

Daily Analysis Runlog For Sequence/QC Batch ID # LB95389

Review By		Review On				
SubDirectory		LB95389		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP64511,WP64512,WP64513,WP64514,WP64515,WP64516,WP64157				
ICV Standard		W1542				
CCV Standard		WP64518				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP62802				
Chk Standard		WP64520,WP59958,WP60878				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	05/16/18 07:47		OK
2	5.0PPBCN	5.0PPBCN	CAL2	05/16/18 07:48		OK
3	10PPBCN	10PPBCN	CAL3	05/16/18 07:48		OK
4	50PPBCN	50PPBCN	CAL4	05/16/18 07:48		OK
5	100PPBCN	100PPBCN	CAL5	05/16/18 07:48		OK
6	250PPBCN	250PPBCN	CAL6	05/16/18 07:48		OK
7	500PPBCN	500PPBCN	CAL7	05/16/18 07:48		OK
8	ICV1	ICV1	ICV	05/16/18 13:21		OK
9	ICB1	ICB1	ICB	05/16/18 13:21		OK
10	CCV1	CCV1	CCV	05/16/18 13:21		OK
11	CCB1	CCB1	CCB	05/16/18 13:21		OK
12	PB109323BL	PB109323BL	MB	05/16/18 13:21		OK
13	PB109323BS	PB109323BS	LCS	05/16/18 13:21		OK
14	LOWPB109323	LOWPB109323	SAM	05/16/18 13:21		OK
15	HIGHPB109323	HIGHPB109323	SAM	05/16/18 13:21		OK
16	J2672-05	BU-03-051518	SAM	05/16/18 13:21		OK
17	J2672-05DUP	BU-03-051518DUP	DUP	05/16/18 13:21		OK
18	J2672-05MS	BU-03-051518MS	MS	05/16/18 13:21		OK
19	J2672-05MSD	BU-03-051518MSD	MSD	05/16/18 13:28		OK
20	J2680-11	PL-01-051518-A	SAM	05/16/18 13:28		OK
21	J2680-13	PL-01-051518-B	SAM	05/16/18 13:28		OK

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STD. NAME		STD REF.#				
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ICV Standard		W1542				
CCV Standard		WP64518				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP62802				
Chk Standard		WP64520,WP59958,WP60878				
22	CCV2	CCV2	CCV	05/16/18 13:28		OK
23	CCB2	CCB2	CCB	05/16/18 13:28		OK
24	J2680-15	PL-01-051518-C	SAM	05/16/18 13:28		OK
25	J2680-17	PL-01-051518-D	SAM	05/16/18 13:28		OK
26	J2680-19	PL-01-051518-E	SAM	05/16/18 13:28		OK
27	PB109324BL	PB109324BL	MB	05/16/18 13:28		OK
28	PB109324BS	PB109324BS	LCS	05/16/18 13:28		OK
29	J2924-03	TP-12A	SAM	05/16/18 13:28		OK
30	J2924-03DUP	TP-12ADUP	DUP	05/16/18 13:36		OK
31	J2924-03MS	TP-12AMS	MS	05/16/18 13:36		OK
32	J2924-03MSD	TP-12AMSD	MSD	05/16/18 13:36		OK
33	J2924-05	TP-12B	SAM	05/16/18 13:36		OK
34	CCV3	CCV3	CCV	05/16/18 13:36		OK
35	CCB3	CCB3	CCB	05/16/18 13:36		OK
36	J2928-01	WYC-1-E(0-1)	SAM	05/16/18 13:36		OK
37	J2928-02	WYC-1-E(4-5)	SAM	05/16/18 13:36		OK
38	J2928-03	WYC-1-E(7-8)	SAM	05/16/18 13:36		OK
39	CCV4	CCV4	CCV	05/16/18 13:36		OK
40	CCB4	CCB4	CCB	05/16/18 13:36		OK



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Report of Analysis

Client:		Date Collected:	
Project:	LB95389	Date Received:	
Client Sample ID:	HIGHPB109323	SDG No.:	LB95389
Lab Sample ID:	HIGHPB109323	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		05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	BU-03-051518	SDG No.:	LB95389
Lab Sample ID:	J2672-05	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	0.11	J	1	0.034		0.26	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	PL-01-051518-A	SDG No.:	LB95389
Lab Sample ID:	J2680-11	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	0.072	J	1	0.036		0.28	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	PL-01-051518-B	SDG No.:	LB95389
Lab Sample ID:	J2680-13	Matrix:	Solid
Level (low/med):	low	% Solid:	88

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.1	J	1	0.036		0.28	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	PL-01-051518-C	SDG No.:	LB95389
Lab Sample ID:	J2680-15	Matrix:	Solid
Level (low/med):	low	% Solid:	88.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.06	J	1	0.037		0.28	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	PL-01-051518-D	SDG No.:	LB95389
Lab Sample ID:	J2680-17	Matrix:	Solid
Level (low/med):	low	% Solid:	86.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.12	J	1	0.038		0.29	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	PL-01-051518-E	SDG No.:	LB95389
Lab Sample ID:	J2680-19	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	0.094	J	1	0.035		0.26	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	TP-12A	SDG No.:	LB95389
Lab Sample ID:	J2924-03	Matrix:	Solid
Level (low/med):	low	% Solid:	90.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.11	J	1	0.035		0.27	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/15/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	TP-12B	SDG No.:	LB95389
Lab Sample ID:	J2924-05	Matrix:	Solid
Level (low/med):	low	% Solid:	90.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.12	J	1	0.035		0.27	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/10/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	WYC-1-E(0-1)	SDG No.:	LB95389
Lab Sample ID:	J2928-01	Matrix:	Solid
Level (low/med):	low	% Solid:	74.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.12	J	1	0.042		0.32	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/10/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	WYC-1-E(4-5)	SDG No.:	LB95389
Lab Sample ID:	J2928-02	Matrix:	Solid
Level (low/med):	low	% Solid:	90.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.53		1	0.034		0.26	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	5/10/2018 12:00:00 AM
Project:	LB95389	Date Received:	5/15/2018 12:00:00 AM
Client Sample ID:	WYC-1-E(7-8)	SDG No.:	LB95389
Lab Sample ID:	J2928-03	Matrix:	Solid
Level (low/med):	low	% Solid:	79.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.056	J	1	0.04		0.3	mg/Kg	05/16/2018	05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB95389	Date Received:	
Client Sample ID:	LOWPB109323	SDG No.:	LB95389
Lab Sample ID:	LOWPB109323	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		05/16/2018	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB95389	Date Received:	
Client Sample ID:	LOWPB109323	SDG No.:	LB95389
Lab Sample ID:	LOWPB109323	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: LB95389

SDG No.: LB95389

Contract: _____ Lab Code: CHEM

Case No.: LB95389

SAS No.: LB95389

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		05/16/2018	13:21	lb95389
CCV2	Cyanide	0.24	0.25	96		90 - 110		05/16/2018	13:28	lb95389
CCV3	Cyanide	0.24	0.25	96		90 - 110		05/16/2018	13:36	lb95389
CCV4	Cyanide	0.24	0.25	96		90 - 110		05/16/2018	13:36	lb95389



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB95389 **SDG No.:** LB95389
Contract: **Lab Code:** CHEM **Case No.:** LB95389 **SAS No.:** LB95389

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	0.001	+/-0.005	U		0.005		05/16/2018	13:21	lb95389

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	0.0011	+/-0.005	U		0.005		05/16/2018	13:21	lb95389
CCB2	Cyanide	0.00066	+/-0.005	U		0.005		05/16/2018	13:28	lb95389
CCB3	Cyanide	0.00083	+/-0.005	U		0.005		05/16/2018	13:36	lb95389
CCB4	Cyanide	0.00094	+/-0.005	U		0.005		05/16/2018	13:36	lb95389



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB95389

SDG No.: LB95389

Contract: Lab Code: CHEM

Case No.: LB95389

SAS No.: LB95389

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: LB95389

SDG No.: LB95389

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
PB109323BL	Cyanide	SOLID		Batch Number:		PB109323		Prep Date:	05/16/2018	
		0.04	<0.25	J		0.25		05/16/2018	13:21	lb95389
Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB109324BL	Cyanide	SOLID		Batch Number:		PB109324		Prep Date:	05/16/2018	
		0.046	<0.25	J		0.25		05/16/2018	13:28	lb95389



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB95389 level: low sdg no.: LB95389
contract: lab code: CHEM case no.: LB95389 sas no.: LB95389
matrix: Solid sample id: J2672-05 client id: BU-03-051518MS
Percent Solids for Sample: 92.9 Spiked ID: J2672-05MS Percent Solids for Spike Sample: 92.9

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	2.1		0.11	J	2.1	95		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB95389 level: low sdg no.: LB95389
contract: lab code: CHEM case no.: LB95389 sas no.: LB95389
matrix: Solid sample id: J2672-05 client id: BU-03-051518MSD
Percent Solids for Sample: 92.9 Spiked ID: J2672-05MSD Percent Solids for Spike Sample: 92.9

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	2.1		0.11	J	2.1	95		



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB95389 level: low sdg no.: LB95389
contract: lab code: CHEM case no.: LB95389 sas no.: LB95389
matrix: Solid sample id: J2924-03 client id: TP-12AMS
Percent Solids for Sample: 90.3 Spiked ID: J2924-03MS Percent Solids for Spike Sample: 90.3

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125	1.9		0.11	J	2.2	81		



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB95389 level: low sdg no.: LB95389
contract: lab code: CHEM case no.: LB95389 sas no.: LB95389
matrix: Solid sample id: J2924-03 client id: TP-12AMSD
Percent Solids for Sample: 90.3 Spiked ID: J2924-03MSD Percent Solids for Spike Sample: 90.3

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/Kg	75 - 125		2	0.11	J	2.2	86		

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DUPLICATE SAMPLE SUMMARY

Client: LB95389 **Level:** LOW **SDG No.:** LB95389
Contract: **Lab Code:** CHEM **Case No.:** LB95389 **SAS No.:** LB95389
Matrix: Solid **Sample ID:** J2672-05 **Client ID:** BU-03-051518DUP
Percent Solids for Sample: 92.9 **Duplicate ID** J2672-05DUP **Percent Solids for Spike Sample:** 92.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.11	J	0.072	J	42	*	

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB95389 **Level:** LOW **SDG No.:** LB95389
Contract: **Lab Code:** CHEM **Case No.:** LB95389 **SAS No.:** LB95389
Matrix: Solid **Sample ID:** J2672-05MS **Client ID:** BU-03-051518MSD
Percent Solids for Sample: 92.9 **Duplicate ID** J2672-05MSD **Percent Solids for Spike Sample:** 92.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	2.1		2.1		0		

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DUPLICATE SAMPLE SUMMARY

Client: LB95389 **Level:** LOW **SDG No.:** LB95389
Contract: **Lab Code:** CHEM **Case No.:** LB95389 **SAS No.:** LB95389
Matrix: Solid **Sample ID:** J2924-03 **Client ID:** TP-12ADUP
Percent Solids for Sample: 90.3 **Duplicate ID** J2924-03DUP **Percent Solids for Spike Sample:** 90.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.11	J	0.084	J	27	*	

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB95389 Level: LOW SDG No.: LB95389
Contract: Lab Code: CHEM Case No.: LB95389 SAS No.: LB95389
Matrix: Solid Sample ID: J2924-03MS Client ID: TP-12AMSD
Percent Solids for Sample: 90.3 Duplicate ID J2924-03MSD Percent Solids for Spike Sample: 90.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	1.9			2	5		

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



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB95389

SDG No.: LB95389

Contract:

Lab Code: CHEM

Case No.: LB95389

SAS No.: LB95389

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB109323BS Cyanide	mg/Kg	5	4.9		98	85 - 115	



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB95389

SDG No.: LB95389

Contract:

Lab Code: CHEM

Case No.: LB95389

SAS No.: LB95389

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB109324BS Cyanide	mg/Kg	5	4.9		98	85 - 115	