

Daily Analysis Runlog For Sequence/QC Batch ID # LB86625

Review By

Review On

SubDirectory

LB86625

Test :

Cyanide

STD. NAME		STD REF.#				
ICAL Standard		WP53811,WP53810,WP53809,WP53808,WP53807,WP53805				
ICV Standard		WP53812				
CCV Standard		WP53806				
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard		WP53827,WP50159,WP51626,WP51615				

Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	S0.0	S0.0	CAL1	03/28/17 09:37		OK
2	S5.0	S5.0	CAL2	03/28/17 09:37		OK
3	S10.0	S10.0	CAL3	03/28/17 09:37		OK
4	S100.0	S100.0	CAL4	03/28/17 09:37		OK
5	S250.0	S250.0	CAL5	03/28/17 09:37		OK
6	S500.0	S500.0	CAL6	03/28/17 09:37		OK
7	ICV	ICV	ICV	03/28/17 16:13		OK
8	ICB	ICB	ICB	03/28/17 16:13		OK
9	CCV001	CCV001	CCV	03/28/17 16:13		OK
10	CCB001	CCB001	CCB	03/28/17 16:13		OK
11	PB97851BL	PBS006	MB	03/28/17 16:13		OK
12	I2407-01	MDACD5	SAM	03/28/17 16:13	Cn high	Dilution
13	I2407-03	MDACD8	SAM	03/28/17 16:13		OK
14	I2407-04	MDACD8D	DUP	03/28/17 16:13		OK
15	I2407-05	MDACD8S	MS	03/28/17 16:13		OK
16	I2407-06	MDACD9	SAM	03/28/17 16:13		OK
17	I2407-07	MDACE0	SAM	03/28/17 16:20		OK
18	I2407-08	MDACE1	SAM	03/28/17 16:20		OK
19	I2407-09	MDACE2	SAM	03/28/17 16:20		OK
20	I2407-10	MDACE3	SAM	03/28/17 16:20		OK
21	I2407-11	MDACE4	SAM	03/28/17 16:20		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB86625

Review By		Review On				
SubDirectory		LB86625		Test : Cyanide		
STD. NAME		STD REF.#				
ICAL Standard		WP53811,WP53810,WP53809,WP53808,WP53807,WP53805 WP53812 WP53806 WP53827,WP50159,WP51626,WP51615				
ICV Standard						
CCV Standard						
ICSA Standard						
CRI Standard						
LCS Standard						
Chk Standard						
22	I2407-12	MDACE5	SAM	03/28/17 16:20		OK
23	I2407-13	MDACE6	SAM	03/28/17 16:20		OK
24	I2407-15	MDACC3	SAM	03/28/17 16:20		OK
25	CCV002	CCV002	CCV	03/28/17 16:21		OK
26	CCB002	CCB002	CCB	03/28/17 16:21		OK
27	I2407-02	MDACD6	SAM	03/28/17 16:43		OK
28	I2407-01DL	MDACD5	SAM	03/28/17 16:43	20X for Cn	Confirms
29	CCV003	CCV003	CCV	03/28/17 16:43		OK
30	CCB003	CCB003	CCB	03/28/17 16:43		OK



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACD5	SDG No.:	LB86625
Lab Sample ID:	I2407-01	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	294	OR	1	0.06	0.014	0.54	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACD5	SDG No.:	LB86625
Lab Sample ID:	I2407-01DL	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	260	D	20	1.2	0.271	10.9	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACD6	SDG No.:	LB86625
Lab Sample ID:	I2407-02	Matrix:	Solid
Level (low/med):	low	% Solid:	89.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.71		1	0.06	0.014	0.54	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACD8	SDG No.:	LB86625
Lab Sample ID:	I2407-03	Matrix:	Solid
Level (low/med):	low	% Solid:	80.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.065	0.015	0.59	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACD9	SDG No.:	LB86625
Lab Sample ID:	I2407-06	Matrix:	Solid
Level (low/med):	low	% Solid:	82.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0.14	J	1	0.065	0.015	0.59	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE0	SDG No.:	LB86625
Lab Sample ID:	I2407-07	Matrix:	Solid
Level (low/med):	low	% Solid:	87.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	11.6		1	0.061	0.014	0.56	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE1	SDG No.:	LB86625
Lab Sample ID:	I2407-08	Matrix:	Solid
Level (low/med):	low	% Solid:	80

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.068	0.015	0.62	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE2	SDG No.:	LB86625
Lab Sample ID:	I2407-09	Matrix:	Solid
Level (low/med):	low	% Solid:	84.8

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	1.5		1	0.062	0.014	0.56	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE3	SDG No.:	LB86625
Lab Sample ID:	I2407-10	Matrix:	Solid
Level (low/med):	low	% Solid:	80.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	4.0		1	0.065	0.015	0.59	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE4	SDG No.:	LB86625
Lab Sample ID:	I2407-11	Matrix:	Solid
Level (low/med):	low	% Solid:	85.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.062	0.014	0.56	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE5	SDG No.:	LB86625
Lab Sample ID:	I2407-12	Matrix:	Solid
Level (low/med):	low	% Solid:	78.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	4.6		1	0.068	0.015	0.62	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/24/2017 12:00:00 AM
Client Sample ID:	MDACE6	SDG No.:	LB86625
Lab Sample ID:	I2407-13	Matrix:	Solid
Level (low/med):	low	% Solid:	76.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
57-12-5	Cyanide	0	U	1	0.071	0.016	0.64	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



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Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/22/2017 12:00:00 AM
Client Sample ID:	MDACC3	SDG No.:	LB86625
Lab Sample ID:	I2407-15	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	5.3		1	0.053	0.012	0.49	mg/kg	03/27/2017	03/28/2017	ISM02.2_CN



Report of Analysis

Client:		Date Collected:	3/21/2017 12:00:00 AM
Project:	LB86625	Date Received:	3/22/2017 12:00:00 AM
Client Sample ID:	MDACC3	SDG No.:	LB86625
Lab Sample ID:	I2407-15	Matrix:	Solid
Level (low/med):	low	% Solid:	100

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



Hit Summary Sheet
SW-846

SDG No.: LB86625

Client: LB86625

Order ID: LB86625

Project ID: LB86625

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : MDACD5									
I2407-01	MDACD5	Solid	Cyanide	294.000	OR	0.06	0.27	0.54	mg/kg
Client ID : MDACD5									
I2407-01DL	MDACD5	Solid	Cyanide	260.000	D	1.2	5.45	10.9	mg/kg
Client ID : MDACD6									
I2407-02	MDACD6	Solid	Cyanide	0.710		0.06	0.27	0.54	mg/kg
Client ID : MDACD9									
I2407-06	MDACD9	Solid	Cyanide	0.140	J	0.065	0.295	0.59	mg/kg
Client ID : MDACE0									
I2407-07	MDACE0	Solid	Cyanide	11.600		0.061	0.28	0.56	mg/kg
Client ID : MDACE2									
I2407-09	MDACE2	Solid	Cyanide	1.500		0.062	0.28	0.56	mg/kg
Client ID : MDACE3									
I2407-10	MDACE3	Solid	Cyanide	4.000		0.065	0.295	0.59	mg/kg
Client ID : MDACE5									
I2407-12	MDACE5	Solid	Cyanide	4.600		0.068	0.31	0.62	mg/kg
Client ID : MDACC3									
I2407-15	MDACC3	Solid	Cyanide	5.300		0.053	0.245	0.49	mg/kg



Metals
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SAMPLE PREPARATION SUMMARY

Client: LB86625 SDG No.: LB86625
Contract: Lab Code: CHEM Method:
Case No.: LB86625 SAS No.: LB86625

					Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Sample ID	Client ID	Sample Type	Matrix	Prep Date			
Batch Number: PB97851							
PB97851BL	PBS006	MB	SOLID	03/28/2017	1.00	50.0	100.00
I2407-01	MDACD5	SAM	SOLID	03/28/2017	1.04	50.0	88.60
I2407-03	MDACD8	SAM	SOLID	03/28/2017	1.05	50.0	80.90
I2407-04	MDACD8D	DUP	SOLID	03/28/2017	1.05	50.0	80.90
I2407-05	MDACD8S	MS	SOLID	03/28/2017	1.06	50.0	80.90
I2407-06	MDACD9	SAM	SOLID	03/28/2017	1.03	50.0	82.20
I2407-07	MDACE0	SAM	SOLID	03/28/2017	1.02	50.0	87.70
I2407-08	MDACE1	SAM	SOLID	03/28/2017	1.01	50.0	80.00
I2407-09	MDACE2	SAM	SOLID	03/28/2017	1.05	50.0	84.80
I2407-10	MDACE3	SAM	SOLID	03/28/2017	1.06	50.0	80.30
I2407-11	MDACE4	SAM	SOLID	03/28/2017	1.04	50.0	85.30
I2407-12	MDACE5	SAM	SOLID	03/28/2017	1.03	50.0	78.60
I2407-13	MDACE6	SAM	SOLID	03/28/2017	1.02	50.0	76.10
I2407-15	MDACC3	SAM	SOLID	03/28/2017	1.03	50.0	100.00
I2407-02	MDACD6	SAM	SOLID	03/28/2017	1.03	50.0	89.20
I2407-01DL	MDACD5	SAM	SOLID	03/28/2017	1.04	50.0	88.60

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB86625 Contract: _____
Lab Code: CHEM Case No.: LB86625 MA No.: _____ SDG No.: LB86625
Instrument ID: CN Start Date: 03/28/2017
Analytical Method: _____ Run Batch: LB86625.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	0	0.13	0	5	4.0	-20	10	8.9	-11

FORM 15-IN
INITIAL CALIBRATION

Lab Name: LB86625 Contract: _____
Lab Code: CHEM Case No.: LB86625 MA No.: _____ SDG No.: LB86625
Instrument ID: CN Start Date: 03/28/2017
Analytical Method: _____ Run Batch: LB86625.mdb
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	100	100	0	250	254	2	500	498	0



Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86625

SDG No.: LB86625

Contract: _____ Lab Code: CHEM

Case No.: LB86625 SAS No.: LB86625

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV	Cyanide	92.4	99	93	0	85 - 115	CN	03/28/2017	16:13	LB86625



Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB86625

SDG No.: LB86625

Contract: _____ Lab Code: CHEM

Case No.: LB86625

SAS No.: LB86625

Initial Calibration Source: _____

Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value	% Recovery	% RSD	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV001	Cyanide	241	250	96	0	85 - 115	CN	03/28/2017	16:13	LB86625
CCV002	Cyanide	245	250	98	0	85 - 115	CN	03/28/2017	16:21	LB86625
CCV003	Cyanide	258	250	103	0	85 - 115	CN	03/28/2017	16:43	LB86625



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86625 **SDG No.:** LB86625
Contract: **Lab Code:** CHEM **Case No.:** LB86625 **SAS No.:** LB86625

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/28/2017	16:13	LB86625



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86625		SDG No.: LB86625								
Contract:	Lab Code: CHEM	Case No.: LB86625	SAS No.: LB86625							
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB001	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/28/2017	16:13	LB86625
CCB002	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/28/2017	16:21	LB86625
CCB003	Cyanide	1.5	+/-10.0	U	5.0	10.0	CN	03/28/2017	16:43	LB86625



Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB86625

SDG No.: LB86625

Contract: Lab Code: CHEM

Case No.: LB86625

SAS No.: LB86625

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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SDG No.: LB86625

Instrument: CN

Sample ID	Analyte	Result (mg/kg)	Acceptance Limit	Conc Qual	LOD mg/kg	CRQL mg/kg	M	Analysis Date	Analysis Time	Run
PB97851BL		SOLID		Batch Number:		PB97851		Prep Date:	03/27/2017	
	Cyanide	0.15	<0.5	J	0.013	0.5	CN	03/28/2017	16:13	LB86625



metals
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MATRIX SPIKE SUMMARY

client: LB86625 level: low sdg no.: LB86625
contract: lab code: CHEM case no.: LB86625 sas no.: LB86625
matrix: Solid sample id: I2407-03 client id: MDACD8S
Percent Solids for Sample: 80.9 Spiked ID: I2407-05 Percent Solids for Spike Sample: 80.9

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cyanide	mg/kg	75 - 125	4.9		0.59	U	5.8	84		CN



Metals

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DUPLICATE SAMPLE SUMMARY

Client: LB86625 Level: LOW SDG No.: LB86625
Contract: Lab Code: CHEM Case No.: LB86625 SAS No.: LB86625
Matrix: Solid Sample ID: I2407-03 Client ID: MDACD8D
Percent Solids for Sample: 80.9 Duplicate ID I2407-04 Percent Solids for Spike Sample: 80.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cyanide	mg/kg	20	0.59	U		0	U		CN

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