

Daily Analysis Runlog For Sequence/QC Batch ID # LB87813

Review By		Review On				
SubDirectory		LB87813		Test : Bicarbonate		
STD. NAME		STD REF.#				
ICAL Standard		N/A				
ICV Standard		N/A				
CCV Standard		N/A				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP55337				
Chk Standard		W2074,W2159,W2183				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	LB87813BLW	LB87813BLW	MB	06/02/17 08:58		OK
2	LB87813BSW	LB87813BSW	LCS	06/02/17 09:02		OK
3	I3410-01	MW9-053-1	SAM	06/02/17 09:07		OK
4	I3410-01DUP	MW9-053-1DUP	DUP	06/02/17 09:11		OK
5	I3410-02	MW1-053-1	SAM	06/02/17 09:16		OK
6	I3410-03	MW6-053-1	SAM	06/02/17 09:20		OK
7	I3410-04	MWP2-053-1	SAM	06/02/17 09:24		OK
8	I3410-05	MW8M-053-1	SAM	06/02/17 09:28		OK
9	I3410-06	MW8D-053-1	SAM	06/02/17 09:33		OK
10	I3410-07	MW8D-053-2	SAM	06/02/17 09:38		OK
11	I3410-08	MWP4-053-1	SAM	06/02/17 09:43		OK
12	I3410-09	MW4D-053-3	SAM	06/02/17 09:47		OK
13	I3410-10	MW4S-053-1	SAM	06/02/17 09:49		OK
14	I3410-11	MW4D-053-1	SAM	06/02/17 09:53		OK
15	I3410-12	MW4M-053-01	SAM	06/02/17 09:58		OK
16	I3410-13	MW11M-053-1	SAM	06/02/17 10:08		OK
17	I3410-14	MW11D-053-1	SAM	06/02/17 10:12		OK
18	I3410-15	MW2S-053-3	SAM	06/02/17 10:16		OK
19	I3410-16	MW2S-053-1	SAM	06/02/17 10:19		OK
20	I3410-17	MW10M-053-1	SAM	06/02/17 10:22		OK
21	I3410-18	MW10M-053-2	SAM	06/02/17 10:27		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB87813

Review By		Review On				
SubDirectory		LB87813		Test : Bicarbonate		
STD. NAME		STD REF.#				
ICAL Standard		N/A				
ICV Standard		N/A				
CCV Standard		N/A				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP55337				
Chk Standard		W2074,W2159,W2183				
22	I3410-19	MW10D-053-1	SAM	06/02/17 10:32		OK
23	LB87813BLW2	LB87813BLW2	MB	06/02/17 10:36		OK
24	LB87813BSW2	LB87813BSW2	LCS	06/02/17 10:39		OK
25	I3411-01	I01I-053-1	SAM	06/02/17 10:45		OK
26	I3411-01DUP	I01I-053-1DUP	DUP	06/02/17 10:49		OK
27	I3411-02	I03I-053-1	SAM	06/02/17 10:54		OK
28	I3411-03	I04I-053-1	SAM	06/02/17 10:59		OK
29	I3411-04	I05I-053-1	SAM	06/02/17 11:03		OK
30	I3411-05	I06I-053-1	SAM	06/02/17 11:07		OK



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW9-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-01	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	160		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW1-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	90.7		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW6-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-03	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	127		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MWP2-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-04	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	42.6		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW8M-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-05	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	203		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW8D-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-06	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	121		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW8D-053-2	SDG No.:	LB87813
Lab Sample ID:	I3410-07	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	119		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MWP4-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-08	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	154		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW4D-053-3	SDG No.:	LB87813
Lab Sample ID:	I3410-09	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	-0	U	1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW4S-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-10	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	162		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	MW4D-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-11	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	204		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW4M-053-01	SDG No.:	LB87813
Lab Sample ID:	I3410-12	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	79		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW11M-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-13	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	112		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW11D-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-14	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	124		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW2S-053-3	SDG No.:	LB87813
Lab Sample ID:	I3410-15	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	0.2	U	1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW2S-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-16	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	51		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW10M-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-17	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	153		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW10M-053-2	SDG No.:	LB87813
Lab Sample ID:	I3410-18	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	149		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/31/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/31/2017 12:00:00 AM
Client Sample ID:	MW10D-053-1	SDG No.:	LB87813
Lab Sample ID:	I3410-19	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	97.6		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I01I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-01	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	151		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I03I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	45.1		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I04I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-03	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	49.2		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I05I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-04	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	46.1		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I06I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-05	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bicarbonate	46.2		1	0.4		2	mg/L		06/02/2017	SM2320 B



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Report of Analysis

Client:		Date Collected:	5/30/2017 12:00:00 AM
Project:	LB87813	Date Received:	5/30/2017 12:00:00 AM
Client Sample ID:	I06I-053-1	SDG No.:	LB87813
Lab Sample ID:	I3411-05	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
- 3b -
PREPARATION BLANK SUMMARY

Client: LB87813

SDG No.: LB87813

Instrument: Titroline Alpha Titrator

Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
LB87813BLW		WATER		Batch Number:				Prep Date:		
	Bicarbonate	0.4	<2	U		2		06/02/2017	08:58	LB87813
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
LB87813BLW2		WATER		Batch Number:				Prep Date:		
	Bicarbonate	0.4	<2	U		2		06/02/2017	10:36	LB87813

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB87813 **Level:** LOW **SDG No.:** LB87813
Contract: **Lab Code:** CHEM **Case No.:** LB87813 **SAS No.:** LB87813
Matrix: WATER **Sample ID:** I3410-01 **Client ID:** MW9-053-1DUP
Percent Solids for Sample: 0 **Duplicate ID** I3410-01DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Bicarbonate	mg/L	20	160		150		6		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB87813 **Level:** LOW **SDG No.:** LB87813
Contract: **Lab Code:** CHEM **Case No.:** LB87813 **SAS No.:** LB87813
Matrix: WATER **Sample ID:** I3411-01 **Client ID:** I011-053-1DUP
Percent Solids for Sample: 0 **Duplicate ID** I3411-01DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Bicarbonate	mg/L	20	151		154		2		



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB87813

SDG No.: LB87813

Contract:

Lab Code: CHEM

Case No.: LB87813

SAS No.: LB87813

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LB87813BSW Bicarbonate	mg/L	50	49.4		98.8	80 - 120	



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB87813

SDG No.: LB87813

Contract:

Lab Code: CHEM

Case No.: LB87813

SAS No.: LB87813

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LB87813BSW2 Bicarbonate	mg/L	50	46.8		93.6	80 - 120	