

Daily Analysis Runlog For Sequence/QC Batch ID # LB91606

Review By		Review On				
SubDirectory		LB91606		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59639,WP59640,WP59641,WP59642,WP59643,WP59644,WP59645				
ICV Standard		W1541				
CCV Standard		WP59646				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP58910				
Chk Standard		WP55836,WP55355,WP59647				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/15/17 12:13		OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/15/17 12:13		OK
3	10PPBCN	10PPBCN	CAL3	11/15/17 12:13		OK
4	50PPBCN	50PPBCN	CAL4	11/15/17 12:13		OK
5	100PPBCN	100PPBCN	CAL5	11/15/17 12:13		OK
6	250PPBCN	250PPBCN	CAL6	11/15/17 12:13		OK
7	500PPBCN	500PPBCN	CAL7	11/15/17 12:13		OK
8	ICV1	ICV1	ICV	11/15/17 12:57		OK
9	ICB1	ICB1	ICB	11/15/17 12:57		OK
10	CCV1	CCV1	CCV	11/15/17 12:58		OK
11	CCB1	CCB1	CCB	11/15/17 12:58		OK
12	PB104291BL	PB104291BL	MB	11/15/17 12:58		OK
13	PB104291BS	PB104291BS	LCS	11/15/17 12:58		OK
14	LOWPB104291	LOWPB104291	SAM	11/15/17 12:58		OK
15	HIGHPB104291	HIGHPB104291	SAM	11/15/17 13:05		OK
16	I6289-05	SU-01-111417	SAM	11/15/17 13:05		OK
17	I6289-05DUP	SU-01-111417DUP	DUP	11/15/17 13:05		OK
18	I6289-05MS	SU-01-111417MS	MS	11/15/17 13:05		OK
19	I6289-05MSD	SU-01-111417MSD	MSD	11/15/17 13:05		OK
20	I6476-01	72-11934-290	SAM	11/15/17 13:05		OK
21	I6476-03	SP-1-RIGHT	SAM	11/15/17 13:05		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB91606

Review By			Review On			
SubDirectory		LB91606		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP59639,WP59640,WP59641,WP59642,WP59643,WP59644,WP59645				
ICV Standard		W1541				
CCV Standard		WP59646				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP58910				
Chk Standard		WP55836,WP55355,WP59647				
22	CCV2	CCV2	CCV	11/15/17 13:05		OK
23	CCB2	CCB2	CCB	11/15/17 13:05		OK
24	I6476-05	SP-1-LEFT	SAM	11/15/17 13:05		OK
25	I6478-01	SP-1-A	SAM	11/15/17 13:05		OK
26	I6478-03	SP-1-B	SAM	11/15/17 13:13		OK
27	I6478-05	SP-1-C	SAM	11/15/17 13:13		OK
28	I6478-07	SP-1-D	SAM	11/15/17 13:13		OK
29	I6479-01	T-20	SAM	11/15/17 13:13		OK
30	I6479-03	POT-HEAD	SAM	11/15/17 13:13		OK
31	PB104292BL	PB104292BL	MB	11/15/17 13:13		OK
32	PB104292BS	PB104292BS	LCS	11/15/17 13:13		OK
33	I6477-01	TOTE-1-2	SAM	11/15/17 13:13		OK
34	CCV3	CCV3	CCV	11/15/17 13:13		OK
35	CCB3	CCB3	CCB	11/15/17 13:13		OK
36	I6477-01DUP	TOTE-1-2DUP	DUP	11/15/17 13:13		OK
37	I6477-01MS	TOTE-1-2MS	MS	11/15/17 13:18		OK
38	I6477-01MSD	TOTE-1-2MSD	MSD	11/15/17 13:18		OK
39	CCV4	CCV4	CCV	11/15/17 13:18		OK
40	CCB4	CCB4	CCB	11/15/17 13:18		OK



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Report of Analysis

Client:		Date Collected:	
Project:	LB91606	Date Received:	
Client Sample ID:	HIGHPB104291	SDG No.:	LB91606
Lab Sample ID:	HIGHPB104291	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	0.48		1	0.003		0.005	mg/L		11/15/2017	9012B

Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SU-01-111417	SDG No.:	LB91606
Lab Sample ID:	I6289-05	Matrix:	Solid
Level (low/med):	low	% Solid:	84.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.01	U	1	0.038		0.29	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	72-11934-290	SDG No.:	LB91606
Lab Sample ID:	I6476-01	Matrix:	Solid
Level (low/med):	low	% Solid:	77.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.044	J	1	0.041		0.31	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-RIGHT	SDG No.:	LB91606
Lab Sample ID:	I6476-03	Matrix:	Solid
Level (low/med):	low	% Solid:	84.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.015	U	1	0.037		0.28	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-LEFT	SDG No.:	LB91606
Lab Sample ID:	I6476-05	Matrix:	Solid
Level (low/med):	low	% Solid:	83.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.0085	U	1	0.037		0.28	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	TOTE-1-2	SDG No.:	LB91606
Lab Sample ID:	I6477-01	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	0	U	1	0.003		0.005	mg/L	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-A	SDG No.:	LB91606
Lab Sample ID:	I6478-01	Matrix:	Solid
Level (low/med):	low	% Solid:	88.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.026	U	1	0.036		0.27	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-B	SDG No.:	LB91606
Lab Sample ID:	I6478-03	Matrix:	Solid
Level (low/med):	low	% Solid:	88.6

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		0.27	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-C	SDG No.:	LB91606
Lab Sample ID:	I6478-05	Matrix:	Solid
Level (low/med):	low	% Solid:	85.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.019	U	1	0.038		0.29	mg/Kg	11/15/2017	11/15/2017	9012B

Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	SP-1-D	SDG No.:	LB91606
Lab Sample ID:	I6478-07	Matrix:	Solid
Level (low/med):	low	% Solid:	87

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.013	U	1	0.036		0.28	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	T-20	SDG No.:	LB91606
Lab Sample ID:	I6479-01	Matrix:	Solid
Level (low/med):	low	% Solid:	94.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.041	U	1	0.035		0.26	mg/Kg	11/15/2017	11/15/2017	9012B

Report of Analysis

Client:		Date Collected:	11/14/2017 12:00:00 AM
Project:	LB91606	Date Received:	11/14/2017 12:00:00 AM
Client Sample ID:	POT-HEAD	SDG No.:	LB91606
Lab Sample ID:	I6479-03	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	0.0038	U	1	0.036		0.28	mg/Kg	11/15/2017	11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB91606	Date Received:	
Client Sample ID:	LOWPB104291	SDG No.:	LB91606
Lab Sample ID:	LOWPB104291	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		11/15/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB91606	Date Received:	
Client Sample ID:	LOWPB104291	SDG No.:	LB91606
Lab Sample ID:	LOWPB104291	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: LB91606

SDG No.: LB91606

Contract: _____ Lab Code: CHEM

Case No.: LB91606

SAS No.: LB91606

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		11/15/2017	12:58	LB91606
CCV2	Cyanide	0.24	0.25	96	0	90 - 110		11/15/2017	13:05	LB91606
CCV3	Cyanide	0.24	0.25	96	0	90 - 110		11/15/2017	13:13	LB91606
CCV4	Cyanide	0.25	0.25	100	0	90 - 110		11/15/2017	13:18	LB91606



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91606 **SDG No.:** LB91606
Contract: **Lab Code:** CHEM **Case No.:** LB91606 **SAS No.:** LB91606

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	-0.00049	+/-0.005	U		0.005		11/15/2017	12:57	LB91606



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91606

SDG No.: LB91606

Contract:

Lab Code: CHEM

Case No.: LB91606

SAS No.: LB91606

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0.00033	+/-0.005	U		0.005		11/15/2017	12:58	LB91606
CCB2	Cyanide	-0.0004	+/-0.005	U		0.005		11/15/2017	13:05	LB91606
CCB3	Cyanide	-0.0004	+/-0.005	U		0.005		11/15/2017	13:13	LB91606
CCB4	Cyanide	-0.0004	+/-0.005	U		0.005		11/15/2017	13:18	LB91606



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB91606

SDG No.: LB91606

Contract: Lab Code: CHEM

Case No.: LB91606

SAS No.: LB91606

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: LB91606

SDG No.: LB91606

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
PB104291BL	Cyanide	SOLID		Batch Number:		PB104291		Prep Date:	11/15/2017	
		-0.024	<0.25	U		0.25		11/15/2017	12:58	LB91606
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB104292BL	Cyanide	WATER		Batch Number:		PB104292		Prep Date:	11/15/2017	
		-0.00047	<0.005	U		0.005		11/15/2017	13:13	LB91606

GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB91606 level: low sdg no.: LB91606
contract: lab code: CHEM case no.: LB91606 sas no.: LB91606
matrix: Solid sample id: I6289-05 client id: SU-01-111417MS
Percent Solids for Sample: 84.5 Spiked ID: I6289-05MS Percent Solids for Spike Sample: 84.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.038	U	2.3	73.9	*	

GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB91606 level: low sdg no.: LB91606
contract: lab code: CHEM case no.: LB91606 sas no.: LB91606
matrix: Solid sample id: I6289-05 client id: SU-01-111417MSD
Percent Solids for Sample: 84.5 Spiked ID: I6289-05MSD Percent Solids for Spike Sample: 84.5

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.038	U	2.3	73.9	*	



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB91606 level: low sdg no.: LB91606
contract: lab code: CHEM case no.: LB91606 sas no.: LB91606
matrix: WATER sample id: I6477-01 client id: TOTE-1-2MS
Percent Solids for Sample: 0 Spiked ID: I6477-01MS 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	0.0085		0.003	U	0.04	21.3	*	



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB91606 level: low sdg no.: LB91606
contract: lab code: CHEM case no.: LB91606 sas no.: LB91606
matrix: WATER sample id: I6477-01 client id: TOTE-1-2MSD
Percent Solids for Sample: 0 Spiked ID: I6477-01MSD 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	0.0091		0.003	U	0.04	22.8	*	

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- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB91606 **Level:** LOW **SDG No.:** LB91606
Contract: **Lab Code:** CHEM **Case No.:** LB91606 **SAS No.:** LB91606
Matrix: Solid **Sample ID:** I6289-05 **Client ID:** SU-01-111417DUP
Percent Solids for Sample: 84.5 **Duplicate ID** I6289-05DUP **Percent Solids for Spike Sample:** 84.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.038	U	-0.0084	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB91606 **Level:** LOW **SDG No.:** LB91606
Contract: **Lab Code:** CHEM **Case No.:** LB91606 **SAS No.:** LB91606
Matrix: Solid **Sample ID:** I6289-05MS **Client ID:** SU-01-111417MSD
Percent Solids for Sample: 84.5 **Duplicate ID** I6289-05MSD **Percent Solids for Spike Sample:** 84.5

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: LB91606 **Level:** LOW **SDG No.:** LB91606
Contract: **Lab Code:** CHEM **Case No.:** LB91606 **SAS No.:** LB91606
Matrix: WATER **Sample ID:** I6477-01 **Client ID:** TOTE-1-2DUP
Percent Solids for Sample: 0 **Duplicate ID** I6477-01DUP **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	-0.00039	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB91606 **Level:** LOW **SDG No.:** LB91606
Contract: **Lab Code:** CHEM **Case No.:** LB91606 **SAS No.:** LB91606
Matrix: WATER **Sample ID:** I6477-01MS **Client ID:** TOTE-1-2MSD
Percent Solids for Sample: 0 **Duplicate ID** I6477-01MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.0085		0.0091		7		

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB104291BS							
Cyanide	mg/Kg	4.8	4.8		100	85 - 115	



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- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB91606

SDG No.: LB91606

Contract:

Lab Code: CHEM

Case No.: LB91606

SAS No.: LB91606

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB104292BS Cyanide	mg/L	0.1	0.098		98	85 - 115	