



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

Client:		Date Collected:	6/27/2017 12:00:00 AM
Project:	LB88549	Date Received:	6/30/2017 12:00:00 AM
Client Sample ID:	CELL-A	SDG No.:	LB88549
Lab Sample ID:	I4011-01	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bromide	0	U	1	0.066		0.5	mg/L		06/30/2017	300.0
	Chloride	0.12	J	1	0.075		0.15	mg/L		06/30/2017	300.0
	Fluoride	0	U	1	0.043		0.1	mg/L		06/30/2017	300.0
	Nitrate	0.11	J	1	0.027		0.13	mg/L		06/30/2017	300.0
	Nitrite	0	U	1	0.022		0.15	mg/L		06/30/2017	300.0
	Phosphorus, Ortho	0	U	1	0.01		0.25	mg/L		06/30/2017	300.0
	Sulfate	0	U	1	0.13		0.75	mg/L		06/30/2017	300.0



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Report of Analysis

Client:		Date Collected:	6/27/2017 12:00:00 AM
Project:	LB88549	Date Received:	6/30/2017 12:00:00 AM
Client Sample ID:	CELL-B-C	SDG No.:	LB88549
Lab Sample ID:	I4011-02	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bromide	0	U	1	0.066		0.5	mg/L		06/30/2017	300.0
	Chloride	0.16		1	0.075		0.15	mg/L		06/30/2017	300.0
	Fluoride	0	U	1	0.043		0.1	mg/L		06/30/2017	300.0
	Nitrate	0.12	J	1	0.027		0.13	mg/L		06/30/2017	300.0
	Nitrite	0	U	1	0.022		0.15	mg/L		06/30/2017	300.0
	Phosphorus, Ortho	0	U	1	0.01		0.25	mg/L		06/30/2017	300.0
	Sulfate	0.78		1	0.13		0.75	mg/L		06/30/2017	300.0



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Report of Analysis

Client:		Date Collected:	6/27/2017 12:00:00 AM
Project:	LB88549	Date Received:	6/30/2017 12:00:00 AM
Client Sample ID:	CELL-D	SDG No.:	LB88549
Lab Sample ID:	I4011-03	Matrix:	WATER
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
	Bromide	0	U	1	0.066		0.5	mg/L		06/30/2017	300.0
	Chloride	0.11	J	1	0.075		0.15	mg/L		06/30/2017	300.0
	Fluoride	0	U	1	0.043		0.1	mg/L		06/30/2017	300.0
	Nitrate	0	U	1	0.027		0.13	mg/L		06/30/2017	300.0
	Nitrite	0	U	1	0.022		0.15	mg/L		06/30/2017	300.0
	Phosphorus, Ortho	0	U	1	0.01		0.25	mg/L		06/30/2017	300.0
	Sulfate	0	U	1	0.13		0.75	mg/L		06/30/2017	300.0



Report of Analysis

Client:		Date Collected:	6/27/2017 12:00:00 AM
Project:	LB88549	Date Received:	6/30/2017 12:00:00 AM
Client Sample ID:	CELL-D	SDG No.:	LB88549
Lab Sample ID:	I4011-03	Matrix:	WATER
Level (low/med):	low	% Solid:	0

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



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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB88549

SDG No.: LB88549

Contract: _____ Lab Code: CHEM

Case No.: LB88549

SAS No.: LB88549

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	Bromide	9.9	10	99	0	90 - 110		06/08/2017	15:47	LB88549
	Chloride	3	3	100	0	90 - 110		06/08/2017	15:47	LB88549
	Fluoride	2	2	100	0	90 - 110		06/08/2017	15:47	LB88549
	Phosphorus, Ortho	5.1	5	102	0	90 - 110		06/08/2017	15:47	LB88549
	Nitrite	3	3	100	0	90 - 110		06/08/2017	15:47	LB88549
	Nitrate	2.5	2.5	100	0	90 - 110		06/08/2017	15:47	LB88549
	Sulfate	14.6	15	97.3	0	90 - 110		06/08/2017	15:47	LB88549



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- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: LB88549

SDG No.: LB88549

Contract: _____ Lab Code: CHEM

Case No.: LB88549

SAS No.: LB88549

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	Bromide	9.6	10	96	0	90 - 110		06/30/2017	12:02	LB88549
	Chloride	2.9	3	96.7	0	90 - 110		06/30/2017	12:02	LB88549
	Fluoride	2	2	100	0	90 - 110		06/30/2017	12:02	LB88549
	Phosphorus, Ortho	4.9	5	98	0	90 - 110		06/30/2017	12:02	LB88549
	Nitrite	2.8	3	93.3	0	90 - 110		06/30/2017	12:02	LB88549
	Nitrate	2.4	2.5	96	0	90 - 110		06/30/2017	12:02	LB88549
	Sulfate	14.1	15	94	0	90 - 110		06/30/2017	12:02	LB88549
CCV2	Bromide	9.5	10	95	0	90 - 110		06/30/2017	16:55	LB88549
	Chloride	2.8	3	93.3	0	90 - 110		06/30/2017	16:55	LB88549
	Fluoride	2	2	100	0	90 - 110		06/30/2017	16:55	LB88549
	Phosphorus, Ortho	5.1	5	102	0	90 - 110		06/30/2017	16:55	LB88549
	Nitrite	2.8	3	93.3	0	90 - 110		06/30/2017	16:55	LB88549
	Nitrate	2.4	2.5	96	0	90 - 110		06/30/2017	16:55	LB88549
	Sulfate	14.1	15	94	0	90 - 110		06/30/2017	16:55	LB88549

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB1	Bromide	0.066	+/-0.5	U		0.5		06/08/2017	17:26	LB88549
	Chloride	0.075	+/-0.15	U		0.15		06/08/2017	17:26	LB88549
	Fluoride	0.043	+/-0.1	U		0.1		06/08/2017	17:26	LB88549
	Phosphorus, Ortho	0.01	+/-0.25	U		0.25		06/08/2017	17:26	LB88549
	Nitrite	0.022	+/-0.15	U		0.15		06/08/2017	17:26	LB88549
	Nitrate	0.027	+/-0.13	U		0.13		06/08/2017	17:26	LB88549
	Sulfate	0.13	+/-0.75	U		0.75		06/08/2017	17:26	LB88549

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB1	Bromide	0.066	+/-0.5	U		0.5		06/30/2017	12:33	LB88549
	Chloride	0.075	+/-0.15	U		0.15		06/30/2017	12:33	LB88549
	Fluoride	0.043	+/-0.1	U		0.1		06/30/2017	12:33	LB88549
	Phosphorus, Ortho	0.01	+/-0.25	U		0.25		06/30/2017	12:33	LB88549
	Nitrite	0.022	+/-0.15	U		0.15		06/30/2017	12:33	LB88549
	Nitrate	0.027	+/-0.13	U		0.13		06/30/2017	12:33	LB88549
	Sulfate	0.13	+/-0.75	U		0.75		06/30/2017	12:33	LB88549
CCB2	Bromide	0.066	+/-0.5	U		0.5		06/30/2017	17:26	LB88549
	Chloride	0.075	+/-0.15	U		0.15		06/30/2017	17:26	LB88549
	Fluoride	0.043	+/-0.1	U		0.1		06/30/2017	17:26	LB88549
	Phosphorus, Ortho	0.01	+/-0.25	U		0.25		06/30/2017	17:26	LB88549
	Nitrite	0.022	+/-0.15	U		0.15		06/30/2017	17:26	LB88549
	Nitrate	0.027	+/-0.13	U		0.13		06/30/2017	17:26	LB88549
	Sulfate	0.13	+/-0.75	U		0.75		06/30/2017	17:26	LB88549



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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: LB88549

SDG No.: LB88549

Contract: Lab Code: CHEM

Case No.: LB88549

SAS No.: LB88549

Sample ID	Analyte	Result mg/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
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PREPARATION BLANK SUMMARY

Client: LB88549

SDG No.: LB88549

Instrument: IC-2

Sample ID	Analyte	Result (mg/L)	Acceptance Limit	Conc Qual	LOD mg/L	CRQL mg/L	M	Analysis Date	Analysis Time	Run
LB88549BLW		WATER		Batch Number:				Prep Date:		
	Bromide	0.066	<0.5	U		0.5		06/30/2017	13:04	LB88549
	Chloride	0.075	<0.15	U		0.15		06/30/2017	13:04	LB88549
	Fluoride	0.043	<0.1	U		0.1		06/30/2017	13:04	LB88549
	Phosphorus, Ortho	0.01	<0.25	U		0.25		06/30/2017	13:04	LB88549
	Nitrite	0.022	<0.15	U		0.15		06/30/2017	13:04	LB88549
	Nitrate	0.027	<0.13	U		0.13		06/30/2017	13:04	LB88549
	Sulfate	0.13	<0.75	U		0.75		06/30/2017	13:04	LB88549



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MATRIX SPIKE SUMMARY

client: LB88549 level: low sdg no.: LB88549
contract: _____ lab code: CHEM case no.: LB88549 sas no.: LB88549
matrix: WATER sample id: I4011-03 client id: CELL-DMS
Percent Solids for Sample: 0 Spiked ID: I4011-03MS Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Bromide	mg/L	80 - 120	9.9		0.066	U	10	99		
Chloride	mg/L	80 - 120	3		0.11	J	3	96		
Fluoride	mg/L	80 - 120	1.9		0.043	U	2	95		
Phosphorus, Ortho	mg/L	80 - 120	4.9		0.01	U	5	98		
Nitrite	mg/L	80 - 120	2.9		0.022	U	3	96.7		
Nitrate	mg/L	80 - 120	2.5		0.027	U	2.5	100		
Sulfate	mg/L	80 - 120	14.9		0.13	U	15	99.3		

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DUPLICATE SAMPLE SUMMARY

Client: LB88549 **Level:** LOW **SDG No.:** LB88549
Contract: _____ **Lab Code:** CHEM **Case No.:** LB88549 **SAS No.:** LB88549
Matrix: WATER **Sample ID:** I4011-03 **Client ID:** CELL-DDUP
Percent Solids for Sample: 0 **Duplicate ID** I4011-03DUP **Percent Solids for Spike Sample:** 0

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Bromide	mg/L	20	0.066	U	0	U			
Chloride	mg/L	20	0.11	J	0.12	J	9		
Fluoride	mg/L	20	0.043	U	0	U			
Phosphorus, Ortho	mg/L	20	0.01	U	0	U			
Nitrite	mg/L	20	0.022	U	0	U			
Nitrate	mg/L	20	0.027	U	0	U			
Sulfate	mg/L	20	0.13	U	0	U			



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LABORATORY CONTROL SAMPLE SUMMARY

Client: LB88549

SDG No.: LB88549

Contract:

Lab Code: CHEM

Case No.: LB88549

SAS No.: LB88549

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LB88549BSW							
Bromide	mg/L	10	9.6		96	90 - 110	
Chloride	mg/L	3	2.8		93.3	90 - 110	
Fluoride	mg/L	2	2		100	90 - 110	
Phosphorus, Ortho	mg/L	5	5		100	90 - 110	
Nitrite	mg/L	3	2.8		93.3	90 - 110	
Nitrate	mg/L	2.5	2.4		96	90 - 110	
Sulfate	mg/L	15	14.1		94	90 - 110	

Daily Analysis Runlog For Sequence/QC Batch ID # LB88549

Review By		Review On				
SubDirectory		LB88549		Test : Anions		
STD. NAME		STD REF.#				
ICAL Standard		WP55462,WP55463,WP55464,WP55465,WP55466,WP55467,WP55468				
ICV Standard		WP55469				
CCV Standard		WP56059				
ICSA Standard		N/A				
CRI Standard		N/A				
LCS Standard		WP56060				
Chk Standard		55777,WP55554				
Sr#	SampleID	ClientID	QcType	Date	Comment	Status
1	STD1	STD1	CAL1	06/08/17 10:57		OK
2	STD2	STD2	CAL2	06/08/17 11:28		OK
3	STD3	STD3	CAL3	06/08/17 11:59		OK
4	STD4	STD4	CAL4	06/08/17 12:30		OK
5	STD5	STD5	CAL5	06/08/17 13:01		OK
6	STD6	STD6	CAL6	06/08/17 13:32		OK
7	STD7	STD7	CAL7	06/08/17 14:03		OK
8	ICV1	ICV1	ICV	06/08/17 15:47		OK
9	ICB1	ICB1	ICB	06/08/17 17:26		OK
10	CCV1	CCV1	CCV	06/30/17 12:02		OK
11	CCB1	CCB1	CCB	06/30/17 12:33		OK
12	LB88549BLW	LB88549BLW	MB	06/30/17 13:04		OK
13	LB88549BSW	LB88549BSW	LCS	06/30/17 13:35		OK
14	I4011-01	CELL-A	SAM	06/30/17 14:20		OK
15	I4011-02	CELL-B-C	SAM	06/30/17 14:51		OK
16	I4011-03	CELL-D	SAM	06/30/17 15:22		OK
17	I4011-03DUP	CELL-DDUP	DUP	06/30/17 15:53		OK
18	I4011-03MS	CELL-DMS	MS	06/30/17 16:24		OK
19	CCV2	CCV2	CCV	06/30/17 16:55		OK
20	CCB2	CCB2	CCB	06/30/17 17:26		OK