

Daily Analysis Runlog For Sequence/QC Batch ID # LB91324

Review By		Review On				
SubDirectory		LB91324		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59319,WP59318,WP59317,WP59316,WP59315,WP59314				
ICV Standard		WP59320				
CCV Standard		WP59321				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP59351,WP55836,WP58653				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	11/02/17 13:32		OK
2	S5.0	S5.0	CAL2	11/02/17 13:32		OK
3	S10.0	S10.0	CAL3	11/02/17 13:32		OK
4	S100.0	S100.0	CAL4	11/02/17 13:32		OK
5	S250.0	S250.0	CAL5	11/02/17 13:32		OK
6	S500.0	S500.0	CAL6	11/02/17 13:32		OK
7	ICV	ICV	ICV	11/02/17 14:48		OK
8	ICB	ICB	ICB	11/02/17 14:48		OK
9	CCV001	CCV001	CCV	11/02/17 14:48		OK
10	CCB001	CCB001	CCB	11/02/17 14:48		OK
11	PB103801BL	PBS006	MB	11/02/17 14:48		OK
12	I6104-01	MBDXN0	SAM	11/02/17 14:48		OK
13	I6104-02	MBDXN0D	DUP	11/02/17 14:48		OK
14	I6104-13	MBDXM4	SAM	11/02/17 14:49		OK
15	I6104-14	MBDXR3	SAM	11/02/17 14:49		OK
16	I6104-15	MBDXS1	SAM	11/02/17 14:49		OK
17	PB103795BL	PBW005	MB	11/02/17 14:56		OK
18	I6104-04	MBDY25	SAM	11/02/17 14:56		OK
19	I6104-05	MBDXK9	SAM	11/02/17 14:56		OK
20	I6104-06	MBDXL0	SAM	11/02/17 14:56		OK
21	I6104-07	MBDXL1	SAM	11/02/17 14:56		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB91324

Review By		Review On				
SubDirectory		LB91324		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59319,WP59318,WP59317,WP59316,WP59315,WP59314				
ICV Standard		WP59320				
CCV Standard		WP59321				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP59351,WP55836,WP58653				
22	I6104-08	MBDXL5	SAM	11/02/17 14:56		OK
23	I6104-09	MBDY66	SAM	11/02/17 14:56		OK
24	I6104-10	MBDXL7	SAM	11/02/17 14:56		OK
25	I6104-11	MBDXL7D	DUP	11/02/17 14:56		OK
26	I6104-12	MBDXL7S	MS	11/02/17 14:56		OK
27	I6104-16	MBDY26	SAM	11/02/17 14:56		OK
28	I6104-03	MBDXN0S	MS	11/02/17 15:01		OK
29	CCV002	CCV002	CCV	11/02/17 15:01		OK
30	CCB002	CCB002	CCB	11/02/17 15:01		OK



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	MBDXN0	SDG No.:	LB91324
Lab Sample ID:	I6104-01	Matrix:	Solid
Level (low/med):	low	% Solid:	80.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.095	J	1	0.066	0.015	0.61	mg/kg	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	MBDY25	SDG No.:	LB91324
Lab Sample ID:	I6104-04	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDXK9	SDG No.:	LB91324
Lab Sample ID:	I6104-05	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDXL0	SDG No.:	LB91324
Lab Sample ID:	I6104-06	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDXL1	SDG No.:	LB91324
Lab Sample ID:	I6104-07	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDXL5	SDG No.:	LB91324
Lab Sample ID:	I6104-08	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDY66	SDG No.:	LB91324
Lab Sample ID:	I6104-09	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/25/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/26/2017 12:00:00 AM
Client Sample ID:	MBDXL7	SDG No.:	LB91324
Lab Sample ID:	I6104-10	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/26/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/27/2017 12:00:00 AM
Client Sample ID:	MBDXM4	SDG No.:	LB91324
Lab Sample ID:	I6104-13	Matrix:	Solid
Level (low/med):	low	% Solid:	81.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.065	0.015	0.59	mg/kg	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/26/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/27/2017 12:00:00 AM
Client Sample ID:	MBDXR3	SDG No.:	LB91324
Lab Sample ID:	I6104-14	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	0.2	J	1	0.066	0.015	0.6	mg/kg	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/26/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/27/2017 12:00:00 AM
Client Sample ID:	MBDXS1	SDG No.:	LB91324
Lab Sample ID:	I6104-15	Matrix:	Solid
Level (low/med):	low	% Solid:	80.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.037	U	1	0.067	0.015	0.61	mg/kg	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/26/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/27/2017 12:00:00 AM
Client Sample ID:	MBDY26	SDG No.:	LB91324
Lab Sample ID:	I6104-16	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	11/01/2017	11/02/2017	ISM02.4_CN



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Report of Analysis

Client:		Date Collected:	10/26/2017 12:00:00 AM
Project:	LB91324	Date Received:	10/27/2017 12:00:00 AM
Client Sample ID:	MBDY26	SDG No.:	LB91324
Lab Sample ID:	I6104-16	Matrix:	WATER
Level (low/med):	low	% Solid:	0

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: LB91324 SDG No.: LB91324
Contract: Lab Code: CHEM Method:
Case No.: LB91324 SAS No.: LB91324

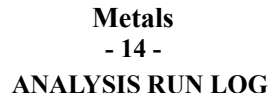
					Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Sample ID	Client ID	Sample Type	Matrix	Prep Date			
Batch Number: PB103795							
PB103795BL	PBW005	MB	WATER	11/02/2017	50.0	50.0	
I6104-04	MBDY25	SAM	WATER	11/02/2017	50.0	50.0	
I6104-05	MBDXK9	SAM	WATER	11/02/2017	50.0	50.0	
I6104-06	MBDXL0	SAM	WATER	11/02/2017	50.0	50.0	
I6104-07	MBDXL1	SAM	WATER	11/02/2017	50.0	50.0	
I6104-08	MBDXL5	SAM	WATER	11/02/2017	50.0	50.0	
I6104-09	MBDY66	SAM	WATER	11/02/2017	50.0	50.0	
I6104-10	MBDXL7	SAM	WATER	11/02/2017	50.0	50.0	
I6104-11	MBDXL7D	DUP	WATER	11/02/2017	50.0	50.0	
I6104-12	MBDXL7S	MS	WATER	11/02/2017	50.0	50.0	
I6104-16	MBDY26	SAM	WATER	11/02/2017	50.0	50.0	

Metals
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SAMPLE PREPARATION SUMMARY

Client: <u>LB91324</u>	SDG No.: <u>LB91324</u>	
Contract: _____	Lab Code: <u>CHEM</u>	Method: _____
	Case No.: <u>LB91324</u>	SAS No.: <u>LB91324</u>

						Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Sample ID	Client ID	Sample Type	Matrix	Prep Date				
Batch Number: PB103801								
PB103801BL	PBS006	MB	SOLID	11/02/2017		1.02	50.0	100.00
I6104-01	MBDXN0	SAM	SOLID	11/02/2017		1.03	50.0	80.30
I6104-02	MBDXN0D	DUP	SOLID	11/02/2017		1.04	50.0	80.30
I6104-13	MBDXM4	SAM	SOLID	11/02/2017		1.04	50.0	81.40
I6104-14	MBDXR3	SAM	SOLID	11/02/2017		1.05	50.0	79.20
I6104-15	MBDXS1	SAM	SOLID	11/02/2017		1.03	50.0	80.10
I6104-03	MBDXN0S	MS	SOLID	11/02/2017		1.05	50.0	80.30



Start Date: _____ **End Date:** _____

[illegible]



Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB91324

SDG No.: LB91324

Contract: _____ **Lab Code:** CHEM

Case No.: LB91324

SAS No.: LB91324

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	96.4	99	97	0	85 - 115	CN	11/02/2017	14:48	LB91324

Metals**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB91324**SDG No.:** LB91324**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB91324**SAS No.:** LB91324**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	249	250	100	0	85 - 115	CN	11/02/2017	14:48	LB91324
CCV002	Cyanide	259	250	104	0	85 - 115	CN	11/02/2017	15:01	LB91324



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91324 **SDG No.:** LB91324
Contract: **Lab Code:** CHEM **Case No.:** LB91324 **SAS No.:** LB91324

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	11/02/2017	14:48	LB91324



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91324

SDG No.: LB91324

Contract: _____

Lab Code: CHEM

Case No.: LB91324

SAS No.: LB91324

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	11/02/2017	14:48	LB91324
CCB002	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	11/02/2017	15:01	LB91324



Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:

LB91324

SDG No.:

LB91324

Contract:

Lab Code:

CHEM

Case No.:

LB91324

SAS No.:

LB91324

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: LB91324

SDG No.: LB91324

Instrument: CN

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB103795BL	WATER		<10	Batch Number:	PB103795		CN	Prep Date:	11/01/2017	
	Cyanide	1.5		U	5.0	10		11/02/2017	14:56	LB91324
Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB103801BL	SOLID		<0.49	Batch Number:	PB103801		CN	Prep Date:	11/01/2017	
	Cyanide	0.054		J	0.012	0.49		11/02/2017	14:48	LB91324



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB91324 level: low sdg no.: LB91324
contract: lab code: CHEM case no.: LB91324 sas no.: LB91324
matrix: Solid sample id: I6104-01 client id: MBDXN0S
Percent Solids for Sample: 80.3 Spiked ID: I6104-03 Percent Solids for Spike Sample: 80.3

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.6		0.095	J	5.9	76		CN



metals
- 5a -
MATRIX SPIKE SUMMARY

client: LB91324 level: low sdg no.: LB91324
contract: lab code: CHEM case no.: LB91324 sas no.: LB91324
matrix: WATER sample id: I6104-10 client id: MBDXL7S
Percent Solids for Sample: 0 Spiked ID: I6104-12 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	82.0		10.0	U	100	82		CN

Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB91324 **Level:** LOW **SDG No.:** LB91324
Contract: **Lab Code:** CHEM **Case No.:** LB91324 **SAS No.:** LB91324
Matrix: Solid **Sample ID:** I6104-01 **Client ID:** MBDXN0D
Percent Solids for Sample: 80.3 **Duplicate ID** I6104-02 **Percent Solids for Spike Sample:** 80.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.095	J	0.11	J	15		CN



Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB91324 Level: LOW SDG No.: LB91324
Contract: Lab Code: CHEM Case No.: LB91324 SAS No.: LB91324
Matrix: WATER Sample ID: I6104-10 Client ID: MBDXL7D
Percent Solids for Sample: 0 Duplicate ID I6104-11 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”



Hit Summary Sheet
SW-846

SDG No.:

LB91324

Order ID:

LB91324

Client:

LB91324

Project ID:

LB91324

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : I6104-01	MBDXN0 MBDXN0	Solid	Cyanide	0.095	J	0.066	0.305	0.61	mg/kg
Client ID : I6104-14	MBDXR3 MBDXR3	Solid	Cyanide	0.200	J	0.066	0.3	0.6	mg/kg



Metals
- 10 -

Client: LB91324

SDG No.: LB91324

Contract:

Lab Code: CHEM

Case No.: LB91324

SAS No.: LB91324

Instrument ID: P4

Preparation Method:

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
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LIQUID

Method: Cyanide	578.00
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SOLIDS

Method: Cyanide	578.00
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