:	Solid
Level (low/med):	low	% Solid:	98.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.021	U	1	0.056	0.013	0.51	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:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDAC01	SDG No.:	LB86270
Lab Sample ID:	I2151-18	Matrix:	Solid
Level (low/med):	low	% Solid:	94.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.14	J	1	0.058	0.013	0.53	mg/kg	03/09/2017	03/09/2017	ISM02.2_CN

Report of Analysis

Client:		Date Collected:	3/3/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDAC02	SDG No.:	LB86270
Lab Sample ID:	I2151-19	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	0.016	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:	3/3/2017 12:00:00 AM
Project:	LB86270	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	MDAC02	SDG No.:	LB86270
Lab Sample ID:	I2151-19	Matrix:	Solid
Level (low/med):	low	% Solid:	93

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



Hit Summary Sheet
SW-846

SDG No.: LB86270

Order ID: LB86270

Client: LB86270

Project ID: LB86270

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : MDABX3									
I2151-03	MDABX3	Solid	Cyanide	1.200		0.055	0.25	0.5	mg/kg
Client ID : MDABY6									
I2151-14	MDABY6	Solid	Cyanide	0.470	J	0.056	0.255	0.51	mg/kg
Client ID : MDAC01									
I2151-18	MDAC01	Solid	Cyanide	0.140	J	0.058	0.265	0.53	mg/kg



metals
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MATRIX SPIKE SUMMARY

client: LB86270 level: low sdg no.: LB86270
contract: lab code: CHEM case no.: LB86270 sas no.: LB86270
matrix: Solid sample id: I2151-04 client id: MDABX7S
Percent Solids for Sample: 96.5 Spiked ID: I2151-06 Percent Solids for Spike Sample: 96.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.0		0.51	U	5.1	78		CN

Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB86270 **Level:** LOW **SDG No.:** LB86270
Contract: **Lab Code:** CHEM **Case No.:** LB86270 **SAS No.:** LB86270
Matrix: Solid **Sample ID:** I2151-04 **Client ID:** MDABX7D
Percent Solids for Sample: 96.5 **Duplicate ID** I2151-05 **Percent Solids for Spike Sample:** 96.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.51	U	0.039	U			CN

**Metals
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SAMPLE PREPARATION SUMMARY

Client: <u>LB86270</u>	SDG No.: <u>LB86270</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB86270</u>	SAS No.: <u>LB86270</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB97436							
PB97436BL	PBS006	MB	SOLID	03/09/2017	1.00	50.0	100.00
I2151-03	MDABX3	SAM	SOLID	03/09/2017	1.00	50.0	100.00
I2151-07	MDABX9	SAM	SOLID	03/09/2017	1.09	50.0	93.70
I2151-08	MDABY0	SAM	SOLID	03/09/2017	1.02	50.0	95.40
I2151-09	MDABY1	SAM	SOLID	03/09/2017	1.03	50.0	92.80
I2151-10	MDABY2	SAM	SOLID	03/09/2017	1.07	50.0	91.20
I2151-11	MDABY3	SAM	SOLID	03/09/2017	1.04	50.0	93.70
I2151-12	MDABY4	SAM	SOLID	03/09/2017	1.04	50.0	92.70
I2151-13	MDABY5	SAM	SOLID	03/09/2017	1.02	50.0	91.50
I2151-14	MDABY6	SAM	SOLID	03/09/2017	1.03	50.0	94.60
I2151-15	MDABY7	SAM	SOLID	03/09/2017	1.04	50.0	93.80
I2151-16	MDABZ9	SAM	SOLID	03/09/2017	1.07	50.0	91.40
I2151-17	MDAC00	SAM	SOLID	03/09/2017	1.01	50.0	98.10
I2151-18	MDAC01	SAM	SOLID	03/09/2017	1.00	50.0	94.20
I2151-19	MDAC02	SAM	SOLID	03/09/2017	1.01	50.0	93.00
I2151-04	MDABX7	SAM	SOLID	03/09/2017	1.01	50.0	96.50
I2151-05	MDABX7D	DUP	SOLID	03/09/2017	1.01	50.0	96.50
I2151-06	MDABX7S	MS	SOLID	03/09/2017	1.01	50.0	96.50

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB86270 Contract: _____
Lab Code: CHEM Case No.: LB86270 MA No.: _____ SDG No.: LB86270
Instrument ID: CN Start Date: 03/09/2017
Analytical Method: _____ Run Batch: LB86270.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: LB86270 Contract: _____
Lab Code: CHEM Case No.: LB86270 MA No.: _____ SDG No.: LB86270
Instrument ID: CN Start Date: 03/09/2017
Analytical Method: _____ Run Batch: LB86270.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