



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86865

SDG No.: LB86865

Contract: _____ Lab Code: CHEM

Case No.: LB86865

SAS No.: LB86865

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	0.24	0.25	96	0	90 - 110		04/13/2017	13:15	LB86865
CCV2	Cyanide	0.24	0.25	96	0	90 - 110		04/13/2017	13:23	LB86865
CCV3	Cyanide	0.25	0.25	100	0	90 - 110		04/13/2017	13:28	LB86865



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- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86865 **SDG No.:** LB86865
Contract: **Lab Code:** CHEM **Case No.:** LB86865 **SAS No.:** LB86865

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.0001	+/-0.005	U		0.005		04/13/2017	13:15	LB86865



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- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86865

SDG No.: LB86865

Contract:

Lab Code: CHEM

Case No.: LB86865

SAS No.: LB86865

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	0.0006	+/-0.005	U		0.005		04/13/2017	13:15	LB86865
CCB2	Cyanide	0.0001	+/-0.005	U		0.005		04/13/2017	13:23	LB86865
CCB3	Cyanide	0.00043	+/-0.005	U		0.005		04/13/2017	13:28	LB86865



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- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86865

SDG No.: LB86865

Contract: Lab Code: CHEM

Case No.: LB86865

SAS No.: LB86865

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:	
Project:	LB86865	Date Received:	
Client Sample ID:	HIGHPB98227	SDG No.:	LB86865
Lab Sample ID:	HIGHPB98227	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	0.49		1	0.003		0.005	mg/L		04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	4/11/2017 12:00:00 AM
Project:	LB86865	Date Received:	4/12/2017 12:00:00 AM
Client Sample ID:	EME-BW-PLANTINGSOIL	SDG No.:	LB86865
Lab Sample ID:	I2663-01	Matrix:	Solid
Level (low/med):	low	% Solid:	79.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.012	U	1	0.04		0.3	mg/Kg	04/13/2017	04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	4/11/2017 12:00:00 AM
Project:	LB86865	Date Received:	4/12/2017 12:00:00 AM
Client Sample ID:	EME-PRODUCED-4-10	SDG No.:	LB86865
Lab Sample ID:	I2666-01	Matrix:	Solid
Level (low/med):	low	% Solid:	79.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.0064	U	1	0.04		0.3	mg/Kg	04/13/2017	04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	4/12/2017 12:00:00 AM
Project:	LB86865	Date Received:	4/12/2017 12:00:00 AM
Client Sample ID:	ROLL-OFF-R4	SDG No.:	LB86865
Lab Sample ID:	I2670-01	Matrix:	Solid
Level (low/med):	low	% Solid:	90.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.035	J	1	0.035		0.26	mg/Kg	04/13/2017	04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	4/12/2017 12:00:00 AM
Project:	LB86865	Date Received:	4/12/2017 12:00:00 AM
Client Sample ID:	DRUMS-(2-7)	SDG No.:	LB86865
Lab Sample ID:	I2671-03	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	0.00014	U	1	0.003		0.005	mg/L	04/13/2017	04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	4/12/2017 12:00:00 AM
Project:	LB86865	Date Received:	4/12/2017 12:00:00 AM
Client Sample ID:	M-15-M-18	SDG No.:	LB86865
Lab Sample ID:	I2671-06	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	-0.0003	U	1	0.003		0.005	mg/L	04/13/2017	04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB86865	Date Received:	
Client Sample ID:	LOWPB98227	SDG No.:	LB86865
Lab Sample ID:	LOWPB98227	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	0.01		1	0.003		0.005	mg/L		04/13/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB86865	Date Received:	
Client Sample ID:	LOWPB98227	SDG No.:	LB86865
Lab Sample ID:	LOWPB98227	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
- 3b -
PREPARATION BLANK SUMMARY

Client: LB86865

SDG No.: LB86865

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
PB98227BL	Cyanide	SOLID		Batch Number:		PB98227		Prep Date:	04/13/2017	
		0.0059	<0.25	U		0.25		04/13/2017	13:15	LB86865
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB98228BL	Cyanide	WATER		Batch Number:		PB98228		Prep Date:	04/13/2017	
		0.0002	<0.005	U		0.005		04/13/2017	13:23	LB86865



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB86865 level: low sdg no.: LB86865
contract: lab code: CHEM case no.: LB86865 sas no.: LB86865
matrix: Solid sample id: I2663-01 client id: EME-BW-PLANTINGSOILMS
Percent Solids for Sample: 79.7 Spiked ID: I2663-01MS Percent Solids for Spike Sample: 79.7

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	2		0.04	U	2.4	83.3		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB86865 level: low sdg no.: LB86865
contract: lab code: CHEM case no.: LB86865 sas no.: LB86865
matrix: Solid sample id: I2663-01 client id: EME-BW-PLANTINGSOILMSD
Percent Solids for Sample: 79.7 Spiked ID: I2663-01MSD Percent Solids for Spike Sample: 79.7

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.9		0.04	U	2.5	76		



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB86865 level: low sdg no.: LB86865
contract: lab code: CHEM case no.: LB86865 sas no.: LB86865
matrix: WATER sample id: I2671-03 client id: DRUMS-(2-7)MS
Percent Solids for Sample: 0 Spiked ID: I2671-03MS 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	0.037		0.003	U	0.04	92.5		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB86865 level: low sdg no.: LB86865
contract: lab code: CHEM case no.: LB86865 sas no.: LB86865
matrix: WATER sample id: I2671-03 client id: DRUMS-(2-7)MSD
Percent Solids for Sample: 0 Spiked ID: I2671-03MSD 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	0.037		0.003	U	0.04	92.5		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86865 **Level:** LOW **SDG No.:** LB86865
Contract: **Lab Code:** CHEM **Case No.:** LB86865 **SAS No.:** LB86865
Matrix: Solid **Sample ID:** I2663-01 **Client ID:** EME-BW-PLANTINGSOILDUP
Percent Solids for Sample: 79.7 **Duplicate ID** I2663-01DUP **Percent Solids for Spike Sample:** 79.7

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.04	U	0.08	J	200.0		



GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86865 Level: LOW SDG No.: LB86865
Contract: _____ Lab Code: CHEM Case No.: LB86865 SAS No.: LB86865
Matrix: Solid Sample ID: I2663-01MS Client ID: EME-BW-PLANTINGSOILMSD
Percent Solids for Sample: 79.7 Duplicate ID I2663-01MSD Percent Solids for Spike Sample: 79.7

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	2		1.9		5		

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86865 **Level:** LOW **SDG No.:** LB86865
Contract: **Lab Code:** CHEM **Case No.:** LB86865 **SAS No.:** LB86865
Matrix: WATER **Sample ID:** I2671-03 **Client ID:** DRUMS-(2-7)DUP
Percent Solids for Sample: 0 **Duplicate ID** I2671-03DUP **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	0.00015	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86865 **Level:** LOW **SDG No.:** LB86865
Contract: **Lab Code:** CHEM **Case No.:** LB86865 **SAS No.:** LB86865
Matrix: WATER **Sample ID:** I2671-03MS **Client ID:** DRUMS-(2-7)MSD
Percent Solids for Sample: 0 **Duplicate ID** I2671-03MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.037		0.037		0		



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB86865

SDG No.: LB86865

Contract:

Lab Code: CHEM

Case No.: LB86865

SAS No.: LB86865

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB98227BS Cyanide	mg/Kg	5	4.8		96	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB86865

SDG No.: LB86865

Contract:

Lab Code: CHEM

Case No.: LB86865

SAS No.: LB86865

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB98228BS Cyanide	mg/L	0.1	0.097		97	85 - 115	