



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB89649

SDG No.: LB89649

Contract: _____ Lab Code: CHEM

Case No.: LB89649

SAS No.: LB89649

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		08/22/2017	14:30	lb89649
CCV2	Cyanide	0.26	0.25	104	0	90 - 110		08/22/2017	14:55	lb89649
CCV3	Cyanide	0.25	0.25	100	0	90 - 110		08/22/2017	15:06	lb89649



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89649 **SDG No.:** LB89649
Contract: **Lab Code:** CHEM **Case No.:** LB89649 **SAS No.:** LB89649

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	-0.00063	+/-0.005	U		0.005		08/22/2017	14:30	lb89649



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB89649

SDG No.: LB89649

Contract:

Lab Code: CHEM

Case No.: LB89649

SAS No.: LB89649

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0.00013	+/-0.005	U		0.005		08/22/2017	14:30	1b89649
CCB2	Cyanide	-0.00078	+/-0.005	U		0.005		08/22/2017	14:58	1b89649
CCB3	Cyanide	-0.00035	+/-0.005	U		0.005		08/22/2017	15:06	1b89649



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:

LB89649

SDG No.:

LB89649

Contract:

Lab Code:

CHEM

Case No.:

LB89649

SAS No.:

LB89649

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

Client: LB89649

SDG No.: LB89649

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
PB101744BL	Cyanide	SOLID -0.017	<0.25	Batch Number: U		PB101744 0.25		Prep Date: 08/22/2017	08/22/2017 14:30	lb89649



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB89649 level: low sdg no.: LB89649
contract: lab code: CHEM case no.: LB89649 sas no.: LB89649
matrix: Solid sample id: I4908-01 client id: TR-04-082117-AMS
Percent Solids for Sample: 91.9 Spiked ID: I4908-01MS Percent Solids for Spike Sample: 91.9

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	U	2.1	85.7		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB89649 level: low sdg no.: LB89649
contract: lab code: CHEM case no.: LB89649 sas no.: LB89649
matrix: Solid sample id: I4908-01 client id: TR-04-082117-AMSD
Percent Solids for Sample: 91.9 Spiked ID: I4908-01MSD Percent Solids for Spike Sample: 91.9

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	U	2.1	85.7		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB89649 **Level:** LOW **SDG No.:** LB89649
Contract: **Lab Code:** CHEM **Case No.:** LB89649 **SAS No.:** LB89649
Matrix: Solid **Sample ID:** I4908-01 **Client ID:** TR-04-082117-ADUP
Percent Solids for Sample: 91.9 **Duplicate ID** I4908-01DUP **Percent Solids for Spike Sample:** 91.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.035	U	-0.075	U			

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- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB89649 **Level:** LOW **SDG No.:** LB89649
Contract: **Lab Code:** CHEM **Case No.:** LB89649 **SAS No.:** LB89649
Matrix: Solid **Sample ID:** I4908-01MS **Client ID:** TR-04-082117-AMSD
Percent Solids for Sample: 91.9 **Duplicate ID** I4908-01MSD **Percent Solids for Spike Sample:** 91.9

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



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB89649

SDG No.: LB89649

Contract:

Lab Code: CHEM

Case No.: LB89649

SAS No.: LB89649

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB101744BS Cyanide	mg/Kg	4.9	4.8		98	85 - 115	



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Report of Analysis

Client:		Date Collected:	
Project:	LB89649	Date Received:	
Client Sample ID:	HIGHPB101744	SDG No.:	LB89649
Lab Sample ID:	HIGHPB101744	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	0.47		1	0.003		0.005	mg/L		08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	TR-04-082117-A	SDG No.:	LB89649
Lab Sample ID:	I4908-01	Matrix:	Solid
Level (low/med):	low	% Solid:	91.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.058	U	1	0.035		0.26	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	TR-04-082117-B	SDG No.:	LB89649
Lab Sample ID:	I4908-04	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	-0.0028	U	1	0.034		0.26	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	SU-04-082117	SDG No.:	LB89649
Lab Sample ID:	I4909-01	Matrix:	Solid
Level (low/med):	low	% Solid:	93.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.046	U	1	0.034		0.25	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	TEC-BE2-1-3-COMP	SDG No.:	LB89649
Lab Sample ID:	I4913-01	Matrix:	Solid
Level (low/med):	low	% Solid:	78

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.21	J	1	0.041		0.31	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	TEC-BE2-3-12-COMP	SDG No.:	LB89649
Lab Sample ID:	I4913-02	Matrix:	Solid
Level (low/med):	low	% Solid:	83.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.071	U	1	0.039		0.29	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	289-COMP	SDG No.:	LB89649
Lab Sample ID:	I4914-01	Matrix:	Solid
Level (low/med):	low	% Solid:	88.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.022	U	1	0.035		0.27	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	165-COMP	SDG No.:	LB89649
Lab Sample ID:	I4914-04	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	-0.043	U	1	0.032		0.25	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	72-11991-GRAVEL-COMP	SDG No.:	LB89649
Lab Sample ID:	I4915-01	Matrix:	Solid
Level (low/med):	low	% Solid:	86.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.063	U	1	0.037		0.28	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	8/21/2017 12:00:00 AM
Project:	LB89649	Date Received:	8/21/2017 12:00:00 AM
Client Sample ID:	72-11991-DEBRIS-COMP	SDG No.:	LB89649
Lab Sample ID:	I4915-04	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	-0.019	U	1	0.032		0.24	mg/Kg	08/22/2017	08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB89649	Date Received:	
Client Sample ID:	LOWPB101744	SDG No.:	LB89649
Lab Sample ID:	LOWPB101744	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	0.0092		1	0.003		0.005	mg/L		08/22/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB89649	Date Received:	
Client Sample ID:	LOWPB101744	SDG No.:	LB89649
Lab Sample ID:	LOWPB101744	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