

Daily Analysis Runlog For Sequence/QC Batch ID # LB94990

Review By		Review On				
SubDirectory		LB94990		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		WP64102				
Chk Standard		W2269,W2159,W2270				
Sr#	SampleId	ClientID	QcType	Date	Comment	Status
1	LB94990BLW	LB94990BLW	MB	04/30/18 16:02		OK
2	LB94990BSW	LB94990BSW	LCS	04/30/18 16:04		OK
3	J2614-01	MW9-057-1	SAM	04/30/18 16:10		OK
4	J2614-01DUP	MW9-057-1DUP	DUP	04/30/18 16:14		OK
5	J2614-02	MW2S-057-1	SAM	04/30/18 16:19		OK
6	J2614-03	MW10M-057-1	SAM	04/30/18 16:23		OK
7	J2614-04	MW10M-057-2	SAM	04/30/18 16:28		OK
8	J2614-05	MW10D-057-1	SAM	04/30/18 16:33		OK
9	J2614-06	MW11M-057-1	SAM	04/30/18 16:38		OK
10	J2614-07	MW11D-057-1	SAM	04/30/18 16:42		OK
11	J2614-08	MW4S-057-1	SAM	04/30/18 16:47		OK
12	J2614-09	MW4D-057-3	SAM	04/30/18 16:52		OK
13	J2622-01	I01I-057-1	SAM	04/30/18 17:00		OK
14	J2622-02	I03I-057-1	SAM	04/30/18 17:04		OK
15	J2622-03	I04I-057-1	SAM	04/30/18 17:11		OK
16	J2622-04	I05I-057-1	SAM	04/30/18 17:15		OK
17	J2622-05	I06I-057-1	SAM	04/30/18 17:19		OK
18	J2614-10	MW4D-057-1	SAM	04/30/18 17:24		OK
19	J2623-02	MW4M-057-1	SAM	04/30/18 17:28		OK
20	J2623-03	MW1-057-1	SAM	04/30/18 17:32		OK
21	J2623-04	MW6-057-1	SAM	04/30/18 17:36		OK

Daily Analysis Runlog For Sequence/QC Batch ID # LB94990

Review By			Review On			
SubDirectory		LB94990		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		WP64102				
Chk Standard		W2269,W2159,W2270				
22	J2623-05	MWP4-057-1	SAM	04/30/18 17:40		OK
23	J2623-06	MWP2-057-1	SAM	04/30/18 17:45		OK
24	J2623-07	MW8D-057-1	SAM	04/30/18 17:48		OK
25	J2623-08	MW8D-057-2	SAM	04/30/18 17:53		OK
26	J2623-09	MW8M-057-1	SAM	04/30/18 17:57		OK
27	J2623-09DUP	MW8M-057-1DUP	DUP	04/30/18 18:02		OK
28	J2623-01	MW4M-057-3	SAM	04/30/18 18:07		OK
29	LB94990BLW2	LB94990BLW2	MB	04/30/18 18:10		OK
30	LB94990BSW2	LB94990BSW2	LCS	04/30/18 18:12		OK



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW9-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-01	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	158		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW2S-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-02	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	55.9		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW10M-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-03	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	160		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW10M-057-2	SDG No.:	LB94990
Lab Sample ID:	J2614-04	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	157		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW10D-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-05	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	131		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW11M-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-06	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	122		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW11D-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-07	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	126		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW4S-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-08	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	229		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW4D-057-3	SDG No.:	LB94990
Lab Sample ID:	J2614-09	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	198		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/26/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/26/2018 12:00:00 AM
Client Sample ID:	MW4D-057-1	SDG No.:	LB94990
Lab Sample ID:	J2614-10	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	-0	U	1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/22/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	I01I-057-1	SDG No.:	LB94990
Lab Sample ID:	J2622-01	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	152		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/22/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	I03I-057-1	SDG No.:	LB94990
Lab Sample ID:	J2622-02	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	47.6		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/22/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	I04I-057-1	SDG No.:	LB94990
Lab Sample ID:	J2622-03	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	42.7		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/22/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	I05I-057-1	SDG No.:	LB94990
Lab Sample ID:	J2622-04	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	45.9		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/22/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	I06I-057-1	SDG No.:	LB94990
Lab Sample ID:	J2622-05	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	47.7		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW4M-057-3	SDG No.:	LB94990
Lab Sample ID:	J2623-01	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	-0	U	1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW4M-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-02	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	89.2		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW1-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-03	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	85.2		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW6-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-04	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	104		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MWP4-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-05	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	120		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MWP2-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-06	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	48		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW8D-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-07	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	118		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW8D-057-2	SDG No.:	LB94990
Lab Sample ID:	J2623-08	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	126		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW8M-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-09	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	199		1	0.4		2	mg/L		04/30/2018	SM2320 B



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Report of Analysis

Client:		Date Collected:	4/27/2018 12:00:00 AM
Project:	LB94990	Date Received:	4/27/2018 12:00:00 AM
Client Sample ID:	MW8M-057-1	SDG No.:	LB94990
Lab Sample ID:	J2623-09	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
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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: LB94990

SDG No.: LB94990

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
LB94990BLW		WATER		Batch Number:				Prep Date:		
	Bicarbonate	0.4	<2	U		2		04/30/2018	16:02	lb94990
Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
LB94990BLW2		WATER		Batch Number:				Prep Date:		
	Bicarbonate	0.2	<2	U		2		04/30/2018	18:10	lb94990

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB94990 **Level:** LOW **SDG No.:** LB94990
Contract: **Lab Code:** CHEM **Case No.:** LB94990 **SAS No.:** LB94990
Matrix: WATER **Sample ID:** J2614-01 **Client ID:** MW9-057-1DUP
Percent Solids for Sample: 0 **Duplicate ID** J2614-01DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Bicarbonate	mg/L	20	158		157		1		

GENCHEM

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DUPLICATE SAMPLE SUMMARY

Client: LB94990 **Level:** LOW **SDG No.:** LB94990
Contract: **Lab Code:** CHEM **Case No.:** LB94990 **SAS No.:** LB94990
Matrix: WATER **Sample ID:** J2623-09 **Client ID:** MW8M-057-1DUP
Percent Solids for Sample: 0 **Duplicate ID** J2623-09DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Bicarbonate	mg/L	20	199		203		2		



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB94990

SDG No.: LB94990

Contract:

Lab Code: CHEM

Case No.: LB94990

SAS No.: LB94990

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LB94990BSW Bicarbonate	mg/L	50	54.4		108.8	80 - 120	



GENCHEM

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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB94990

SDG No.: LB94990

Contract:

Lab Code: CHEM

Case No.: LB94990

SAS No.: LB94990

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LB94990BSW2 Bicarbonate	mg/L	50	48.6		97.2	80 - 120	