

Daily Analysis Runlog For Sequence/QC Batch ID # LB86032

Review By

Review On

SubDirectory

LB86032

Test :

Cyanide

STD. NAME		STD REF.#				
ICAL Standard		WP53132,WP53133,WP53134,WP53135,WP53136,WP53137,WP53138,WP53139				
ICV Standard		W1540				
CCV Standard		WP53141				
ICSA Standard						
CRI Standard						
LCS Standard		WP51099				
Chk Standard		WP53140,WP51626,WP51276				

Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	02/24/17 09:47		OK
2	5.0PPBCN	5.0PPBCN	CAL2	02/24/17 09:47		OK
3	10PPBCN	10PPBCN	CAL3	02/24/17 09:47		OK
4	50PPBCN	50PPBCN	CAL4	02/24/17 09:47		OK
5	100PPBCN	100PPBCN	CAL5	02/24/17 09:47		OK
6	250PPBCN	250PPBCN	CAL6	02/24/17 09:47		OK
7	500PPBCN	500PPBCN	CAL7	02/24/17 09:47		OK
8	ICV1	ICV1	ICV	02/24/17 11:25		OK
9	ICB1	ICB1	ICB	02/24/17 11:25		OK
10	CCV1	CCV1	CCV	02/24/17 11:25		OK
11	CCB1	CCB1	CCB	02/24/17 11:25		OK
12	PB97137BL	PB97137BL	MB	02/24/17 11:25		OK
13	PB97137BS	PB97137BS	LCS	02/24/17 11:25		OK
14	LOWPB97137	LOWPB97137	SAM	02/24/17 11:25		OK
15	HIGHPB97137	HIGHPB97137	SAM	02/24/17 11:25		OK
16	I1954-01	CLP-S-04(0-5)	SAM	02/24/17 11:25		OK
17	I1954-01DUP	CLP-S-04(0-5)DUP	DUP	02/24/17 11:25		OK
18	I1954-02	CLP-S-04(5-10)	SAM	02/24/17 11:32		OK
19	I1954-03	CLP-S-04(10-15)	SAM	02/24/17 11:32		OK
20	CCV2	CCV2	CCV	02/24/17 11:32		OK
21	CCB2	CCB2	CCB	02/24/17 11:32		OK

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Review By		Review On				
SubDirectory		LB86032		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53132,WP53133,WP53134,WP53135,WP53136,WP53137,WP53138,WP53139				
ICV Standard		W1540				
CCV Standard		WP53141				
ICSA Standard						
CRI Standard						
LCS Standard		WP51099				
Chk Standard		WP53140,WP51626,WP51276				
22	I1954-05	CLP-S-06(0-5)	SAM	02/24/17 11:32		OK
23	I1954-06	CLP-S-06(5-10)	SAM	02/24/17 11:32		OK
24	I1954-07	CLP-S-06(10-15)	SAM	02/24/17 11:32		OK
25	I1954-09	CLP-B-01(0-5)	SAM	02/24/17 11:32		OK
26	I1954-13	CLP-S-03(0-5)	SAM	02/24/17 11:40		OK
27	I1954-14	CLP-S-03(0-5)-D	SAM	02/24/17 11:40		OK
28	CCV3	CCV3	CCV	02/24/17 11:40		OK
29	CCB3	CCB3	CCB	02/24/17 11:40		OK
30	I1954-15	CLP-S-03(5-10)	SAM	02/24/17 11:40		OK
31	I1954-16	CLP-S-03(10-15)	SAM	02/24/17 11:40		OK
32	PB97141BL	PB97141BL	MB	02/24/17 11:40		OK
33	PB97141BS	PB97141BS	LCS	02/24/17 11:40		OK
34	I1948-05	TP23-24-COMP17	SAM	02/24/17 11:40		OK
35	I1948-05DUP	TP23-24-COMP17DU	DUP	02/24/17 11:40		OK
36	I1952-01	SPARTA-FINE-SAND	SAM	02/24/17 11:47		OK
37	I1952-03	SPARTA-TOP-SOIL	SAM	02/24/17 11:47		OK
38	CCV4	CCV4	CCV	02/24/17 11:47		OK
39	CCB4	CCB4	CCB	02/24/17 11:47		OK
40	PB97142BL	PB97142BL	MB	02/24/17 11:47		OK
41	PB97142BS	PB97142BS	LCS	02/24/17 11:47		OK
42	I1956-01	FRAC-TANK-A2622	SAM	02/24/17 11:47		OK
43	I1956-01DUP	FRAC-TANK-A2622D	DUP	02/24/17 11:47		OK

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Daily Analysis Runlog For Sequence/QC Batch ID # LB86032

Review By		Review On				
SubDirectory		LB86032		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53132,WP53133,WP53134,WP53135,WP53136,WP53137,WP53138,WP53139				
ICV Standard		W1540				
CCV Standard		WP53141				
ICSA Standard						
CRI Standard						
LCS Standard		WP51099				
Chk Standard		WP53140,WP51626,WP51276				
44	CCV5	CCV5	CCV	02/24/17 11:55		OK
45	CCB5	CCB5	CCB	02/24/17 11:55		OK
46	I1954-01MS	CLP-S-04(0-5)MS	MS	02/24/17 12:29		OK
47	I1954-01MSD	CLP-S-04(0-5)MSD	MSD	02/24/17 12:29		OK
48	I1954-10	CLP-B-01(5-10)	SAM	02/24/17 12:29		OK
49	I1954-11	CLP-B-01(10-15)	SAM	02/24/17 12:29		OK
50	I1948-05MS	TP23-24-COMP17MS	MS	02/24/17 12:29		OK
51	I1948-05MSD	TP23-24-COMP17MS	MSD	02/24/17 12:29		OK
52	I1956-01MS	FRAC-TANK-A2622M	MS	02/24/17 12:29		OK
53	I1956-01MSD	FRAC-TANK-A2622M	MSD	02/24/17 12:29		OK
54	CCV6	CCV6	CCV	02/24/17 12:29		OK
55	CCB6	CCB6	CCB	02/24/17 12:29		OK



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Report of Analysis

Client:		Date Collected:	
Project:	LB86032	Date Received:	
Client Sample ID:	HIGHPB97137	SDG No.:	LB86032
Lab Sample ID:	HIGHPB97137	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		02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	TP23-24-COMP17	SDG No.:	LB86032
Lab Sample ID:	I1948-05	Matrix:	Solid
Level (low/med):	low	% Solid:	89.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.0045	U	1	0.035		0.27	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/21/2017 12:00:00 AM
Client Sample ID:	SPARTA-FINE-SAND	SDG No.:	LB86032
Lab Sample ID:	I1952-01	Matrix:	Solid
Level (low/med):	low	% Solid:	95.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.029	U	1	0.034		0.26	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/21/2017 12:00:00 AM
Client Sample ID:	SPARTA-TOP-SOIL	SDG No.:	LB86032
Lab Sample ID:	I1952-03	Matrix:	Solid
Level (low/med):	low	% Solid:	87.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.0079	U	1	0.036		0.27	mg/Kg	02/23/2017	02/24/2017	9012B

Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-04(0-5)	SDG No.:	LB86032
Lab Sample ID:	I1954-01	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	-0.00072	U	1	0.036		0.27	mg/Kg	02/23/2017	02/24/2017	9012B

Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-04(5-10)	SDG No.:	LB86032
Lab Sample ID:	I1954-02	Matrix:	Solid
Level (low/med):	low	% Solid:	96

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.015	U	1	0.033		0.25	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-04(10-15)	SDG No.:	LB86032
Lab Sample ID:	I1954-03	Matrix:	Solid
Level (low/med):	low	% Solid:	96.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.073	J	1	0.033		0.25	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-06(0-5)	SDG No.:	LB86032
Lab Sample ID:	I1954-05	Matrix:	Solid
Level (low/med):	low	% Solid:	96.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.025	U	1	0.034		0.25	mg/Kg	02/23/2017	02/24/2017	9012B

Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-06(5-10)	SDG No.:	LB86032
Lab Sample ID:	I1954-06	Matrix:	Solid
Level (low/med):	low	% Solid:	87.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.016	U	1	0.035		0.26	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-06(10-15)	SDG No.:	LB86032
Lab Sample ID:	I1954-07	Matrix:	Solid
Level (low/med):	low	% Solid:	91.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.0062	U	1	0.035		0.27	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-B-01(0-5)	SDG No.:	LB86032
Lab Sample ID:	I1954-09	Matrix:	Solid
Level (low/med):	low	% Solid:	92.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.07	J	1	0.035		0.26	mg/Kg	02/23/2017	02/24/2017	9012B

Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-B-01(5-10)	SDG No.:	LB86032
Lab Sample ID:	I1954-10	Matrix:	Solid
Level (low/med):	low	% Solid:	91.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.1	J	1	0.034		0.26	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/21/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-B-01(10-15)	SDG No.:	LB86032
Lab Sample ID:	I1954-11	Matrix:	Solid
Level (low/med):	low	% Solid:	95.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.023	U	1	0.032		0.24	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-03(0-5)	SDG No.:	LB86032
Lab Sample ID:	I1954-13	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	-0.012	U	1	0.036		0.27	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-03(0-5)-D	SDG No.:	LB86032
Lab Sample ID:	I1954-14	Matrix:	Solid
Level (low/med):	low	% Solid:	90

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.013	U	1	0.035		0.27	mg/Kg	02/23/2017	02/24/2017	9012B

Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-03(5-10)	SDG No.:	LB86032
Lab Sample ID:	I1954-15	Matrix:	Solid
Level (low/med):	low	% Solid:	89.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.032	U	1	0.036		0.27	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	CLP-S-03(10-15)	SDG No.:	LB86032
Lab Sample ID:	I1954-16	Matrix:	Solid
Level (low/med):	low	% Solid:	94.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.036	U	1	0.033		0.25	mg/Kg	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	2/22/2017 12:00:00 AM
Project:	LB86032	Date Received:	2/22/2017 12:00:00 AM
Client Sample ID:	FRAC-TANK-A2622	SDG No.:	LB86032
Lab Sample ID:	I1956-01	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	-8.88e-005 U	1	0.003		0.005		mg/L	02/23/2017	02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB86032	Date Received:	
Client Sample ID:	LOWPB97137	SDG No.:	LB86032
Lab Sample ID:	LOWPB97137	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		02/24/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB86032	Date Received:	
Client Sample ID:	LOWPB97137	SDG No.:	LB86032
Lab Sample ID:	LOWPB97137	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: LB86032 **SDG No.:** LB86032
Contract: _____ **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
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	Cyanide	0.095	0.099	96	0	85 - 115		02/24/2017	11:25	LB86032

GENCHEM**- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** LB86032**SDG No.:** LB86032**Contract:** _____ **Lab Code:** CHEM**Case No.:** LB86032**SAS No.:** LB86032**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		02/24/2017	11:25	LB86032
CCV2	Cyanide	0.25	0.25	100	0	90 - 110		02/24/2017	11:32	LB86032
CCV3	Cyanide	0.25	0.25	100	0	90 - 110		02/24/2017	11:40	LB86032
CCV4	Cyanide	0.25	0.25	100	0	90 - 110		02/24/2017	11:47	LB86032
CCV5	Cyanide	0.24	0.25	96	0	90 - 110		02/24/2017	11:55	LB86032
CCV6	Cyanide	0.25	0.25	100	0	90 - 110		02/24/2017	12:29	LB86032



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86032

SDG No.: LB86032

Contract:

Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	-0.00033	+/-0.005	U		0.005		02/24/2017	11:25	LB86032



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86032

SDG No.: LB86032

Contract:

Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0.00089	+/-0.005	U		0.005		02/24/2017	11:25	LB86032
CCB2	Cyanide	0.00033	+/-0.005	U		0.005		02/24/2017	11:32	LB86032
CCB3	Cyanide	-0.00023	+/-0.005	U		0.005		02/24/2017	11:40	LB86032
CCB4	Cyanide	0.00097	+/-0.005	U		0.005		02/24/2017	11:47	LB86032
CCB5	Cyanide	0.0012	+/-0.005	U		0.005		02/24/2017	11:55	LB86032
CCB6	Cyanide	0.0013	+/-0.005	U		0.005		02/24/2017	12:29	LB86032



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86032

SDG No.: LB86032

Contract: Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

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: LB86032

SDG No.: LB86032

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
PB97137BL	SOLID		Batch Number:		PB97137		Prep Date:		02/23/2017	
	Cyanide	-0.035	<0.25	U		0.25		02/24/2017	11:25	LB86032
Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB97141BL	SOLID		Batch Number:		PB97141		Prep Date:		02/23/2017	
	Cyanide	0.054	<0.25	J		0.25		02/24/2017	11:40	LB86032
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB97142BL	WATER		Batch Number:		PB97142		Prep Date:		02/23/2017	
	Cyanide	0.00097	<0.005	U		0.005		02/24/2017	11:47	LB86032



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: Solid sample id: I1948-05 client id: TP23-24-COMP17MS
Percent Solids for Sample: 89.5 Spiked ID: I1948-05MS Percent Solids for Spike Sample: 89.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.035	U	2.1	81		

GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: Solid sample id: I1948-05 client id: TP23-24-COMP17MSD
Percent Solids for Sample: 89.5 Spiked ID: I1948-05MSD Percent Solids for Spike Sample: 89.5

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.035	U	2.2	77.3		



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: Solid sample id: I1954-01 client id: CLP-S-04(0-5)MS
Percent Solids for Sample: 89.2 Spiked ID: I1954-01MS Percent Solids for Spike Sample: 89.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.8		0.036	U	2.2	81.8		

GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: Solid sample id: I1954-01 client id: CLP-S-04(0-5)MSD
Percent Solids for Sample: 89.2 Spiked ID: I1954-01MSD Percent Solids for Spike Sample: 89.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.8		0.036	U	2.1	85.7		



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: WATER sample id: I1956-01 client id: FRAC-TANK-A2622MS
Percent Solids for Sample: 0 Spiked ID: I1956-01MS 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	0.03		0.003	U	0.04	75		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB86032 level: low sdg no.: LB86032
contract: lab code: CHEM case no.: LB86032 sas no.: LB86032
matrix: WATER sample id: I1956-01 client id: FRAC-TANK-A2622MSD
Percent Solids for Sample: 0 Spiked ID: I1956-01MSD 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	0.03		0.003	U	0.04	75		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: Solid **Sample ID:** I1948-05 **Client ID:** TP23-24-COMP17DUP
Percent Solids for Sample: 89.5 **Duplicate ID** I1948-05DUP **Percent Solids for Spike Sample:** 89.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.035	U	-0.021	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: Solid **Sample ID:** I1948-05MS **Client ID:** TP23-24-COMP17MSD
Percent Solids for Sample: 89.5 **Duplicate ID** I1948-05MSD **Percent Solids for Spike Sample:** 89.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	1.7		1.7		0		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: Solid **Sample ID:** I1954-01 **Client ID:** CLP-S-04(0-5)DUP
Percent Solids for Sample: 89.2 **Duplicate ID** I1954-01DUP **Percent Solids for Spike Sample:** 89.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.036	U	-0.0036	U			

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: Solid **Sample ID:** I1954-01MS **Client ID:** CLP-S-04(0-5)MSD
Percent Solids for Sample: 89.2 **Duplicate ID** I1954-01MSD **Percent Solids for Spike Sample:** 89.2

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

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: WATER **Sample ID:** I1956-01 **Client ID:** FRAC-TANK-A2622DUP
Percent Solids for Sample: 0 **Duplicate ID** I1956-01DUP **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	0.00037	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB86032 **Level:** LOW **SDG No.:** LB86032
Contract: **Lab Code:** CHEM **Case No.:** LB86032 **SAS No.:** LB86032
Matrix: WATER **Sample ID:** I1956-01MS **Client ID:** FRAC-TANK-A2622MSD
Percent Solids for Sample: 0 **Duplicate ID** I1956-01MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.03		0.03		0		



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB86032

SDG No.: LB86032

Contract:

Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB97137BS Cyanide	mg/Kg	5	4.9		98	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB86032

SDG No.: LB86032

Contract:

Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB97141BS Cyanide	mg/Kg	5	5.1		102	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB86032

SDG No.: LB86032

Contract:

Lab Code: CHEM

Case No.: LB86032

SAS No.: LB86032

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB97142BS Cyanide	mg/L	0.1	0.1		100	85 - 115	