

Daily Analysis Runlog For Sequence/QC Batch ID # LB94681

Review By		Review On				
SubDirectory		LB94681		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP63760,WP63761,WP63762,WP63763,WP63764,WP63765,WP63766				
ICV Standard		W1542				
CCV Standard		WP63767				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP62802				
Chk Standard		WP63769,WP59958,WP60878				

Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	04/17/18 09:52		
2	5.0PPBCN	5.0PPBCN	CAL2	04/17/18 09:52		
3	10PPBCN	10PPBCN	CAL3	04/17/18 09:52		
4	50PPBCN	50PPBCN	CAL4	04/17/18 09:52		
5	100PPBCN	100PPBCN	CAL5	04/17/18 09:52		
6	250PPBCN	250PPBCN	CAL6	04/17/18 09:52		
7	500PPBCN	500PPBCN	CAL7	04/17/18 09:52		
8	ICV1	ICV1	ICV	04/17/18 13:09		
9	ICB1	ICB1	ICB	04/17/18 13:09		
10	CCV1	CCV1	CCV	04/17/18 13:09		
11	CCB1	CCB1	CCB	04/17/18 13:10		
12	PB108316BL	PB108316BL	MB	04/17/18 13:10		
13	PB108316BS	PB108316BS	LCS	04/17/18 13:10		
14	J2407-01	SPOILS-ICTF-A	SAM	04/17/18 13:10		
15	J2407-01DUP	SPOILS-ICTF-ADUP	DUP	04/17/18 13:10		
16	J2407-01MS	SPOILS-ICTF-AMS	MS	04/17/18 13:10		
17	J2407-01MSD	SPOILS-ICTF-AMSD	MSD	04/17/18 13:10		
18	J2407-03	SPOILS-ICTF-D	SAM	04/17/18 13:10		
19	J2407-05	SPOILS-ICTF-E	SAM	04/17/18 13:17		
20	J2410-01	T-2	SAM	04/17/18 13:17		
21	J2410-05	T-3	SAM	04/17/18 13:17		

Daily Analysis Runlog For Sequence/QC Batch ID # LB94681

Review By

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SubDirectory

LB94681

Test :

Cyanide

STD. NAME		STD REF.#				
ICAL Standard		WP63760,WP63761,WP63762,WP63763,WP63764,WP63765,WP63766				
ICV Standard		W1542				
CCV Standard		WP63767				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP62802				
Chk Standard		WP63769,WP59958,WP60878				

22	CCV2	CCV2	CCV	04/17/18 13:17		
23	CCB2	CCB2	CCB	04/17/18 13:17		
24	J2411-01	DRUM-1-3	SAM	04/17/18 13:17		
25	PB108277BL	PB108277BL	MB	04/17/18 13:17		
26	PB108277BS	PB108277BS	LCS	04/17/18 13:17		
27	J2387-11	20180244-AMEND-C	SAM	04/17/18 13:17		
28	J2387-11DUP	20180244-AMEND-C	DUP	04/17/18 13:17		
29	J2387-11MS	20180244-AMEND-C	MS	04/17/18 13:17		
30	J2387-11MSD	20180244-AMEND-C	MSD	04/17/18 13:22		
31	J2387-12	20180245-AMEND-C	SAM	04/17/18 13:22		
32	J2387-13	20180246-AMEND-C	SAM	04/17/18 13:22		
33	CCV3	CCV3	CCV	04/17/18 13:22		
34	CCB3	CCB3	CCB	04/17/18 13:22		



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Report of Analysis

Client:		Date Collected:	4/11/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	20180244-AMEND-COMP-A	SDG No.:	LB94681
Lab Sample ID:	J2387-11	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	0.00081	U	1	0.003		0.005	mg/L	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/11/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	20180245-AMEND-COMP-B	SDG No.:	LB94681
Lab Sample ID:	J2387-12	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	0.00095	U	1	0.003		0.005	mg/L	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/11/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	20180246-AMEND-COMP-C	SDG No.:	LB94681
Lab Sample ID:	J2387-13	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	-0.00036	U	1	0.003		0.005	mg/L	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/13/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	SPOILS-ICTF-A	SDG No.:	LB94681
Lab Sample ID:	J2407-01	Matrix:	Solid
Level (low/med):	low	% Solid:	87

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.23	J	1	0.037		0.28	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/13/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	SPOILS-ICTF-D	SDG No.:	LB94681
Lab Sample ID:	J2407-03	Matrix:	Solid
Level (low/med):	low	% Solid:	83.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.38		1	0.036		0.27	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/13/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/13/2018 12:00:00 AM
Client Sample ID:	SPOILS-ICTF-E	SDG No.:	LB94681
Lab Sample ID:	J2407-05	Matrix:	Solid
Level (low/med):	low	% Solid:	88.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.19	J	1	0.034		0.26	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/16/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/16/2018 12:00:00 AM
Client Sample ID:	T-2	SDG No.:	LB94681
Lab Sample ID:	J2410-01	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	0.18	J	1	0.031		0.24	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/16/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/16/2018 12:00:00 AM
Client Sample ID:	T-3	SDG No.:	LB94681
Lab Sample ID:	J2410-05	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	0.087	J	1	0.032		0.24	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/16/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/16/2018 12:00:00 AM
Client Sample ID:	DRUM-1-3	SDG No.:	LB94681
Lab Sample ID:	J2411-01	Matrix:	Solid
Level (low/med):	low	% Solid:	89.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.073	J	1	0.035		0.27	mg/Kg	04/17/2018	04/17/2018	9012B



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Report of Analysis

Client:		Date Collected:	4/16/2018 12:00:00 AM
Project:	LB94681	Date Received:	4/16/2018 12:00:00 AM
Client Sample ID:	DRUM-1-3	SDG No.:	LB94681
Lab Sample ID:	J2411-01	Matrix:	Solid
Level (low/med):	low	% Solid:	89.2

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: LB94681

SDG No.: LB94681

Contract: _____ Lab Code: CHEM

Case No.: LB94681

SAS No.: LB94681

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result mg/L	True Value	% Recovery	Qual	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV1	Cyanide	0.24	0.25	96		90 - 110		04/17/2018	13:09	lb94681
CCV2	Cyanide	0.24	0.25	96		90 - 110		04/17/2018	13:17	lb94681
CCV3	Cyanide	0.25	0.25	100		90 - 110		04/17/2018	13:22	lb94681



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB94681

SDG No.: LB94681

Contract:

Lab Code: CHEM

Case No.: LB94681

SAS No.: LB94681

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.00016	+/-0.005	U		0.005		04/17/2018	13:09	lb94681

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0.0001	+/-0.005	U		0.005		04/17/2018	13:10	lb94681
CCB2	Cyanide	0.00069	+/-0.005	U		0.005		04/17/2018	13:17	lb94681
CCB3	Cyanide	-0.00013	+/-0.005	U		0.005		04/17/2018	13:22	lb94681



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB94681

SDG No.: LB94681

Contract: Lab Code: CHEM

Case No.: LB94681

SAS No.: LB94681

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: LB94681

SDG No.: LB94681

Instrument: Konelab 20

Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB108277BL	Cyanide	WATER		Batch Number:		PB108277		Prep Date:	04/17/2018	
		-0.00018	<0.005	U		0.005		04/17/2018	13:17	lb94681
Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB108316BL	Cyanide	SOLID		Batch Number:		PB108316		Prep Date:	04/17/2018	
		-0.015	<0.25	U		0.25		04/17/2018	13:10	lb94681



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB94681 level: low sdg no.: LB94681
contract: lab code: CHEM case no.: LB94681 sas no.: LB94681
matrix: WATER sample id: J2387-11 client id: 20180244-AMEND-COMP-AMS
Percent Solids for Sample: 0 Spiked ID: J2387-11MS Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/L	75 - 125	0.027		0.003	U	0.04	67.5	*	



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB94681 level: low sdg no.: LB94681
contract: lab code: CHEM case no.: LB94681 sas no.: LB94681
matrix: WATER sample id: J2387-11 client id: 20180244-AMEND-COMP-AMSD
Percent Solids for Sample: 0 Spiked ID: J2387-11MSD Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/L	75 - 125	0.027		0.003	U	0.04	67.5	*	



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB94681 level: low sdg no.: LB94681
contract: lab code: CHEM case no.: LB94681 sas no.: LB94681
matrix: Solid sample id: J2407-01 client id: SPOILS-ICTF-AMS
Percent Solids for Sample: 87 Spiked ID: J2407-01MS Percent Solids for Spike Sample: 87

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	2.3		0.23	J	2.2	94		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB94681 level: low sdg no.: LB94681
contract: lab code: CHEM case no.: LB94681 sas no.: LB94681
matrix: Solid sample id: J2407-01 client id: SPOILS-ICTF-AMSD
Percent Solids for Sample: 87 Spiked ID: J2407-01MSD Percent Solids for Spike Sample: 87

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	2.4		0.23	J	2.3	94		

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DUPLICATE SAMPLE SUMMARY

Client: LB94681 **Level:** LOW **SDG No.:** LB94681
Contract: **Lab Code:** CHEM **Case No.:** LB94681 **SAS No.:** LB94681
Matrix: WATER **Sample ID:** J2387-11 **Client ID:** 20180244-AMEND-COMP-ADUP
Percent Solids for Sample: 0 **Duplicate ID** J2387-11DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.003	U		0	U		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB94681 **Level:** LOW **SDG No.:** LB94681
Contract: **Lab Code:** CHEM **Case No.:** LB94681 **SAS No.:** LB94681
Matrix: WATER **Sample ID:** J2387-11MS **Client ID:** 20180244-AMEND-COMP-AMSD
Percent Solids for Sample: 0 **Duplicate ID** J2387-11MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.027		0.027		0		

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- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB94681 **Level:** LOW **SDG No.:** LB94681
Contract: **Lab Code:** CHEM **Case No.:** LB94681 **SAS No.:** LB94681
Matrix: Solid **Sample ID:** J2407-01 **Client ID:** SPOILS-ICTF-ADUP
Percent Solids for Sample: 87 **Duplicate ID** J2407-01DUP **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.23	J	0.25	J	8		

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- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB94681 **Level:** LOW **SDG No.:** LB94681
Contract: **Lab Code:** CHEM **Case No.:** LB94681 **SAS No.:** LB94681
Matrix: Solid **Sample ID:** J2407-01MS **Client ID:** SPOILS-ICTF-AMSD
Percent Solids for Sample: 87 **Duplicate ID** J2407-01MSD **Percent Solids for Spike Sample:** 87

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	2.3		2.4		4		



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB94681

SDG No.: LB94681

Contract:

Lab Code: CHEM

Case No.: LB94681

SAS No.: LB94681

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB108277BS Cyanide	mg/L	0.1	0.095		95	85 - 115	



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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB94681

SDG No.: LB94681

Contract:

Lab Code: CHEM

Case No.: LB94681

SAS No.: LB94681

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB108316BS Cyanide	mg/Kg	4.9	4.5		91.8	85 - 115	