

Daily Analysis Runlog For Sequence/QC Batch ID # LB91078

Review By		Review On				
SubDirectory		LB91078		Test : Reactive Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59049,WP59051,WP59052,WP59053,WP59054,WP59055,WP59056				
ICV Standard		WP59059				
CCV Standard		WP59057				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP59058,WP58836,WP55355				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	10/25/17 10:24		OK
2	5.0PPBCN	5.0PPBCN	CAL2	10/25/17 10:24		OK
3	10PPBCN	10PPBCN	CAL3	10/25/17 10:24		OK
4	50PPBCN	50PPBCN	CAL4	10/25/17 10:24		OK
5	100PPBCN	100PPBCN	CAL5	10/25/17 10:24		OK
6	250PPBCN	250PPBCN	CAL6	10/25/17 10:24		OK
7	500PPBCN	500PPBCN	CAL7	10/25/17 10:24		OK
8	ICV1	ICV1	ICV	10/25/17 13:24		OK
9	ICB1	ICB1	ICB	10/25/17 13:24		OK
10	CCV1	CCV1	CCV	10/25/17 13:24		OK
11	CCB1	CCB1	CCB	10/25/17 13:24		OK
12	PB103646BL	PB103646BL	MB	10/25/17 13:24		OK
13	I6070-03	OK-01-102017	SAM	10/25/17 13:24		OK
14	I6101-01	CB-1017-S-TCLP-48	SAM	10/25/17 13:24		OK
15	I6101-01DUP	CB-1017-S-TCLP-48	DUP	10/25/17 13:24		OK
16	I6101-02	CB-1017-S-TCLP-48	SAM	10/25/17 13:24		OK
17	I6101-03	CB-1017-S-TCLP-43	SAM	10/25/17 13:24		OK
18	I6101-04	CB-1017-S-TCLP-43	SAM	10/25/17 13:24		OK
19	I6101-05	CB-1017-S-TCLP-43	SAM	10/25/17 13:31		OK
20	I6109-03	S13-SP1-C	SAM	10/25/17 13:31		OK
21	I6112-04	1-MARION26KV-(2-3	SAM	10/25/17 13:31		OK

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SubDirectory		LB91078		Test : Reactive Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59049,WP59051,WP59052,WP59053,WP59054,WP59055,WP59056				
ICV Standard		WP59059				
CCV Standard		WP59057				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP59058,WP58836,WP55355				
22	CCV2	CCV2	CCV	10/25/17 13:31		OK
23	CCB2	CCB2	CCB	10/25/17 13:31		OK
24	I6112-08	2-MARION26KV-(2-3	SAM	10/25/17 13:31		OK
25	I6112-12	3-MARION26KV-(2-3	SAM	10/25/17 13:31		OK
26	I6112-16	4-MARION26KV-(2-3	SAM	10/25/17 13:31		OK
27	I6112-20	5-MARION26KV-(2-3	SAM	10/25/17 13:31		OK
28	I6112-24	6-MARION26KV-(2-3	SAM	10/25/17 13:31		OK
29	I6113-03	SU-01-102417	SAM	10/25/17 13:31		OK
30	I6117-03	JC-01-102417	SAM	10/25/17 13:38		OK
31	PB103647BL	PB103647BL	MB	10/25/17 13:38		OK
32	I6111-02	MARION-26KV-3-WA	SAM	10/25/17 13:38		OK
33	I6111-02DUP	MARION-26KV-3-WA	DUP	10/25/17 13:38		OK
34	CCV3	CCV3	CCV	10/25/17 13:38		OK
35	CCB3	CCB3	CCB	10/25/17 13:38		OK
36	I6118-02	FRAC-TANK-102417	SAM	10/25/17 13:38		OK
37	CCV4	CCV4	CCV	10/25/17 13:38		OK
38	CCB4	CCB4	CCB	10/25/17 13:38		OK



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Report of Analysis

Client:		Date Collected:	10/20/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/20/2017 12:00:00 AM
Client Sample ID:	OK-01-102017	SDG No.:	LB91078
Lab Sample ID:	I6070-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.013	U	1	0.025		0.05	mg/Kg	10/23/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	CB-1017-S-TCLP-48S(3+4)	SDG No.:	LB91078
Lab Sample ID:	I6101-01	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.015	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	CB-1017-S-TCLP-48S(1+2)	SDG No.:	LB91078
Lab Sample ID:	I6101-02	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	-0.012	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	CB-1017-S-TCLP-43S3	SDG No.:	LB91078
Lab Sample ID:	I6101-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.013	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	CB-1017-S-TCLP-43S2	SDG No.:	LB91078
Lab Sample ID:	I6101-04	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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/23/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	CB-1017-S-TCLP-43S1	SDG No.:	LB91078
Lab Sample ID:	I6101-05	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.014	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	S13-SP1-C	SDG No.:	LB91078
Lab Sample ID:	I6109-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.013	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	MARION-26KV-3-WATER	SDG No.:	LB91078
Lab Sample ID:	I6111-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.0012	U	1	0.0025		0.005	mg/L	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	1-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-04	Matrix:	Solid
Level (low/med):	low	% Solid:	87.5

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	2-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-08	Matrix:	Solid
Level (low/med):	low	% Solid:	97.6

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	3-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-12	Matrix:	Solid
Level (low/med):	low	% Solid:	83

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	4-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-16	Matrix:	Solid
Level (low/med):	low	% Solid:	85.7

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	5-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-20	Matrix:	Solid
Level (low/med):	low	% Solid:	91.2

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	6-MARION26KV-(2-3)	SDG No.:	LB91078
Lab Sample ID:	I6112-24	Matrix:	Solid
Level (low/med):	low	% Solid:	87

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	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	SU-01-102417	SDG No.:	LB91078
Lab Sample ID:	I6113-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.014	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B

Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	JC-01-102417	SDG No.:	LB91078
Lab Sample ID:	I6117-03	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.013	U	1	0.025		0.05	mg/Kg	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	FRAC-TANK-102417	SDG No.:	LB91078
Lab Sample ID:	I6118-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Reactive Cyanide	-0.0011	U	1	0.0025		0.005	mg/L	10/25/2017	10/25/2017	9012B



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Report of Analysis

Client:		Date Collected:	10/24/2017 12:00:00 AM
Project:	LB91078	Date Received:	10/24/2017 12:00:00 AM
Client Sample ID:	FRAC-TANK-102417	SDG No.:	LB91078
Lab Sample ID:	I6118-02	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: LB91078

SDG No.: LB91078

Contract: _____

Lab Code: CHEM

Case No.: LB91078

SAS No.: LB91078

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	0.095	0.099	96	0	85 - 115		10/25/2017	13:24	LB91078



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB91078

SDG No.: LB91078

Contract: _____ Lab Code: CHEM

Case No.: LB91078

SAS No.: LB91078

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	0.25	0.25	100	0	90 - 110		10/25/2017	13:24	LB91078
CCV2	Reactive Cyanide	0.25	0.25	100	0	90 - 110		10/25/2017	13:31	LB91078
CCV3	Reactive Cyanide	0.25	0.25	100	0	90 - 110		10/25/2017	13:38	LB91078
CCV4	Reactive Cyanide	0.25	0.25	100	0	90 - 110		10/25/2017	13:38	LB91078



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91078 **SDG No.:** LB91078
Contract: **Lab Code:** CHEM **Case No.:** LB91078 **SAS No.:** LB91078

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Reactive Cyanide	-0.00094	+/-0.005	U		0.005		10/25/2017	13:24	LB91078



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91078

SDG No.: LB91078

Contract: _____

Lab Code: CHEM

Case No.: LB91078

SAS No.: LB91078

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Reactive Cyanide	-0.0011	+/-0.005	U		0.005		10/25/2017	13:24	LB91078
CCB2	Reactive Cyanide	-0.0011	+/-0.005	U		0.005		10/25/2017	13:31	LB91078
CCB3	Reactive Cyanide	-0.00099	+/-0.005	U		0.005		10/25/2017	13:38	LB91078
CCB4	Reactive Cyanide	-0.00096	+/-0.005	U		0.005		10/25/2017	13:38	LB91078



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91078

SDG No.: LB91078

Contract: Lab Code: CHEM

Case No.: LB91078

SAS No.: LB91078

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: LB91078

SDG No.: LB91078

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
PB103646BL	Reactive Cyanide	SOLID		Batch Number:		PB103646		Prep Date:	10/25/2017	
		-0.013	<0.05	U		0.05		10/25/2017	13:24	LB91078
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB103647BL	Reactive Cyanide	WATER		Batch Number:		PB103647		Prep Date:	10/25/2017	
		-0.0012	<0.005	U		0.005		10/25/2017	13:38	LB91078

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB91078 **Level:** LOW **SDG No.:** LB91078
Contract: **Lab Code:** CHEM **Case No.:** LB91078 **SAS No.:** LB91078
Matrix: Solid **Sample ID:** I6101-01 **Client ID:** CB-1017-S-TCLP-48S(3+4)DUP
Percent Solids for Sample: 100 **Duplicate ID** I6101-01DUP **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	-0.013	U			

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB91078 **Level:** LOW **SDG No.:** LB91078
Contract: **Lab Code:** CHEM **Case No.:** LB91078 **SAS No.:** LB91078
Matrix: WATER **Sample ID:** I6111-02 **Client ID:** MARION-26KV-3-WATERDUP
Percent Solids for Sample: 0 **Duplicate ID** I6111-02DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Reactive Cyanide	mg/L	20	0.0025	U	-0.0011	U			