

Daily Analysis Runlog For Sequence/QC Batch ID # LB93454

Review By		Review On				
SubDirectory		LB93454		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP62190,WP62191,WP62192,WP62193,WP62194,WP62195,WP62196				
ICV Standard		W1542				
CCV Standard		WP62197				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP58910				
Chk Standard		WP62199,WP59958,WP60878				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	02/22/18 11:41		OK
2	5.0PPBCN	5.0PPBCN	CAL2	02/22/18 11:41		OK
3	10PPBCN	10PPBCN	CAL3	02/22/18 11:41		OK
4	50PPBCN	50PPBCN	CAL4	02/22/18 11:41		OK
5	100PPBCN	100PPBCN	CAL5	02/22/18 11:41		OK
6	250PPBCN	250PPBCN	CAL6	02/22/18 11:41		OK
7	500PPBCN	500PPBCN	CAL7	02/22/18 11:41		OK
8	ICV1	ICV1	ICV	02/22/18 13:23		OK
9	ICB1	ICB1	ICB	02/22/18 13:23		OK
10	CCV1	CCV1	CCV	02/22/18 13:23		OK
11	CCB1	CCB1	CCB	02/22/18 13:23		OK
12	PB106762BL	PB106762BL	MB	02/22/18 13:23		OK
13	PB106762BS	PB106762BS	LCS	02/22/18 13:23		OK
14	LOWPB106762	LOWPB106762	SAM	02/22/18 13:23		OK
15	HIGHPB106762	HIGHPB106762	SAM	02/22/18 13:23		OK
16	J1396-01	HD-01-022118	SAM	02/22/18 13:23		OK
17	J1396-01DUP	HD-01-022118DUP	DUP	02/22/18 13:23		OK
18	J1396-01MS	HD-01-022118MS	MS	02/22/18 13:23		OK
19	J1396-01MSD	HD-01-022118MSD	MSD	02/22/18 13:30		OK
20	J1634-01	RO-72-11931	SAM	02/22/18 13:30		OK
21	J1635-01	TP-1-3FT	SAM	02/22/18 13:30		OK

284 Sheffield Street, Mountainside, New Jersey 07092 Phone : 908 789 8900 Fax : 908 789 8922

Daily Analysis Runlog For Sequence/QC Batch ID # LB93454

Review By		Review On				
SubDirectory		LB93454		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP62190,WP62191,WP62192,WP62193,WP62194,WP62195,WP62196				
ICV Standard		W1542				
CCV Standard		WP62197				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP58910				
Chk Standard		WP62199,WP59958,WP60878				
22	CCV2	CCV2	CCV	02/22/18 13:30		OK
23	CCB2	CCB2	CCB	02/22/18 13:30		OK
24	J1635-03	TP-1-6FT	SAM	02/22/18 13:30		OK
25	J1638-01	3-4-DENSE-GRADE-	SAM	02/22/18 13:30		OK
26	J1639-01	1-1-2-DENSE-GRAD	SAM	02/22/18 13:30		OK
27	J1640-01	2-2-DENSE-GRADE-	SAM	02/22/18 13:30		OK
28	PB106763BL	PB106763BL	MB	02/22/18 13:30		OK
29	PB106763BS	PB106763BS	LCS	02/22/18 13:30		OK
30	J1634-06	FRAC-TANK-257928	SAM	02/22/18 13:37		OK
31	J1634-06DUP	FRAC-TANK-257928	DUP	02/22/18 13:37		OK
32	J1634-06MS	FRAC-TANK-257928	MS	02/22/18 13:37		OK
33	J1634-06MSD	FRAC-TANK-257928	MSD	02/22/18 13:37		OK
34	CCV3	CCV3	CCV	02/22/18 13:37		OK
35	CCB3	CCB3	CCB	02/22/18 13:37		OK



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	
Project:	LB93454	Date Received:	
Client Sample ID:	HIGHPB106762	SDG No.:	LB93454
Lab Sample ID:	HIGHPB106762	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		02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	HD-01-022118	SDG No.:	LB93454
Lab Sample ID:	J1396-01	Matrix:	Solid
Level (low/med):	low	% Solid:	89.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.081	J	1	0.036		0.28	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	RO-72-11931	SDG No.:	LB93454
Lab Sample ID:	J1634-01	Matrix:	Solid
Level (low/med):	low	% Solid:	84.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.13	J	1	0.038		0.29	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	FRAC-TANK-257928	SDG No.:	LB93454
Lab Sample ID:	J1634-06	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	0.00089	U	1	0.003		0.005	mg/L	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	TP-1-3FT	SDG No.:	LB93454
Lab Sample ID:	J1635-01	Matrix:	Solid
Level (low/med):	low	% Solid:	87.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.0073	U	1	0.036		0.27	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	TP-1-6FT	SDG No.:	LB93454
Lab Sample ID:	J1635-03	Matrix:	Solid
Level (low/med):	low	% Solid:	87.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.021	U	1	0.037		0.28	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	3-4-DENSE-GRADE-AGG-RCA	SDG No.:	LB93454
Lab Sample ID:	J1638-01	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.3		1	0.032		0.24	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	1-1-2-DENSE-GRADE-AGG-RCA	SDG No.:	LB93454
Lab Sample ID:	J1639-01	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.067	J	1	0.032		0.25	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	2/21/2018 12:00:00 AM
Project:	LB93454	Date Received:	2/21/2018 12:00:00 AM
Client Sample ID:	2-2-DENSE-GRADE-AGG-RCA	SDG No.:	LB93454
Lab Sample ID:	J1640-01	Matrix:	Solid
Level (low/med):	low	% Solid:	100

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.02	U	1	0.031		0.24	mg/Kg	02/22/2018	02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	
Project:	LB93454	Date Received:	
Client Sample ID:	LOWPB106762	SDG No.:	LB93454
Lab Sample ID:	LOWPB106762	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	0.0099		1	0.003		0.005	mg/L		02/22/2018	9012B



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	
Project:	LB93454	Date Received:	
Client Sample ID:	LOWPB106762	SDG No.:	LB93454
Lab Sample ID:	LOWPB106762	Matrix:	WATER
Level (low/med):	low	% Solid:	0

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

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: LB93454

SDG No.: LB93454

Contract: _____ Lab Code: CHEM

Case No.: LB93454

SAS No.: LB93454

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result mg/L	True Value	% Recovery	Qual	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV1	Cyanide	0.24	0.25	96		90 - 110		02/22/2018	13:23	LB93454
CCV2	Cyanide	0.24	0.25	96		90 - 110		02/22/2018	13:30	LB93454
CCV3	Cyanide	0.25	0.25	100		90 - 110		02/22/2018	13:37	LB93454



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB93454

SDG No.: LB93454

Contract:

Lab Code: CHEM

Case No.: LB93454

SAS No.: LB93454

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.00024	+/-0.005	U		0.005		02/22/2018	13:23	LB93454

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0	+/-0.005	U		0.005		02/22/2018	13:23	LB93454
CCB2	Cyanide	0.00011	+/-0.005	U		0.005		02/22/2018	13:30	LB93454
CCB3	Cyanide	0.00055	+/-0.005	U		0.005		02/22/2018	13:37	LB93454



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:

LB93454

SDG No.:

LB93454

Contract:

Lab Code:

CHEM

Case No.:

LB93454

SAS No.:

LB93454

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



GENCHEM
- 3b -
PREPARATION BLANK SUMMARY

Client: LB93454

SDG No.: LB93454

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
PB106762BL	Cyanide	SOLID		Batch Number:		PB106762		Prep Date:	02/22/2018	
		0.0041	<0.24	U		0.24		02/22/2018	13:23	LB93454
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB106763BL	Cyanide	WATER		Batch Number:		PB106763		Prep Date:	02/22/2018	
		0.0001	<0.005	U		0.005		02/22/2018	13:30	LB93454



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB93454 level: low sdg no.: LB93454
contract: lab code: CHEM case no.: LB93454 sas no.: LB93454
matrix: Solid sample id: J1396-01 client id: HD-01-022118MS
Percent Solids for Sample: 89.1 Spiked ID: J1396-01MS Percent Solids for Spike Sample: 89.1

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.081	J	2.2	74	*	



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB93454 level: low sdg no.: LB93454
contract: lab code: CHEM case no.: LB93454 sas no.: LB93454
matrix: Solid sample id: J1396-01 client id: HD-01-022118MSD
Percent Solids for Sample: 89.1 Spiked ID: J1396-01MSD Percent Solids for Spike Sample: 89.1

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.081	J	2.2	74	*	



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB93454 level: low sdg no.: LB93454
contract: lab code: CHEM case no.: LB93454 sas no.: LB93454
matrix: WATER sample id: J1634-06 client id: FRAC-TANK-257928MS
Percent Solids for Sample: 0 Spiked ID: J1634-06MS 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	0.039		0.003	U	0.04	97.5		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB93454 level: low sdg no.: LB93454
contract: lab code: CHEM case no.: LB93454 sas no.: LB93454
matrix: WATER sample id: J1634-06 client id: FRAC-TANK-257928MSD
Percent Solids for Sample: 0 Spiked ID: J1634-06MSD 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	0.04		0.003	U	0.04	100		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB93454 **Level:** LOW **SDG No.:** LB93454
Contract: **Lab Code:** CHEM **Case No.:** LB93454 **SAS No.:** LB93454
Matrix: Solid **Sample ID:** J1396-01 **Client ID:** HD-01-022118DUP
Percent Solids for Sample: 89.1 **Duplicate ID** J1396-01DUP **Percent Solids for Spike Sample:** 89.1

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.081	J	0.071	J	13		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB93454 **Level:** LOW **SDG No.:** LB93454
Contract: **Lab Code:** CHEM **Case No.:** LB93454 **SAS No.:** LB93454
Matrix: Solid **Sample ID:** J1396-01MS **Client ID:** HD-01-022118MSD
Percent Solids for Sample: 89.1 **Duplicate ID** J1396-01MSD **Percent Solids for Spike Sample:** 89.1

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



GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB93454 **Level:** LOW **SDG No.:** LB93454
Contract: **Lab Code:** CHEM **Case No.:** LB93454 **SAS No.:** LB93454
Matrix: WATER **Sample ID:** J1634-06 **Client ID:** FRAC-TANK-257928DUP
Percent Solids for Sample: 0 **Duplicate ID** J1634-06DUP **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	0.0012	U			



GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB93454 Level: LOW SDG No.: LB93454
Contract: _____ Lab Code: CHEM Case No.: LB93454 SAS No.: LB93454
Matrix: WATER Sample ID: J1634-06MS Client ID: FRAC-TANK-257928MSD
Percent Solids for Sample: 0 Duplicate ID J1634-06MSD Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.039		0.04		3		

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



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB93454

SDG No.: LB93454

Contract:

Lab Code: CHEM

Case No.: LB93454

SAS No.: LB93454

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB106762BS Cyanide	mg/Kg	4.9	4.8		98	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB93454

SDG No.: LB93454

Contract:

Lab Code: CHEM

Case No.: LB93454

SAS No.: LB93454

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB106763BS Cyanide	mg/L	0.1	0.097		97	85 - 115	