

Daily Analysis Runlog For Sequence/QC Batch ID # LB88217

Review By		Review On				
SubDirectory		LB88217		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP55795,WP55796,WP55797,WP55798,WP55799,WP55800,WP55801,WP55802				
ICV Standard		W1541				
CCV Standard		WP55804				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP54521				
Chk Standard		WP55803,WP51626,WP55355				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	0.0PPBCN	0.0PPBCN	CAL1	06/20/17 09:39		
2	5.0PPBCN	5.0PPBCN	CAL2	06/20/17 09:39		
3	10PPBCN	10PPBCN	CAL3	06/20/17 09:39		
4	50PPBCN	50PPBCN	CAL4	06/20/17 09:39		
5	100PPBCN	100PPBCN	CAL5	06/20/17 09:39		
6	250PPBCN	250PPBCN	CAL6	06/20/17 09:39		
7	500PPBCN	500PPBCN	CAL7	06/20/17 09:39		
8	ICV1	ICV1	ICV	06/20/17 13:39		
9	ICB1	ICB1	ICB	06/20/17 13:39		
10	CCV1	CCV1	CCV	06/20/17 13:39		
11	CCB1	CCB1	CCB	06/20/17 13:39		
12	PB99943BL	PB99943BL	MB	06/20/17 13:39		
13	PB99943BS	PB99943BS	LCS	06/20/17 13:39		
14	LOWPB99943	LOWPB99943	SAM	06/20/17 13:39		
15	HIGHPB99943	HIGHPB99943	SAM	06/20/17 13:40		
16	I3762-01	SA-RO-0033-061617	SAM	06/20/17 13:40		
17	I3775-02	GHD-SB-020304-0-1	SAM	06/20/17 13:40		
18	I3775-02DUP	GHD-SB-020304-0-1	DUP	06/20/17 13:40		
19	I3775-03	GHD-SB-020304-0-1	MS	06/20/17 13:47		
20	I3775-04	GHD-SB-020304-0-1	MSD	06/20/17 13:47		
21	I3775-05	GHD-SB-1020304-0-	SAM	06/20/17 13:47		

Daily Analysis Runlog For Sequence/QC Batch ID # LB88217

Review By		Review On				
SubDirectory		LB88217		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP55795,WP55796,WP55797,WP55798,WP55799,WP55800,WP55801,WP55802				
ICV Standard		W1541				
CCV Standard		WP55804				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP54521				
Chk Standard		WP55803,WP51626,WP55355				
22	CCV2	CCV2	CCV	06/20/17 13:47		
23	CCB2	CCB2	CCB	06/20/17 13:47		
24	I3775-08	GHD-SB-01-0-52	SAM	06/20/17 13:47		
25	I3784-01	P.56-A-COMP	SAM	06/20/17 13:47		
26	I3784-03	P.56-B-COMP	SAM	06/20/17 13:47		
27	I3784-05	P.56-C-COMP	SAM	06/20/17 13:47		
28	PB99944BL	PB99944BL	MB	06/20/17 13:47		
29	PB99944BS	PB99944BS	LCS	06/20/17 13:47		
30	I3775-06	GHD-FB061517	SAM	06/20/17 13:52		
31	I3775-06DUP	GHD-FB061517DUP	DUP	06/20/17 13:52		
32	I3775-06MS	GHD-FB061517MS	MS	06/20/17 13:52		
33	I3775-06MSD	GHD-FB061517MSD	MSD	06/20/17 13:52		
34	CCV3	CCV3	CCV	06/20/17 13:52		
35	CCB3	CCB3	CCB	06/20/17 13:52		



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Report of Analysis

Client:		Date Collected:	
Project:	LB88217	Date Received:	
Client Sample ID:	HIGHPB99943	SDG No.:	LB88217
Lab Sample ID:	HIGHPB99943	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		06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/16/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/16/2017 12:00:00 AM
Client Sample ID:	SA-RO-0033-061617	SDG No.:	LB88217
Lab Sample ID:	I3762-01	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	0.0059	U	1	0.034		0.25	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/15/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/16/2017 12:00:00 AM
Client Sample ID:	GHD-SB-020304-0-11	SDG No.:	LB88217
Lab Sample ID:	I3775-02	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	-0.025	U	1	0.035		0.26	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/15/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/16/2017 12:00:00 AM
Client Sample ID:	GHD-SB-1020304-0-11	SDG No.:	LB88217
Lab Sample ID:	I3775-05	Matrix:	Solid
Level (low/med):	low	% Solid:	93.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.018	U	1	0.034		0.26	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/15/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/16/2017 12:00:00 AM
Client Sample ID:	GHD-FB061517	SDG No.:	LB88217
Lab Sample ID:	I3775-06	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	-0.00075	U	1	0.003		0.005	mg/L	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/16/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/16/2017 12:00:00 AM
Client Sample ID:	GHD-SB-01-0-52	SDG No.:	LB88217
Lab Sample ID:	I3775-08	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	-0.049	U	1	0.038		0.28	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/19/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/19/2017 12:00:00 AM
Client Sample ID:	P.56-A-COMP	SDG No.:	LB88217
Lab Sample ID:	I3784-01	Matrix:	Solid
Level (low/med):	low	% Solid:	71.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.18	J	1	0.044		0.33	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/19/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/19/2017 12:00:00 AM
Client Sample ID:	P.56-B-COMP	SDG No.:	LB88217
Lab Sample ID:	I3784-03	Matrix:	Solid
Level (low/med):	low	% Solid:	76.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.036	U	1	0.042		0.32	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	6/19/2017 12:00:00 AM
Project:	LB88217	Date Received:	6/19/2017 12:00:00 AM
Client Sample ID:	P.56-C-COMP	SDG No.:	LB88217
Lab Sample ID:	I3784-05	Matrix:	Solid
Level (low/med):	low	% Solid:	70.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	-0.038	U	1	0.046		0.35	mg/Kg	06/20/2017	06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB88217	Date Received:	
Client Sample ID:	LOWPB99943	SDG No.:	LB88217
Lab Sample ID:	LOWPB99943	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	0.0091		1	0.003		0.005	mg/L		06/20/2017	9012B



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Report of Analysis

Client:		Date Collected:	
Project:	LB88217	Date Received:	
Client Sample ID:	LOWPB99943	SDG No.:	LB88217
Lab Sample ID:	LOWPB99943	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: LB88217

SDG No.: LB88217

Contract: _____ Lab Code: CHEM

Case No.: LB88217 SAS No.: LB88217

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		06/20/2017	13:39	LB88217



GENCHEM

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB88217

SDG No.: LB88217

Contract: _____ Lab Code: CHEM

Case No.: LB88217

SAS No.: LB88217

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		06/20/2017	13:39	LB88217
CCV2	Cyanide	0.24	0.25	96	0	90 - 110		06/20/2017	13:47	LB88217
CCV3	Cyanide	0.26	0.25	104	0	90 - 110		06/20/2017	13:52	LB88217



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB88217

SDG No.: LB88217

Contract:

Lab Code: CHEM

Case No.: LB88217

SAS No.: LB88217

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Cyanide	-0.00069	+/-0.005	U		0.005		06/20/2017	13:39	LB88217

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Cyanide	-0.00025	+/-0.005	U		0.005		06/20/2017	13:39	LB88217
CCB2	Cyanide	-0.00041	+/-0.005	U		0.005		06/20/2017	13:47	LB88217
CCB3	Cyanide	0	+/-0.005	U		0.005		06/20/2017	13:52	LB88217



GENCHEM

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB88217

SDG No.: LB88217

Contract: Lab Code: CHEM

Case No.: LB88217

SAS No.: LB88217

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: LB88217

SDG No.: LB88217

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
PB99943BL	Cyanide	SOLID		Batch Number:		PB99943		Prep Date:	06/20/2017	
		-0.034	<0.25	U		0.25		06/20/2017	13:39	LB88217
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
PB99944BL	Cyanide	WATER		Batch Number:		PB99944		Prep Date:	06/20/2017	
		-0.00065	<0.005	U		0.005		06/20/2017	13:47	LB88217



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB88217 level: low sdg no.: LB88217
contract: lab code: CHEM case no.: LB88217 sas no.: LB88217
matrix: Solid sample id: I3775-02 client id: GHD-SB-020304-0-11MS
Percent Solids for Sample: 92.4 Spiked ID: I3775-03 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	1.3		0.035	U	2.1	61.9	*	



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB88217 level: low sdg no.: LB88217
contract: lab code: CHEM case no.: LB88217 sas no.: LB88217
matrix: Solid sample id: I3775-02 client id: GHD-SB-020304-0-11MSD
Percent Solids for Sample: 92.4 Spiked ID: I3775-04 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	1.4		0.035	U	2.1	66.7	*	



GENCHEM
- 5a -
MATRIX SPIKE SUMMARY

client: LB88217 level: low sdg no.: LB88217
contract: lab code: CHEM case no.: LB88217 sas no.: LB88217
matrix: WATER sample id: I3775-06 client id: GHD-FB061517MS
Percent Solids for Sample: 0 Spiked ID: I3775-06MS 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	0.0074		0.003	U	0.04	18.5	*	



GENCHEM
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: LB88217 level: low sdg no.: LB88217
contract: lab code: CHEM case no.: LB88217 sas no.: LB88217
matrix: WATER sample id: I3775-06 client id: GHD-FB061517MSD
Percent Solids for Sample: 0 Spiked ID: I3775-06MSD 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	0.0077		0.003	U	0.04	19.3	*	

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB88217 **Level:** LOW **SDG No.:** LB88217
Contract: **Lab Code:** CHEM **Case No.:** LB88217 **SAS No.:** LB88217
Matrix: Solid **Sample ID:** I3775-02 **Client ID:** GHD-SB-020304-0-11DUP
Percent Solids for Sample: 92.4 **Duplicate ID** I3775-02DUP **Percent Solids for Spike Sample:** 92.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	0.035	U	-0.025	U			

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB88217 **Level:** LOW **SDG No.:** LB88217
Contract: **Lab Code:** CHEM **Case No.:** LB88217 **SAS No.:** LB88217
Matrix: Solid **Sample ID:** I3775-03 **Client ID:** GHD-SB-020304-0-11MSD
Percent Solids for Sample: 92.4 **Duplicate ID** I3775-04 **Percent Solids for Spike Sample:** 92.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/Kg	20	1.3		1.4		7		



GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB88217 **Level:** LOW **SDG No.:** LB88217
Contract: **Lab Code:** CHEM **Case No.:** LB88217 **SAS No.:** LB88217
Matrix: WATER **Sample ID:** I3775-06 **Client ID:** GHD-FB061517DUP
Percent Solids for Sample: 0 **Duplicate ID** I3775-06DUP **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	-0.00087	U			

GENCHEM

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: LB88217 **Level:** LOW **SDG No.:** LB88217
Contract: **Lab Code:** CHEM **Case No.:** LB88217 **SAS No.:** LB88217
Matrix: WATER **Sample ID:** I3775-06MS **Client ID:** GHD-FB061517MSD
Percent Solids for Sample: 0 **Duplicate ID** I3775-06MSD **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/L	20	0.0074		0.0077		4		



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB88217

SDG No.: LB88217

Contract:

Lab Code: CHEM

Case No.: LB88217

SAS No.: LB88217

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB99943BS Cyanide	mg/Kg	4.9	4.7		95.9	85 - 115	



GENCHEM

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: LB88217

SDG No.: LB88217

Contract:

Lab Code: CHEM

Case No.: LB88217

SAS No.: LB88217

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB99944BS Cyanide	mg/L	0.1	0.098		98	85 - 115	