

Daily Analysis Runlog For Sequence/QC Batch ID # LB87885

Review By		Review On				
SubDirectory		LB87885		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP55407,WP55408,WP55409,WP55410,WP55411,WP55412,WP55413,WP55414				
ICV Standard		W1541				
CCV Standard		WP55416				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP55415,WP51626,WP55355				

Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	06/06/17 12:25		OK
2	5.0PPBCN	5.0PPBCN	CAL2	06/06/17 12:25		OK
3	10PPBCN	10PPBCN	CAL3	06/06/17 12:25		OK
4	50PPBCN	50PPBCN	CAL4	06/06/17 12:25		OK
5	100PPBCN	100PPBCN	CAL5	06/06/17 12:25		OK
6	250PPBCN	250PPBCN	CAL6	06/06/17 12:25		OK
7	500PPBCN	500PPBCN	CAL7	06/06/17 12:25		OK
8	ICV1	ICV1	ICV	06/06/17 13:08		OK
9	ICB1	ICB1	ICB	06/06/17 13:08		OK
10	CCV1	CCV1	CCV	06/06/17 13:08		OK
11	CCB1	CCB1	CCB	06/06/17 13:08		OK
12	PB99483BL	PB99483BL	MB	06/06/17 13:08		OK
13	PB99483BS	PB99483BS	LCS	06/06/17 13:08		OK
14	LOWPB99483	LOWPB99483	SAM	06/06/17 13:08		OK
15	HIGHPB99483	HIGHPB99483	SAM	06/06/17 13:08		OK
16	I3438-01	TP-5-6	SAM	06/06/17 13:08		OK
17	I3438-01DUP	TP-5-6DUP	DUP	06/06/17 13:08		OK
18	I3438-01MS	TP-5-6MS	MS	06/06/17 13:08		OK
19	I3438-01MSD	TP-5-6MSD	MSD	06/06/17 13:15		OK
20	I3438-06	TP-7	SAM	06/06/17 13:15		OK
21	I3438-11	TP-8-9	SAM	06/06/17 13:15		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB87885

Review By		Review On				
SubDirectory		LB87885		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP55407,WP55408,WP55409,WP55410,WP55411,WP55412,WP55413,WP55414				
ICV Standard		W1541				
CCV Standard		WP55416				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		N/A				
Chk Standard		WP55415,WP51626,WP55355				
22	CCV2	CCV2	CCV	06/06/17 13:15		OK
23	CCB2	CCB2	CCB	06/06/17 13:15		OK
24	I3449-01	CARSONS-STOCKP	SAM	06/06/17 13:16		OK
25	I3462-01	FK-PS-01-005	SAM	06/06/17 13:16		OK
26	I3466-01	SU-RO-230-060217	SAM	06/06/17 13:16		OK
27	I3466-03	SU-RO-4672-060217	SAM	06/06/17 13:16		OK
28	I3466-05	SU-RO-6704-060217	SAM	06/06/17 13:16		OK
29	PB99484BL	PB99484BL	MB	06/06/17 13:16		OK
30	PB99484BS	PB99484BS	LCS	06/06/17 13:23		OK
31	I3450-01	A-2186	SAM	06/06/17 13:23		OK
32	I3450-01DUP	A-2186DUP	DUP	06/06/17 13:23		OK
33	I3450-01MS	A-2186MS	MS	06/06/17 13:23		OK
34	CCV3	CCV3	CCV	06/06/17 13:23		OK
35	CCB3	CCB3	CCB	06/06/17 13:23		OK
36	I3450-01MSD	A-2186MSD	MSD	06/06/17 13:23		OK
37	CCV4	CCV4	CCV	06/06/17 13:23		OK
38	CCB4	CCB4	CCB	06/06/17 13:23		OK



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Report of Analysis

Client:		Date Collected:	
Project:	LB87885	Date Received:	
Client Sample ID:	HIGHPB99483	SDG No.:	LB87885
Lab Sample ID:	HIGHPB99483	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		06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/1/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/1/2017 12:00:00 AM
Client Sample ID:	TP-5-6	SDG No.:	LB87885
Lab Sample ID:	I3438-01	Matrix:	Solid
Level (low/med):	low	% Solid:	92.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.039	J	1	0.035		0.26	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/1/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/1/2017 12:00:00 AM
Client Sample ID:	TP-7	SDG No.:	LB87885
Lab Sample ID:	I3438-06	Matrix:	Solid
Level (low/med):	low	% Solid:	93.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.0041	U	1	0.034		0.26	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/1/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/1/2017 12:00:00 AM
Client Sample ID:	TP-8-9	SDG No.:	LB87885
Lab Sample ID:	I3438-11	Matrix:	Solid
Level (low/med):	low	% Solid:	91.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.0029	U	1	0.034		0.26	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	CARSONS-STOCKPILE(COMP)	SDG No.:	LB87885
Lab Sample ID:	I3449-01	Matrix:	Solid
Level (low/med):	low	% Solid:	83.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.29		1	0.038		0.29	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	A-2186	SDG No.:	LB87885
Lab Sample ID:	I3450-01	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	0.0038	J	1	0.003		0.005	mg/L	06/05/2017	06/06/2017	9012B

Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	FK-PS-01-005	SDG No.:	LB87885
Lab Sample ID:	I3462-01	Matrix:	Solid
Level (low/med):	low	% Solid:	86.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.004	U	1	0.037		0.28	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	SU-RO-230-060217	SDG No.:	LB87885
Lab Sample ID:	I3466-01	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	-0.0052	U	1	0.036		0.27	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	SU-RO-4672-060217	SDG No.:	LB87885
Lab Sample ID:	I3466-03	Matrix:	Solid
Level (low/med):	low	% Solid:	83.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.016	U	1	0.038		0.29	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/2/2017 12:00:00 AM
Project:	LB87885	Date Received:	6/2/2017 12:00:00 AM
Client Sample ID:	SU-RO-6704-060217	SDG No.:	LB87885
Lab Sample ID:	I3466-05	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	0.021	U	1	0.038		0.29	mg/Kg	06/05/2017	06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB87885	Date Received:	
Client Sample ID:	LOWPB99483	SDG No.:	LB87885
Lab Sample ID:	LOWPB99483	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		06/06/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB87885	Date Received:	
Client Sample ID:	LOWPB99483	SDG No.:	LB87885
Lab Sample ID:	LOWPB99483	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: LB87885

SDG No.: LB87885

Contract: _____ Lab Code: CHEM

Case No.: LB87885

SAS No.: LB87885

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		06/06/2017	13:08	LB87885
CCV2	Cyanide	0.24	0.25	96	0	90 - 110		06/06/2017	13:15	LB87885
CCV3	Cyanide	0.24	0.25	96	0	90 - 110		06/06/2017	13:23	LB87885
CCV4	Cyanide	0.24	0.25	96	0	90 - 110		06/06/2017	13:23	LB87885



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB87885 **SDG No.:** LB87885
Contract: **Lab Code:** CHEM **Case No.:** LB87885 **SAS No.:** LB87885

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.00068	+/-0.005	U		0.005		06/06/2017	13:08	LB87885



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB87885

SDG No.: LB87885

Contract:

Lab Code: CHEM

Case No.: LB87885

SAS No.: LB87885

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	0.00058	+/-0.005	U		0.005		06/06/2017	13:08	LB87885
CCB2	Cyanide	0.00048	+/-0.005	U		0.005		06/06/2017	13:15	LB87885
CCB3	Cyanide	0.00064	+/-0.005	U		0.005		06/06/2017	13:23	LB87885
CCB4	Cyanide	0.00081	+/-0.005	U		0.005		06/06/2017	13:23	LB87885



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB87885

SDG No.: LB87885

Contract: Lab Code: CHEM

Case No.: LB87885

SAS No.: LB87885

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: LB87885

SDG No.: LB87885

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
PB99483BL	Cyanide	SOLID		Batch Number:		PB99483		Prep Date:	06/05/2017	
		-0.0033	<0.25	U		0.25		06/06/2017	13:08	LB87885
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB99484BL	Cyanide	WATER		Batch Number:		PB99484		Prep Date:	06/05/2017	
		-0	<0.005	U		0.005		06/06/2017	13:16	LB87885



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB87885 level: low sdg no.: LB87885
contract: lab code: CHEM case no.: LB87885 sas no.: LB87885
matrix: Solid sample id: I3438-01 client id: TP-5-6MS
Percent Solids for Sample: 92.4 Spiked ID: I3438-01MS Percent Solids for Spike Sample: 92.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.9		0.039	J	2.1	89		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB87885 level: low sdg no.: LB87885
contract: lab code: CHEM case no.: LB87885 sas no.: LB87885
matrix: Solid sample id: I3438-01 client id: TP-5-6MSD
Percent Solids for Sample: 92.4 Spiked ID: I3438-01MSD Percent Solids for Spike Sample: 92.4

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.7		0.039	J	2.1	79		



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB87885 level: low sdg no.: LB87885
contract: lab code: CHEM case no.: LB87885 sas no.: LB87885
matrix: WATER sample id: I3450-01 client id: A-2186MS
Percent Solids for Sample: 0 Spiked ID: I3450-01MS 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	0.038		0.0038	J	0.04	85		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB87885 level: low sdg no.: LB87885
contract: lab code: CHEM case no.: LB87885 sas no.: LB87885
matrix: WATER sample id: I3450-01 client id: A-2186MSD
Percent Solids for Sample: 0 Spiked ID: I3450-01MSD 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	0.039		0.0038	J	0.04	88		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB87885 **Level:** LOW **SDG No.:** LB87885
Contract: **Lab Code:** CHEM **Case No.:** LB87885 **SAS No.:** LB87885
Matrix: Solid **Sample ID:** I3438-01 **Client ID:** TP-5-6DUP
Percent Solids for Sample: 92.4 **Duplicate ID** I3438-01DUP **Percent Solids for Spike Sample:** 92.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.039	J	-0.0048	U	200.0	*	

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB87885 **Level:** LOW **SDG No.:** LB87885
Contract: **Lab Code:** CHEM **Case No.:** LB87885 **SAS No.:** LB87885
Matrix: Solid **Sample ID:** I3438-01MS **Client ID:** TP-5-6MSD
Percent Solids for Sample: 92.4 **Duplicate ID** I3438-01MSD **Percent Solids for Spike Sample:** 92.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	1.9		1.7		11		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB87885 **Level:** LOW **SDG No.:** LB87885
Contract: **Lab Code:** CHEM **Case No.:** LB87885 **SAS No.:** LB87885
Matrix: WATER **Sample ID:** I3450-01 **Client ID:** A-2186DUP
Percent Solids for Sample: 0 **Duplicate ID** I3450-01DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.0038	J	0.0034	J	11		

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB87885 **Level:** LOW **SDG No.:** LB87885
Contract: **Lab Code:** CHEM **Case No.:** LB87885 **SAS No.:** LB87885
Matrix: WATER **Sample ID:** I3450-01MS **Client ID:** A-2186MSD
Percent Solids for Sample: 0 **Duplicate ID** I3450-01MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.038		0.039		3		



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB87885

SDG No.: LB87885

Contract:

Lab Code: CHEM

Case No.: LB87885

SAS No.: LB87885

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB99483BS Cyanide	mg/Kg	4.9	4.7		95.9	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB87885

SDG No.: LB87885

Contract:

Lab Code: CHEM

Case No.: LB87885

SAS No.: LB87885

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB99484BS Cyanide	mg/L	0.1	0.094		94	85 - 115	