

Daily Analysis Runlog For Sequence/QC Batch ID # LB91760

Review By		Review On				
SubDirectory		LB91760		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59849,WP59850,WP59851,WP59852,WP59853,WP59854,WP59855				
ICV Standard		W1541				
CCV Standard		WP59856				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		wp58910				
Chk Standard		WP55836,WP55355,WP59858				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/22/17 13:16		OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/22/17 13:16		OK
3	10PPBCN	10PPBCN	CAL3	11/22/17 13:16		OK
4	50PPBCN	50PPBCN	CAL4	11/22/17 13:16		OK
5	100PPBCN	100PPBCN	CAL5	11/22/17 13:16		OK
6	250PPBCN	250PPBCN	CAL6	11/22/17 13:16		OK
7	500PPBCN	500PPBCN	CAL7	11/22/17 13:16		OK
8	ICV1	ICV1	ICV	11/22/17 14:26		OK
9	ICB1	ICB1	ICB	11/22/17 14:26		OK
10	CCV1	CCV1	CCV	11/22/17 14:26		OK
11	CCB1	CCB1	CCB	11/22/17 14:26		OK
12	PB104496BL	PB104496BL	MB	11/22/17 14:26		OK
13	PB104496BS	PB104496BS	LCS	11/22/17 14:26		OK
14	LOWPB104496	LOWPB104496	SAM	11/22/17 14:26		OK
15	HIGHPB104496	HIGHPB104496	SAM	11/22/17 14:33		OK
16	I6289-07	SU-04-112117	SAM	11/22/17 14:33		OK
17	I6289-07DUP	SU-04-112117DUP	DUP	11/22/17 14:33		OK
18	I6289-07MS	SU-04-112117MS	MS	11/22/17 14:33		OK
19	I6289-07MSD	SU-04-112117MSD	MSD	11/22/17 14:33		OK
20	I6578-04	BBR-2-E(0-1)	SAM	11/22/17 14:33		OK
21	I6578-05	BBR-2-E(4-5)	SAM	11/22/17 14:33		OK

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SubDirectory		LB91760		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59849,WP59850,WP59851,WP59852,WP59853,WP59854,WP59855				
ICV Standard		W1541				
CCV Standard		WP59856				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		wp58910				
Chk Standard		WP55836,WP55355,WP59858				
22	CCV2	CCV2	CCV	11/22/17 14:33		OK
23	CCB2	CCB2	CCB	11/22/17 14:33		OK
24	I6578-06	BBR-2-E(7-8)	SAM	11/22/17 14:33		OK
25	I6579-01	HAR-4-E(0-1)	SAM	11/22/17 14:33		OK
26	I6579-02	HAR-4-E(4-5)	SAM	11/22/17 14:41		OK
27	I6579-03	HAR-4-E(7-8)	SAM	11/22/17 14:41		OK
28	I6579-04	HAR-5-E(0-1)	SAM	11/22/17 14:41		OK
29	I6579-05	HAR-5-E(4-5)	SAM	11/22/17 14:41		OK
30	I6579-06	HAR-5-E(7-8)	SAM	11/22/17 14:41		OK
31	I6579-07	HAR-3-E(0-1)	SAM	11/22/17 14:41		OK
32	I6579-08	HAR-3-E(7-8)	SAM	11/22/17 14:41		OK
33	I6579-09	HAR-2-E(0-1)	SAM	11/22/17 14:41		OK
34	CCV3	CCV3	CCV	11/22/17 14:41		OK
35	CCB3	CCB3	CCB	11/22/17 14:41		OK
36	I6579-10	HAR-2-E(4-5)	SAM	11/22/17 14:41		OK
37	I6579-11	HAR-2-E(7-8)	SAM	11/22/17 14:45		OK
38	CCV4	CCV4	CCV	11/22/17 14:45		OK
39	CCB4	CCB4	CCB	11/22/17 14:45		OK



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Report of Analysis

Client:		Date Collected:	
Project:	LB91760	Date Received:	
Client Sample ID:	HIGHPB104496	SDG No.:	LB91760
Lab Sample ID:	HIGHPB104496	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	0.48		1	0.003		0.005	mg/L		11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	SU-04-112117	SDG No.:	LB91760
Lab Sample ID:	I6289-07	Matrix:	Solid
Level (low/med):	low	% Solid:	95.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.035	J	1	0.034		0.26	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	BBR-2-E(0-1)	SDG No.:	LB91760
Lab Sample ID:	I6578-04	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	0.024	U	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	BBR-2-E(4-5)	SDG No.:	LB91760
Lab Sample ID:	I6578-05	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	0.12	J	1	0.032		0.25	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	BBR-2-E(7-8)	SDG No.:	LB91760
Lab Sample ID:	I6578-06	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	0.074	J	1	0.031		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-4-E(0-1)	SDG No.:	LB91760
Lab Sample ID:	I6579-01	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	0.052	J	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-4-E(4-5)	SDG No.:	LB91760
Lab Sample ID:	I6579-02	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	0.31		1	0.033		0.25	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/20/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-4-E(7-8)	SDG No.:	LB91760
Lab Sample ID:	I6579-03	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	0.051	J	1	0.031		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-5-E(0-1)	SDG No.:	LB91760
Lab Sample ID:	I6579-04	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	0.061	J	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-5-E(4-5)	SDG No.:	LB91760
Lab Sample ID:	I6579-05	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	0.036	J	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-5-E(7-8)	SDG No.:	LB91760
Lab Sample ID:	I6579-06	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	0.046	J	1	0.033		0.25	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-3-E(0-1)	SDG No.:	LB91760
Lab Sample ID:	I6579-07	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	0.13	J	1	0.032		0.25	mg/Kg	11/22/2017	11/22/2017	9012B

Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-3-E(7-8)	SDG No.:	LB91760
Lab Sample ID:	I6579-08	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	0.14	J	1	0.031		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-2-E(0-1)	SDG No.:	LB91760
Lab Sample ID:	I6579-09	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	0.23	J	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-2-E(4-5)	SDG No.:	LB91760
Lab Sample ID:	I6579-10	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	0.09	J	1	0.032		0.24	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/21/2017 12:00:00 AM
Project:	LB91760	Date Received:	11/21/2017 12:00:00 AM
Client Sample ID:	HAR-2-E(7-8)	SDG No.:	LB91760
Lab Sample ID:	I6579-11	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	0.096	J	1	0.032		0.25	mg/Kg	11/22/2017	11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB91760	Date Received:	
Client Sample ID:	LOWPB104496	SDG No.:	LB91760
Lab Sample ID:	LOWPB104496	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	0.0093		1	0.003		0.005	mg/L		11/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB91760	Date Received:	
Client Sample ID:	LOWPB104496	SDG No.:	LB91760
Lab Sample ID:	LOWPB104496	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



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB91760

SDG No.: LB91760

Contract: _____ Lab Code: CHEM

Case No.: LB91760

SAS No.: LB91760

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result mg/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV1	Cyanide	0.25	0.25	100	0	90 - 110		11/22/2017	14:26	lb91760
CCV2	Cyanide	0.25	0.25	100	0	90 - 110		11/22/2017	14:33	lb91760
CCV3	Cyanide	0.25	0.25	100	0	90 - 110		11/22/2017	14:41	lb91760
CCV4	Cyanide	0.26	0.25	104	0	90 - 110		11/22/2017	14:45	lb91760



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91760

SDG No.: LB91760

Contract:

Lab Code: CHEM

Case No.: LB91760

SAS No.: LB91760

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.00065	+/-0.005	U		0.005		11/22/2017	14:26	lb91760

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	0.0015	+/-0.005	U		0.005		11/22/2017	14:26	lb91760
CCB2	Cyanide	0.00088	+/-0.005	U		0.005		11/22/2017	14:33	lb91760
CCB3	Cyanide	0.0012	+/-0.005	U		0.005		11/22/2017	14:41	lb91760
CCB4	Cyanide	0.0011	+/-0.005	U		0.005		11/22/2017	14:45	lb91760



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91760

SDG No.: LB91760

Contract: Lab Code: CHEM

Case No.: LB91760

SAS No.: LB91760

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

Client: LB91760

SDG No.: LB91760

Instrument: Konelab 20

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB104496BL		SOLID		Batch Number:		PB104496		Prep Date:	11/22/2017	
	Cyanide	0.035	<0.24	J		0.24		11/22/2017	14:26	lb91760



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB91760 level: low sdg no.: LB91760
contract: lab code: CHEM case no.: LB91760 sas no.: LB91760
matrix: Solid sample id: I6289-07 client id: SU-04-112117MS
Percent Solids for Sample: 95.6 Spiked ID: I6289-07MS Percent Solids for Spike Sample: 95.6

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.8		0.035	J	2	88		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB91760 level: low sdg no.: LB91760
contract: lab code: CHEM case no.: LB91760 sas no.: LB91760
matrix: Solid sample id: I6289-07 client id: SU-04-112117MSD
Percent Solids for Sample: 95.6 Spiked ID: I6289-07MSD Percent Solids for Spike Sample: 95.6

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.8		0.035	J	2	88		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB91760 Level: LOW SDG No.: LB91760
Contract: _____ Lab Code: CHEM Case No.: LB91760 SAS No.: LB91760
Matrix: Solid Sample ID: I6289-07 Client ID: SU-04-112117DUP
Percent Solids for Sample: 95.6 Duplicate ID I6289-07DUP Percent Solids for Spike Sample: 95.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.035	J	0.015	U	200.0	*	

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB91760 **Level:** LOW **SDG No.:** LB91760
Contract: **Lab Code:** CHEM **Case No.:** LB91760 **SAS No.:** LB91760
Matrix: Solid **Sample ID:** I6289-07MS **Client ID:** SU-04-112117MSD
Percent Solids for Sample: 95.6 **Duplicate ID** I6289-07MSD **Percent Solids for Spike Sample:** 95.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	1.8		1.8		0		



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB91760

SDG No.: LB91760

Contract:

Lab Code: CHEM

Case No.: LB91760

SAS No.: LB91760

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB104496BS Cyanide	mg/Kg	4.9	4.6		93.9	85 - 115	