



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86254

SDG No.: LB86254

Contract: _____

Lab Code: CHEM

Case No.: LB86254

SAS No.: LB86254

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
ICV1	Reactive Cyanide	0.093	0.099	93.9	0	85 - 115		03/08/2017	15:42	LB86254



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- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86254

SDG No.: LB86254

Contract: _____ Lab Code: CHEM

Case No.: LB86254

SAS No.: LB86254

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	Reactive Cyanide	0.24	0.25	96	0	90 - 110		03/08/2017	15:42	LB86254
CCV2	Reactive Cyanide	0.24	0.25	96	0	90 - 110		03/08/2017	15:49	LB86254
CCV3	Reactive Cyanide	0.24	0.25	96	0	90 - 110		03/08/2017	15:57	LB86254
CCV4	Reactive Cyanide	0.25	0.25	100	0	90 - 110		03/08/2017	16:19	LB86254



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86254

SDG No.: LB86254

Contract:

Lab Code: CHEM

Case No.: LB86254

SAS No.: LB86254

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Reactive Cyanide	-0.00044	+/-0.005	U		0.005		03/08/2017	15:42	LB86254



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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86254

SDG No.: LB86254

Contract:

Lab Code: CHEM

Case No.: LB86254

SAS No.: LB86254

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Reactive Cyanide	-0.00078	+/-0.005	U		0.005		03/08/2017	15:42	LB86254
CCB2	Reactive Cyanide	-0.00066	+/-0.005	U		0.005		03/08/2017	15:49	LB86254
CCB3	Reactive Cyanide	-0.00056	+/-0.005	U		0.005		03/08/2017	15:57	LB86254
CCB4	Reactive Cyanide	-0.00038	+/-0.005	U		0.005		03/08/2017	16:19	LB86254



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86254

SDG No.: LB86254

Contract: Lab Code: CHEM

Case No.: LB86254

SAS No.: LB86254

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-1	SDG No.:	LB86254
Lab Sample ID:	I2127-22	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.011	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-8	SDG No.:	LB86254
Lab Sample ID:	I2127-23	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.01	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-12	SDG No.:	LB86254
Lab Sample ID:	I2127-24	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.012	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-14	SDG No.:	LB86254
Lab Sample ID:	I2127-25	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.014	U	1	0.025		0.049	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-18	SDG No.:	LB86254
Lab Sample ID:	I2127-26	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.012	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B

Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-21	SDG No.:	LB86254
Lab Sample ID:	I2127-27	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.015	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-23	SDG No.:	LB86254
Lab Sample ID:	I2127-28	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.019	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-25	SDG No.:	LB86254
Lab Sample ID:	I2127-29	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.026	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-26	SDG No.:	LB86254
Lab Sample ID:	I2127-30	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.0091	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-27	SDG No.:	LB86254
Lab Sample ID:	I2129-09	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.013	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B

Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-30	SDG No.:	LB86254
Lab Sample ID:	I2129-10	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.016	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-33	SDG No.:	LB86254
Lab Sample ID:	I2129-11	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.014	U	1	0.025		0.05	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/6/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/6/2017 12:00:00 AM
Client Sample ID:	D-35	SDG No.:	LB86254
Lab Sample ID:	I2129-12	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.0089	U	1	0.025		0.049	mg/Kg	03/07/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B29-B35-001	SDG No.:	LB86254
Lab Sample ID:	I2160-02	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.015	U	1	0.025		0.05	mg/Kg	03/08/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B44-B45-001	SDG No.:	LB86254
Lab Sample ID:	I2160-04	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.014	U	1	0.025		0.05	mg/Kg	03/08/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B37-B40-001	SDG No.:	LB86254
Lab Sample ID:	I2160-06	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.01	U	1	0.025		0.049	mg/Kg	03/08/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B41-B52-001	SDG No.:	LB86254
Lab Sample ID:	I2160-08	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.015	U	1	0.025		0.049	mg/Kg	03/08/2017	03/08/2017	9012B



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Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B54-B56-001	SDG No.:	LB86254
Lab Sample ID:	I2160-10	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.0093	U	1	0.025		0.05	mg/Kg	03/08/2017	03/08/2017	9012B



Report of Analysis

Client:		Date Collected:	3/7/2017 12:00:00 AM
Project:	LB86254	Date Received:	3/7/2017 12:00:00 AM
Client Sample ID:	WC-B54-B56-001	SDG No.:	LB86254
Lab Sample ID:	I2160-10	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
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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



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- 3b -
PREPARATION BLANK SUMMARY

Client: LB86254

SDG No.: LB86254

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
PB97414BL	SOLID			Batch Number:		PB97414		Prep Date:	03/07/2017	
	Reactive Cyanide	-0.0057	<0.05	U		0.05		03/08/2017	15:42	LB86254
Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB97434BL	SOLID			Batch Number:		PB97434		Prep Date:	03/08/2017	
	Reactive Cyanide	-0.0079	<0.05	U		0.05		03/08/2017	15:49	LB86254

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DUPLICATE SAMPLE SUMMARY

Client: LB86254 **Level:** LOW **SDG No.:** LB86254
Contract: **Lab Code:** CHEM **Case No.:** LB86254 **SAS No.:** LB86254
Matrix: Solid **Sample ID:** I2127-22 **Client ID:** D-1DUP
Percent Solids for Sample: 100 **Duplicate ID** I2127-22DUP **Percent Solids for Spike Sample:** 100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Reactive Cyanide	mg/Kg	20	0.025	U	-0.01	U			

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DUPLICATE SAMPLE SUMMARY

Client: LB86254 **Level:** LOW **SDG No.:** LB86254
Contract: **Lab Code:** CHEM **Case No.:** LB86254 **SAS No.:** LB86254
Matrix: Solid **Sample ID:** I2160-02 **Client ID:** WC-B29-B35-001DUP
Percent Solids for Sample: 100 **Duplicate ID** I2160-02DUP **Percent Solids for Spike Sample:** 100

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Reactive Cyanide	mg/Kg	20	0.025	U	-0.015	U			