Appendix H

Laboratory Data

In effort to save paper, please visit the Town of Plymouth Marine and Environmental Affairs website for Appendix H laboratory data

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*GW -1*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-190690*	
Date Received:	*04/08/19*	

Sample Type GW 1 A	***Sample Time*** 08:30	***Sample Date*** 04/08/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	BRL	6.0	04/10/19	KB	SM 2540 C
Chloride grab	mg/L	BRL	3.0	04/09/19	RL	EPA 300.0
Specific Conductance	uhoms/cm	BRL	10	04/08/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.391	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	BRL	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.065*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	04/17/19	KB	SM4500-Norg B-C
pH grab	pH units	6.76	NA	04/08/19	RL	SM 4500 H-B
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	BRL	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.058	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.08	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.14	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/09/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.333	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	04/17/19	KB	Calculation
Turbidity	NTU	BRL	0.2	04/08/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190690 GW-1
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 08:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	0.065	0.020	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190690 GW-1
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 08:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	15:47	RBR
Surrogates			RANGE				
Dibromofluoromethane	105		86-118%	SW-846 8260C	4/12/2019	15:47	RBR
Toluene-d8	102		88-110%	SW-846 8260C	4/12/2019	15:47	RBR
4-Bromofluorobenzene	99		86-115%	SW-846 8260C	4/12/2019	15:47	RBR
1,2 Dichloroethane-d4	105		80-120%	SW-846 8260C	4/12/2019	15:47	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	14:59	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*DW 1*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-190691*	
Date Received:	*04/08/19*	

Sample Type DW 1 A	***Sample Time*** 10:15	***Sample Date*** 04/08/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	710	6.0	04/10/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	1,180	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.737	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	3.54	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	0.020	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	0.82	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.19*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.42	0.2	04/17/19	KB	SM4500-Norg B-C
pH grab	pH units	4.80	NA	04/08/19	RL	SM 4500 H-B
Chloride	mg/L	420	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.011	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.34	0.20	04/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.380	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.01	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.15	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/09/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.357	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.08	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.2	NA	04/17/19	KB	Calculation
Turbidity	NTU	1.0	0.2	04/08/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190691 DW-1
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 10:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	0.19	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190691 DW-1
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 10:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	16:15	RBR
Surrogates			RANGE				
Dibromofluoromethane	106		86-118%	SW-846 8260C	4/12/2019	16:15	RBR
Toluene-d8	103		88-110%	SW-846 8260C	4/12/2019	16:15	RBR
4-Bromofluorobenzene	103		86-115%	SW-846 8260C	4/12/2019	16:15	RBR
1,2 Dichloroethane-d4	103		80-120%	SW-846 8260C	4/12/2019	16:15	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:00	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *GW Eel River*
Project Number: *A-13*
Sampled By: *Kim Tower*
Lab Order Number: *WW-190692*
Date Received: *04/08/19*

Comments:

Sample Type A-13 A	***Sample Time*** 11:30	***Sample Date*** 04/08/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	700	6.0	04/10/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	1,180	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.775	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	4.17	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	0.021	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	0.86	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.17*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.52	0.2	04/25/19	KB	SM4500-Norg B-C
pH grab	pH units	4.83	NA	04/08/19	RL	SM 4500 H-B
Chloride	mg/L	420	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.011	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.43	0.20	04/25/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.381	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.03	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.26	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/09/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.394	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.09	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.3	NA	04/26/19	KB	Calculation
Turbidity	NTU	BRL	0.2	04/08/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 003
Sample Description: WW-190692 A13
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	0.17	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 003
Sample Description: WW-190692 A13
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	16:42	RBR
Surrogates			RANGE				
Dibromofluoromethane	105		86-118%	SW-846 8260C	4/12/2019	16:42	RBR
Toluene-d8	102		88-110%	SW-846 8260C	4/12/2019	16:42	RBR
4-Bromofluorobenzene	98		86-115%	SW-846 8260C	4/12/2019	16:42	RBR
1,2 Dichloroethane-d4	100		80-120%	SW-846 8260C	4/12/2019	16:42	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:01	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*A-17*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-190693*	
Date Received:	*04/08/19*	

Sample Type A-17 A	***Sample Time*** 13:55	***Sample Date*** 04/08/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	200	6.0	04/10/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	299	10	04/08/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.451	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	0.15	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	2.48	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	04/17/19	KB	SM4500-Norg B-C
pH grab	pH units	5.38	NA	04/08/19	RL	SM 4500 H-B
Chloride	mg/L	100	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.011	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.034	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	2.50	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.18	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/09/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.417	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	2.7	NA	04/17/19	KB	Calculation
Turbidity	NTU	1.6	0.2	04/08/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 004
Sample Description: WW-190693 A17
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 13:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06464
Project Name: PLYMOUTH ENV.

Sample Number: 004
Sample Description: WW-190693 A17
Sample Type : GRAB
Sample Date / Time : 4/08/2019 @ 13:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	17:09	RBR
Surrogates			RANGE				
Dibromofluoromethane	105		86-118%	SW-846 8260C	4/12/2019	17:09	RBR
Toluene-d8	101		88-110%	SW-846 8260C	4/12/2019	17:09	RBR
4-Bromofluorobenzene	100		86-115%	SW-846 8260C	4/12/2019	17:09	RBR
1,2 Dichloroethane-d4	108		80-120%	SW-846 8260C	4/12/2019	17:09	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:04	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
904166	WW-190690 Total	04/08/19	0.391									
904167	WW-190690 Dissolved	04/08/19	0.422	0.058								
904168	WW-190691 Total	04/08/19	0.737									
904169	WW-190691 Dissolved	04/08/19	0.744	0.380								
904170	WW-190692 Total	04/08/19	0.775									
904171	WW-190692 Dissolved	04/08/19	0.745	0.381								
904172	WW-190693 Total	04/08/19	0.451									
904173	WW-190693 Dissolved	04/08/19	0.398	0.034								
904174	WW- 190700 Blank Dissolved	04/08/19	0.364									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.09	mg/L	04/12/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 04/13/19

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4/8/19	0830	GW-1	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
4/8/19	1015	DW-1	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

ww-190690

ww190691

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time
Kim Tower

Received By: Date/Time:
04/08/19 1430

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4/8/19	1130	A13	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
4/8/19	1355	A17	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

WW-190692

WW-190693

RL
~~WW-190694~~
WW190700
TOC Blank

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids, O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

Received By: Date/Time: 04/08/19 1430

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*7 SR*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-190702*	
Date Received:	*04/09/19*	

Sample Type 7 SR A	***Sample Time*** 11:55	***Sample Date*** 4/09/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	460	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	792	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.278	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	0.39	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	0.17	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.21	0.2	04/25/19	KB	SM4500-Norg B-C
pH grab	pH units	5.51	NA	04/09/19	RL	SM 4500 H-B
Chloride	mg/L	270	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	BRL	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/25/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.017	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.19	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.261	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.01	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.37	NA	04/26/19	KB	Calculation
Turbidity	NTU	BRL	0.2	04/09/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190702 7SR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 11:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190702 7SR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 11:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1,1,2-Tetrachlorocthane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	17:37	RBR
Surrogates			RANGE				
Dibromofluoromethane	106		86-118%	SW-846 8260C	4/12/2019	17:37	RBR
Toluene-d8	102		88-110%	SW-846 8260C	4/12/2019	17:37	RBR
4-Bromofluorobenzene	96		86-115%	SW-846 8260C	4/12/2019	17:37	RBR
1,2 Dichloroethane-d4	102		80-120%	SW-846 8260C	4/12/2019	17:37	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:05	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *GW Eel River*
Project Number: *A15*
Sampled By: *Kim Tower*
Lab Order Number: *WW-190703*
Date Received: *04/09/19*

Comments:

Sample Type A15 A	***Sample Time*** 13:35	***Sample Date*** 04/9/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	140	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	177	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.565	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	BRL	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	0.015	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	1.78	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	04/17/19	KB	SM4500-Norg B-C
pH grab	pH units	6.24	NA	04/09/19	RL	SM 4500 H-B
Chloride	mg/L	44	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.018	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.216	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.8	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.010	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.349	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.8	NA	04/17/19	KB	Calculation
Turbidity	NTU	1.1	0.2	04/09/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: *Ronald J. Saari*

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190703 A15
Sample Type : GRAB
Sample Date / Time : 4/09/2019

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190703 A15
Sample Type : GRAB
Sample Date / Time : 4/09/2019

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	18:04	RBR
Surrogates			RANGE				
Dibromofluoromethane	105		86-118%	SW-846 8260C	4/12/2019	18:04	RBR
Toluene-d8	102		88-110%	SW-846 8260C	4/12/2019	18:04	RBR
4-Bromofluorobenzene	99		86-115%	SW-846 8260C	4/12/2019	18:04	RBR
1,2 Dichloroethane-d4	101		80-120%	SW-846 8260C	4/12/2019	18:04	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:07	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *GW Eel River*
Project Number: *2 SR*
Sampled By: *Kim Tower*
Lab Order Number: *WW-190704*
Date Received: *04/09/19*

Comments:

Sample Type 2 S R A	***Sample Time*** 09:15	***Sample Date*** 04/09/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	180	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	269	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.486	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	0.22	0.01	04/16/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	04/16/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/16/19	MC	EPA 200.7
Nitrate-N	mg/L	1.22	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.25	0.2	04/25/19	KB	SM4500-Norg B-C
pH grab	pH units	5.30	NA	04/09/19	RL	SM 4500 H-B
Chloride	mg/L	94	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.022	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/25/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.178	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.2	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.308	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.05	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.2	NA	04/26/19	KB	Calculation
Turbidity	NTU	2.90	0.2	04/09/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 003
Sample Description: WW-190704 2SR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 09:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019 20:12	SAS
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019 18:32	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 003
Sample Description: WW-190704 2SR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 09:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	18:32	RBR
Surrogates			RANGE				
Dibromofluoromethane	104		86-118%	SW-846 8260C	4/12/2019	18:32	RBR
Toluene-d8	103		88-110%	SW-846 8260C	4/12/2019	18:32	RBR
4-Bromofluorobenzene	99		86-115%	SW-846 8260C	4/12/2019	18:32	RBR
1,2 Dichloroethane-d4	103		80-120%	SW-846 8260C	4/12/2019	18:32	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:10	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *GW Eel River*
Project Number: *2 D R*
Sampled By: *Kim Tower*
Lab Order Number: *WW-190705*
Date Received: *04/09/19*

Comments:

Sample Type 2 D R A	***Sample Time*** 09:50	***Sample Date*** 04/09/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	180	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	274	10	04/09/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	1.91	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	3.70	0.01	04/18/19	MC	EPA 200.7
Boron	mg/L	0.015	0.010	04/18/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/18/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	04/09/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/09/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.33	0.2	04/25/19	KB	SM4500-Norg B-C
pH grab	pH units	6.72	NA	04/09/19	RL	SM 4500 H-B
Chloride	mg/L	85	3.0	04/09/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.072	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.28	0.20	04/25/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.44	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.26	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.010	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.470	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.28	NA	04/26/19	KB	Calculation
Turbidity	NTU	1.6	0.2	04/09/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 004
Sample Description: WW-190705 2DR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 09:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06466
Project Name: PLYMOUTH ENV.

Sample Number: 004
Sample Description: WW-190705 2DR
Sample Type : GRAB
Sample Date / Time : 4/09/2019 @ 09:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	18:59	RBR
Surrogates			RANGE				
Dibromofluoromethane	106		86-118%	SW-846 8260C	4/12/2019	18:59	RBR
Toluene-d8	102		88-110%	SW-846 8260C	4/12/2019	18:59	RBR
4-Bromofluorobenzene	99		86-115%	SW-846 8260C	4/12/2019	18:59	RBR
1,2 Dichloroethane-d4	102		80-120%	SW-846 8260C	4/12/2019	18:59	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	15:14	AJD
Mercury Digestion				EPA 245.1	4/24/2019	12:43	MEM

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
904180	DW-190702 Total	04/09/19	0.278									
904181	DW-190702 Dissolved	04/09/19	0.322	0.017								
904182	DW-190703 Total	04/09/19	0.565									
904183	DW-190703 Dissolved	04/09/19	0.521	0.216								
904184	DW-190704 Total	04/09/19	0.486									
904185	DW-190704 Dissolved	04/09/19	0.483	0.178								
904186	DW-190705 Total	04/09/19	1.91									
904187	DW-190705 Dissolved	04/09/19	1.75	1.44								
904188	DW-190706 Blank Dissolved	04/09/19	0.305									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.09	mg/L	04/12/19	Y

Electronically signed and approved by: Bruce L. Bernstein Date: 04/13/19

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4-9-19	1155	FSR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
4-9-19	1335	A15	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

GW-190702

GW-190703

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

Received By: Date/Time: 04/09/19 1415

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4/9/19	0915	2SR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
4/9/19	0950	2DR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

WW-190704

WW-190705

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

WW-190706 - Blank TOC

Relinquished By: Date/Time

Received By: Date/Time: 04/09/19 1415

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Bradford*
Project Number:
Sampled By: *KT*
Lab Order Number: *WW-190719*
Date Received: *04/10/19*

Comments:

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
Bradford A	08:30	04/10/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	48	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	65	10	04/10/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	1.00	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	3.39	0.01	04/19/19	MC	EPA 200.7
Boron	mg/L	0.013	0.010	04/19/19	MC	EPA 200.7
Copper	mg/L	0.064	0.003	04/19/19	MC	EPA 200.7
Nitrate-N	mg/L	0.06	0.01	04/10/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/10/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.06*	0.02	04/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.21	0.2	04/26/19	KB	SM4500-Norg B-C
pH grab	pH units	6.83	NA	04/10/19	RL	SM 4500 H-B
Chloride	mg/L	13	3.0	04/10/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	BRL	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	04/26/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.832	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.12	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.14	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.168	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.01	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.26	NA	08/29/19	KB	Calculation
Turbidity	NTU	4.4	0.2	04/10/19	RL	SM 2130 B

BRL=below reportable limits

****see attached***

By: *Ronald J. Saari*
Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06465
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190719 BRADFORD
Sample Type : GRAB
Sample Date / Time : 4/10/2019 @ 08:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	0.06	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06465
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190719 BRADFORD
Sample Type : GRAB
Sample Date / Time : 4/10/2019 @ 08:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1,1,2-Tetrachlorocthane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	14:52	RBR
Surrogates			RANGE				
Dibromofluoromethane	105		86-118%	SW-846 8260C	4/12/2019	14:52	RBR
Toluene-d8	101		88-110%	SW-846 8260C	4/12/2019	14:52	RBR
4-Bromofluorobenzene	99		86-115%	SW-846 8260C	4/12/2019	14:52	RBR
1,2 Dichloroethane-d4	106		80-120%	SW-846 8260C	4/12/2019	14:52	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	12:57	AJD
Mercury Digestion				EPA 245.1	4/24/2019	10:54	MEM

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*A 19*	***Comments:***
Project Number:		
Sampled By:	*KT*	
Lab Order Number:	*WW-190720*	
Date Received:	*04/10/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
A19 A	09:45	04/10/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	150	6.0	04/15/19	KB	SM 2540 C
Specific Conductance	uhoms/cm	215	10	04/10/19	RL	EPA 120.1
Total Organic Carbon*	mg/L	0.431	0.017	04/12/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	04/12/19	RIA*	*
Total Iron	mg/L	0.01	0.01	04/19/19	MC	EPA 200.7
Boron	mg/L	0.007	0.010	04/19/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	04/19/19	MC	EPA 200.7
Nitrate-N	mg/L	1.09	0.01	04/10/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/10/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.03*	0.02	07/17/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.28	0.2	04/26/19	KB	SM4500-Norg B-C
pH grab	pH units	5.77	NA	04/10/19	RL	SM 4500 H-B
Chloride	mg/L	68	3.0	04/10/19	RL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	04/24/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.007	0.005	04/11/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.24	0.20	04/26/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.086	0.017	04/12/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.12	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.21	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/10/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.345	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.04	NA	07/01/19	MC	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06465
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190720 A19
Sample Type : GRAB
Sample Date / Time : 4/10/2019 @ 09:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	0.03	0.02	mg/l	SM4500NH3-B,H 18-21ed	4/17/2019	20:12	SAS
Volatile Organic Compounds							
Benzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Bromobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Bromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Bromodichloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Bromoform	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Bromomethane	<5	5	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
n-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Sec-butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
tert-Butylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Chlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Chloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Chloroform	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Chloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
2-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
4-Chlorotoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Dibromochloromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Dibromomethane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Dichlorodifluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
cis-1,3-Dichloropropene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
trans-1,3-Dichloropropylene	<0.4	0.4	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,3-Dichloropropene (total)	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Ethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Isopropylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1904-06465
Project Name: PLYMOUTH ENV.

Sample Number: 002
Sample Description: WW-190720 A19
Sample Type : GRAB
Sample Date / Time : 4/10/2019 @ 09:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Methylene Chloride	<5	5	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Naphthalene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
n-Propylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Styrene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Tetrachloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Toluene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Trichloroethene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Vinyl Chloride	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
o-Xylene	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
m,p-Xylene	<2	2	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
MTBE	<2	2	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Carbon Disulfide	<1	1	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Acetone	<10	10	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
2-Hexanone	<10	10	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Vinyl Acetate	<50	50	ug/l	SW-846 8260C	4/12/2019	15:20	RBR
Surrogates			RANGE				
Dibromofluoromethane	103		86-118%	SW-846 8260C	4/12/2019	15:20	RBR
Toluene-d8	100		88-110%	SW-846 8260C	4/12/2019	15:20	RBR
4-Bromofluorobenzene	101		86-115%	SW-846 8260C	4/12/2019	15:20	RBR
1,2 Dichloroethane-d4	99		80-120%	SW-846 8260C	4/12/2019	15:20	RBR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/24/2019	13:00	AJD
Mercury Digestion				EPA 245.1	4/24/2019	10:54	MEM

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
904189	WW-190719 Total	04/10/19	1.00									
904190	WW-190719 Dissolved	04/10/19	1.27	0832								
904191	WW-190720 Total	04/10/19	0.431									
904192	WW-190720 Dissolved	04/10/19	0.524	0086								
904193	WW-190721 Blank Dissolved	04/10/19	0.438									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.09	mg/L	04/12/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 04/13/19

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4-10-19	0830	Bradford	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
		Bradford	1	Glass	Ortho-phosphate	NONE
4-10-19	0945	A19	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC Low, TP	H2SO4
			1	500ml Plastic	Chloride, pH, conductivity, turbidity, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

ww-190719

ww-190720

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

ww-190721 - Blank Diss TOC Low

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time: 4/10/19 1400

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*A-13*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-192342*	
Date Received:	*10/28/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
A13 A	11:30	10/28/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	0.88	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	930	6.0	11/04/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.752	0.017	10/30/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	10/31/19	NEC*	*
Total Iron	mg/L	5.29	0.01	11/06/19	MC	EPA 200.7
Boron	mg/L	0.026	0.010	11/06/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/06/19	MC	EPA 200.7
Nitrate-N	mg/L	0.38	0.01	10/29/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/29/19	KF	EPA 300.0
Ammonia-N *	mg/L	0.24*	0.02	11/05/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.50	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	540	3.0	10/30/19	LL	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	10/31/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.021	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.48	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.615	0.017	10/30/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.62	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.24	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.011	0.005	10/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.137	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.02	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.86	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	910362
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192342
State:	Liquid
Date Sampled:	10/28/19
Date Received:	10/30/19
Date Analyzed:	10/31/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	910362
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries (%)

Benzene-d6	99
4-Bromofluorobenzene	102
1,2-Dichlorobenzene-d4	103

Method Detection Limit: .5 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director 11/01/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*A-17*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-192343*	
Date Received:	*10/28/19*	

Sample Type A17 A	***Sample Time*** 13:45	***Sample Date*** 10/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	1.5	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	220	6.0	11/04/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.362	0.017	10/30/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	10/31/19	NEC*	*
Total Iron	mg/L	BRL	0.01	11/06/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	11/06/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/06/19	MC	EPA 200.7
Nitrate-N	mg/L	1.45	0.01	10/29/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/29/19	KF	EPA 300.0
Ammonia-N *	mg/L	0.02*	0.02	11/05/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	97	3.0	10/29/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	10/31/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.013	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.306	0.017	10/30/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.5	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.009	0.005	10/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.056	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.5	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	910363
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192343
State:	Liquid
Date Sampled:	10/28/19
Date Received:	10/30/19
Date Analyzed:	10/31/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	910363
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	(%)
Benzene-d6	97
4-Bromofluorobenzene	104
1,2-Dichlorobenzene-d4	102

Method Detection Limit: .5 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/01/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River*	***Comments:***
Project Number:	*DW 1*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-192344*	
Date Received:	*10/28/19*	

Sample Type DW1 A	***Sample Time*** 13:50	***Sample Date*** 10/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	1.5	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	220	6.0	11/04/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.327	0.017	10/30/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	10/31/19	NEC*	*
Total Iron	mg/L	BRL	0.01	11/06/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	11/06/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/06/19	MC	EPA 200.7
Nitrate-N	mg/L	1.50	0.01	10/29/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/29/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/05/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	98	3.0	10/29/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	10/31/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.014	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.301	0.017	10/30/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.5	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.026	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.5	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	910364
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192344
State:	Liquid
Date Sampled:	10/28/19
Date Received:	10/30/19
Date Analyzed:	10/31/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	910364
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	(%)
Benzene-d6	98
4-Bromofluorobenzene	103
1,2-Dichlorobenzene-d4	100

Method Detection Limit: .5 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/01/19 Date

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results										
Lab ID	Client ID	Date Sampled	TOC mg/L										
910355	WW-192342 Total	10/28/19	0.752										
910356	WW-192342 Dissolved	10/28/19	0.615	0.707									
910357	WW-192343 Total	10/28/19	0.362										
910358	WW-192343 Dissolved	10/28/19	0.306										
910359	WW-192344 Dissolved	10/28/19	0.301										
910360	WW-192344 Total	10/28/19	0.327										
910361	WW-192345 Dissolved	10/28/19	0.510	Don't use									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	10/30/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 10/31/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1910-20331
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-192342 A13
Sample Type : GRAB
Sample Date / Time : 10/28/2019 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.24	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/5/2019 14:12	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	10/31/2019 13:26	RB
Mercury Digestion				EPA 245.1	10/31/2019 12:00	RB

Sample Number: 002
Sample Description: WW-192343 A17
Sample Type : GRAB
Sample Date / Time : 10/28/2019 @ 13:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/5/2019 14:12	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	10/31/2019 13:27	RB
Mercury Digestion				EPA 245.1	10/31/2019 12:00	RB

Sample Number: 003
Sample Description: WW-192344 DW-1
Sample Type : GRAB
Sample Date / Time : 10/28/2019 @ 13:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/5/2019 14:12	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	10/31/2019 13:28	RB
Mercury Digestion				EPA 245.1	10/31/2019 12:00	RB

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
10-28-19	1130	A13	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
10-28-19	1345	A17	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

Kim Ta

Received By: Date/Time:

10/28/19 1430

1

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
UW192344 10.28.19	1350	DW-1	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
UW192345	Blank				TOC dissolved	
			2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time: 10/28/19 1430

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*7SR*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192364*	
Date Received:	*10/30/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
7SR A	09:00	10/30/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	<0.38	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	530	6.0	11/04/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.166	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	0.77	0.01	11/06/19	MC	EPA 200.7
Boron	mg/L	0.014	0.010	11/06/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/06/19	MC	EPA 200.7
Nitrate-N	mg/L	0.18	0.01	10/30/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/30/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	311	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.044	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.20	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	<0.15	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.38	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911103
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192364
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911103
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	97
4-Bromofluorobenzene	106
1,2-Dichlorobenzene-d4	102

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*A15*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192365*	
Date Received:	*10/30/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
A15 A	10:40	10/30/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	1.9	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	140	6.0	11/04/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.403	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	BRL	0.01	11/08/19	MC	EPA 200.7
Boron	mg/L	0.018	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	1.85	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	47	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.039	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.234	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.9	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.026	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.169	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.9	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911104
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192365
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911104
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	99
4-Bromofluorobenzene	103
1,2-Dichlorobenzene-d4	100

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*2SR*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192366*	
Date Received:	*10/30/19*	

Sample Type 2SR A	***Sample Time*** 11:30	***Sample Date*** 10/30/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	1.0	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	180	6.0	11/07/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.455	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	BRL	0.01	11/08/19	MC	EPA 200.7
Boron	mg/L	BRL	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	1.03	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	86.4	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.039	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.207	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.0	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.248	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.0	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911105
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192366
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911105
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	99
4-Bromofluorobenzene	101
1,2-Dichlorobenzene-d4	102

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***	Iron rechecked
Project Number:	*2DR*		
Sampled By:	*Kim Tower*		
Lab Order Number:	*WW-192367*		
Date Received:	*10/30/19*		

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
2DR A	12:00	10/30/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	1.0	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	460	6.0	11/07/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.295	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	26.2	0.01	11/12/19	MC	EPA 200.7
Boron	mg/L	0.038	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	1.02	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	0.052	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	250	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.074	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	1.0	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.278	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	1.0	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911106
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192367
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911106
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	98
4-Bromofluorobenzene	101
1,2-Dichlorobenzene-d4	102

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*A19*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192368*	
Date Received:	*10/30/19*	

Sample Type A19 A	***Sample Time*** 12:45	***Sample Date*** 10/30/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	0.91	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	130	6.0	11/07/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.382	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	1.06*	*	11/06/19	NEC*	*
Total Iron	mg/L	0.02	0.01	11/08/19	MC	EPA 200.7
Boron	mg/L	0.010	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	0.91	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	56	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.011	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.176	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.91	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.008	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.382	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.91	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J Saari
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911107
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192368
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	1.06	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911107
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	102
4-Bromofluorobenzene	99
1,2-Dichlorobenzene-d4	101

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*GW-1*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192369*	
Date Received:	*10/30/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
GW-1 A	12:55	10/30/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	<0.21	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	BRL	6.0	11/07/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.202	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	BRL	0.01	11/08/19		EPA 200.7
Boron	mg/L	0.029	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	BRL	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	BRL	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	BRL	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.022	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.180	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911108
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192369
State:	Liquid
Date Sampled:	10/30/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911108
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	104
4-Bromofluorobenzene	99
1,2-Dichlorobenzene-d4	100

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1911-20532
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-192364 7SR
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 09:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019 13:06	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019 12:51	RB
Mercury Digestion				EPA 245.1	11/5/2019 11:18	RB

Sample Number: 002
Sample Description: WW-192365 A15
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 10:40

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019 13:06	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019 12:53	RB
Mercury Digestion				EPA 245.1	11/5/2019 11:18	RB

Sample Number: 003
Sample Description: WW-192366 2SR
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019 13:06	BR
Total Metals						
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019 12:55	RB
Mercury Digestion				EPA 245.1	11/5/2019 11:18	RB

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1911-20532
Project Name: PLYMOUTH ENV.

Sample Number: 004
Sample Description: WW-192367 2DR
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019	13:06	BR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019	13:00	RB
Mercury Digestion				EPA 245.1	11/5/2019	11:18	RB

Sample Number: 005
Sample Description: WW-192368 A19
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019	13:06	BR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019	13:01	RB
Mercury Digestion				EPA 245.1	11/5/2019	11:18	RB

Sample Number: 006
Sample Description: WW-192369 GW-1
Sample Type : GRAB
Sample Date / Time : 10/30/2019 @ 12:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019	13:06	BR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019	13:02	RB
Mercury Digestion				EPA 245.1	11/5/2019	11:18	RB

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

Lab ID	Client ID	Date Sampled	Analytical Results: TOC mg/L									
911090	WW-192364 Total	10/30/19	0.166									
911091	WW-192364 Dissolved	10/30/19	0.149	BRL								
911092	WW-192365 Total	10/30/19	0.403									
911093	WW-192365 Dissolved	10/30/19	0.424	0.234								
911094	WW-192366 Total	10/30/19	0.455									
911095	WW-192366 Dissolved	10/30/19	0.397	0.297								
911096	WW-192367 Total	10/30/19	0.295									
911097	WW-192367 Dissolved	10/30/19	0.187	BRL								
911098	WW-192368 Total	10/30/19	0.382									
911099	WW-192368 Dissolved	10/30/19	0.366	0.196								
911100	WW-192369 Total	10/30/19	0.202									
911101	WW-192369 Dissolved	10/30/19	0.212	0.012								
911102	WW-192370 Dissolved	10/30/19	0.190									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	11/05/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 11/06/19

LOM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-192364 10-30-19	0900	7SR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
WW-192365 10-30-19	1040	A15	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

KTa

Received By: Date/Time:

Usually 10/30/19 1330

LOM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-192366 10.30.19	1130	2SR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
WW-192367 10.30.19	1200	2DR	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

KTa

Received By: Date/Time:

Llavally 10/30/19 1330

LAM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-192368 10.30.19	1245	A19	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
WW-192369 10.30.19	1255	GW-1	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

WW-192370 Blank

Relinquished By: Date/Time

Received By: Date/Time:

Kim Tower

Wavally 10/30/19 1330

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*GW Eel River, Plymouth*	***Comments:***
Project Number:	*Bradford*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-192385*	
Date Received:	*10/31/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
Bradford A	08:00	10/31/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Nitrogen	mg/L	<0.25	NA	11/08/19	KB	Calculation
Total Dissolved Solids	mg/L	80	6.0	11/07/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.468	0.017	11/05/19	NEC*	SM 5310 C
Volatile Organic Compounds*	ug/L	ND*	*	11/06/19	NEC*	*
Total Iron	mg/L	3.06	0.01	11/08/19	MC	EPA 200.7
Boron	mg/L	0.015	0.010	11/08/19	MC	EPA 200.7
Copper	mg/L	0.003	0.003	11/08/19	MC	EPA 200.7
Nitrate-N	mg/L	0.053	0.01	10/31/19	KF	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	10/31/19	KF	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	11/08/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	11/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	13	3.0	10/31/19	KF	EPA 300.0
Mercury*	mg/L	<0.0005*	0.0005	11/05/19	RIA*	EPA 245.1
Total Phosphorous (P)	mg/L	0.041	0.005	11/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	11/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.380	0.017	11/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.07	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	10/31/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.088	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.25	NA	11/08/19	KB	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
911109	WW-192385 Total	10/31/19	0.468									
911110	WW-192385 Dissolved	10/31/19	0.570	0.760								

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	11/05/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 11/06/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1911-20533
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-192385 BRADFORD
Sample Type : GRAB
Sample Date / Time : 10/31/2019 @ 08:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED		ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	11/8/2019	13:06	BR
Total Metals							
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	11/5/2019	13:04	RB
Mercury Digestion				EPA 245.1	11/5/2019	11:18	RB

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600
Massachusetts DEP Lab. M-MA072

Sample Information

EPA Method 8260B Volatile Organic Compounds Extended	
Lab ID:	911111
Client:	Envirotech Laboratory, Inc.
Client ID:	WW-192385
State:	Liquid
Date Sampled:	10/31/19
Date Received:	11/05/19
Date Analyzed:	11/06/19

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Acetone	ND	Chloroprene	ND
Acetonitrile	ND	3-Chloropropene	ND
Acrolein	ND	3-Chloropropionitrile	ND
Acrlonitrile	ND	1,2-Dibromo-3-Chloropropane	ND
Allyl Alcohol	ND	Dibromochlormethane	ND
Allyl Chloride	ND	1,2-Dibromoethane	ND
Benzene	ND	Dibromomethane	ND
Benzyl Chloride	ND	1,2-Dichlorobenzene	ND
Bromoacetone	ND	1,3-Dichlorobenzene	ND
Bromodichloromethane	ND	1,4-Dichlorobenzene	ND
Bromoform	ND	Cis-1,4-Dichloro-2-Butene	ND
Bromochloromethane	ND	Trans-1,4-dichloro-2-butene	ND
N-Butanol	ND	Dichlorodifluoromethane	ND
2-Butanone (MEK)	ND	1,1-Dichloroethane	ND
n-Butylbenzene	ND	1,2-Dichloroethane	ND
sec-Butylbenzene	ND	1,1-Dichloroethene	ND
tert-Butylbenzene	ND	Cis-1,2-dichloroethene	ND
Carbon Disulfide	ND	Trans-1,2-dichloroethene	ND
Carbon Tetrachloride	ND	1,2-Dichloropropane	ND
Chloral Hydrate	ND	1,3-Dichloro-2-propanol	ND
Chlorobenzene	ND	Cis-1,3-dichloropropene	ND
2-Chloro-1,3-butadiene	ND	Trans-1,3-dichloropropene	ND
Chlorobromomethane	ND	1,2,3,4-Diepoxybutane	ND
Chloroethane	ND	Diethyl Ether	ND
2-Chloroethanol	ND	1,4-Dioxane	ND
Bis-(2-Chloroethyl) Sulfide	ND	Epiclhorohydrin	ND
2-Chloroethyl Vinyl Ether	ND	Ethanol	ND
Chloroform	ND	Ethyl Acetate	ND
Chloromethane	ND	Ethylbenzene	ND

CONTINUED ON FOLLOWING PAGE

EPA Method 8260 Volatile Organic Compounds Extended

Lab ID:	911111
Client ID:	Envirotech Laboratory, Inc.

Analytical Results

Parameter	Results ug/L	Parameter	Results ug/L
Ethylene Oxide	ND	Propargyl Alcohol	ND
Ethyl Methacrylate	ND	B-Propiolactone	ND
Hexachlorobutadiene	ND	Propionitrile	ND
Hexachloroethane	ND	N-Propylamine	ND
2-Hexanone	ND	N-Propylbenzene	ND
2-Hydroxypropionitrile	ND	Pyridine	ND
Iodomethane	ND	Styrene	ND
Isobutyl Alcohol	ND	1,1,1,2-Tetrachloroethane	ND
Isopropylbenzene	ND	1,1,2,2-Tetrachloroethane	ND
p-Isopropyltoluene	ND	Tetrachloroethene	ND
Malononitrile	ND	Toluene	ND
Methacrylonitrile	ND	1,2,4-Trichlorobenzene	ND
Methanol	ND	1,1,1-Trichloroethane	ND
Methylene Chloride (DCM)	ND	1,1,2-Trichloroethane	ND
Methyl Iodide	ND	Trichloroethene	ND
Methyl Methacrylate	ND	Trichlorofluoromethane	ND
4-Methyl-2-pentanone (MIBK)	ND	1,2,3-Trichloropropane	ND
Methyl Tert-Butyl Ether (MTBE)	ND	1,3,5-Trimethylbenzene	ND
Naphthalene	ND	1,2,4-Trimethylbenzene	ND
Nitrobenzene	ND	Vinyl Acetate	ND
2-Nitropropane	ND	Vinyl Chloride	ND
Pentachloroethane	ND	m&p-Xylene	ND
2-Picoline	ND	o-Xylene	ND

Internal Standard Recoveries	**(%)**
Benzene-d6	100
4-Bromofluorobenzene	93
1,2-Dichlorobenzene-d4	95

Method Detection Limit: 1 ug/L

MA does not offer certification for this method.

Electronically signed and approved by: Mr. Bruce A. Bornstein, Lab Director — 11/08/19 Date

LOM

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **GW Eel River** -Plymouth MA
Sampler: Kim Tower (KT)

WW-192385

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
10-31-19	0800	Bradford	2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE
			2	Glass Vial	VOC	HCL
			1	1 Liter Plastic	Dissolved, TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			1	250ml Plastic	Chloride, No2, NO3	NONE
			1	500ml Plastic	B, Cu, Hg, Fe	HNO3
			1	Glass	Ortho-phosphate	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; Total Dissolved Solids,O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Boron, Chloride, Copper, Iron, Mercury, VOC

Relinquished By: Date/Time

Received By: Date/Time: 10/31/19 1530

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, July 3, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-10*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191265*	
Date Received:	*06/13/19*	

Sample Type S-10 A	***Sample Time*** 10:45	***Sample Date*** 06/13/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.06	0.01	06/13/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	33,100	6.0	07/02/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.05*	0.017	06/21/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	BRL*	0.02	06/20/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.31	0.2	07/02/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.013	0.005	06/24/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.26	0.20	07/02/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.16*	0.017	06/21/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.08	NA	06/20/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.24	NA	06/20/19	MC	Calculation
Chlorophyll-a	*	ND*	*	06/17/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	06/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	07/03/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.05	NA	07/03/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.32	NA	07/02/19	KB	Calculation
E coli	CFU/100mL	15	<1	06/13/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, July 3, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-7*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191266*	
Date Received:	*06/13/19*	

Sample Type S-7 A	***Sample Time*** 10:55	***Sample Date*** 06/13/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.05	0.01	06/13/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	30,800	6.0	07/02/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.31*	0.017	06/21/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.04*	0.02	06/20/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.48	0.2	07/02/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.041	0.005	06/24/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.45	0.20	07/02/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.25*	0.017	06/21/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	07/02/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.41	NA	07/02/19	MC	Calculation
Chlorophyll-a	*	2.17*	*	06/17/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	06/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.05	NA	07/03/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	07/03/19	KB	Calculation
Total Dissolved Nitrogen	mg/L	0.50	NA	07/02/19	MC	Calculation
E coli	CFU/100mL	35	<1	06/13/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: *Ronald J. Saari*
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, July 3, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Harbor Sampling*
Project Number: *S-8A*
Sampled By: *Kim Tower*
Lab Order Number: *WW-191267*
Date Received: *06/13/19*

Comments:

Sample Type S-8A A	***Sample Time*** 11:05	***Sample Date*** 06/13/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.09	0.01	06/13/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	30,000	6.0	07/02/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.904*	0.017	06/21/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.05*	0.02	06/20/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.50	0.2	07/03/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.008	0.005	06/24/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.45	0.20	07/03/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.996*	0.017	06/21/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.14	NA	07/03/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.40	NA	07/03/19	MC	Calculation
Chlorophyll-a	*	2.33*	*	06/17/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	06/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	07/03/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.05	NA	07/03/19	KB	Calculation
Total Dissolved Nitrogen	mg/L	0.54	NA	07/03/19	MC	Calculation
E coli	CFU/100mL	15	<1	06/13/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: *Ronald J. Saari*
Laboratory Director

*Please submit results by 1st week in July so it can be reported to EPA.

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
6/13/19	1045	S-10 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
			1	1 Liter Plastic	TKN, TN, TP	H2SO4
			1	500 mL Plastic	NO2, NO3	
			1	Glass	Ortho	NONE
			1	100mL Plastic	Bacteria e-coli	NONE
			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
6/13/19	1055	S-7 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
			1	1 Liter Plastic	TKN, TN, TP	H2SO4
			1	500 mL Plastic	NO2, NO3	
			1	Glass	Ortho	NONE
			1	100mL Plastic	Bacteria e-coli	NONE
			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

WW-19126S

WW19126P

15

35

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time: 06/13/19 1500

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
6/13/19	1105	S-8A 2-4Hrs	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
			1	1 Liter Plastic	TKN, TN, TP	H2SO4
			1	500 mL Plastic	NO2, NO3	
			1	Glass	Ortho	NONE
			1	100mL Plastic	Bacteria e-coli	NONE
			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
			1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
			1	1 Liter Plastic	TKN, TN, TP	H2SO4
			1	500 mL Plastic	NO2, NO3	
			1	Glass	Ortho	NONE
			1	100mL Plastic	Bacteria e-coli	NONE
			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

WW-191267

WW191268 Trip Blank

15

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time: 06/13/19 1500

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth Env.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

RI Analytical
M RI 015
Address 41 Illinois Avenue
Warwick, RI 02888
Phone# 401-737-8500
Fax# 401-738-1970

Lab ID #	Date	Time	Comp	Grab	Station location	Container	Pres.	Sample type	Analysis requested
WW-190879	04/29/19	0950		X	S-8B	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190880	04/29/19	1015		X	S-5B	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190881	04/29/19	1045		X	S-4A	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190882	04/29/19	1055		X	S-3A	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190883	04/29/19	1125		X	S-2C	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190884	04/29/19	1215		X	S-6A	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190885	04/29/19	1235		X	S-12	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190886	04/29/19	1300		X	S-13	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)
WW-190887	04/29/19	1330		X	S-14	P	H_2SO_4	Surface water	Ammonia-N (0.02 mdl)

9

Relinquished: C Destefano	Date/Time 5/2/19 1425	Received: MER	MER 5.0 PW#08035 Contact lab with any exceeded MCL
Relinquished: MER	Date/Time 5/2/19 1652	Received: Logan	Page 1 of 1 1905-08033

R.I. ANALYTICAL
Specialists in Environmental Services

LABORATORY REPORT

Envirotech Laboratories, Inc.
Attn: Mr. Ron Saari
8 Jan Sebastian Drive
Sandwich, MA 02563

Date Received: 6/18/2019
Date Reported: 6/21/2019
P.O. Number WW-191265-191267

Work Order #: 1906-11253
Project Name: PLYMOUTH ENV.

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Dawne E. Smart
Data Reporting Manager

Laboratory Certification Numbers (as applicable to sample's origin state):
Warwick RI * RI LAI00033, MA M-RI015, CT PH-0508 Hudson MA * M-MA1117, RI LAO00319

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1906-11253
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191265 S-10 2-4 HST
Sample Type : GRAB
Sample Date / Time : 6/13/2019 @ 10:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	6/20/2019 16:18	SAS

Sample Number: 002
Sample Description: WW-191266 S-7 2-4 HST
Sample Type : GRAB
Sample Date / Time : 6/13/2019 @ 10:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.04	0.02	mg/l	SM4500NH3-B,H 18-21ed	6/20/2019 16:18	SAS

Sample Number: 003
Sample Description: WW-191267 S-8A 2-4 HST
Sample Type : GRAB
Sample Date / Time : 6/13/2019 @ 11:05

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.05	0.02	mg/l	SM4500NH3-B,H 18-21ed	6/20/2019 16:18	SAS

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth Env.
Sampler: KT	

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

RI Analytical
M RI 015
Address 41 Illinois Avenue
Warwick, RI 02888
Phone# 401-737-8500
Fax# 401-738-1970

Lab ID #	Date	Time	Comp	Grab	Station location	Container	Pres.	Sample type	Analysis requested
WW-191265	06/13/19	1045		X	S-10 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191266	06/13/19	1055		X	S-7 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191267	06/13/19	1105		X	S-8A 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)

3

Ammonia-N low level 0.02 mg/L
Total TOC low level 0.5 mg/L
dissolved TOC low level 0.5 mg/L

Relinquished:	Date/Time 06/18/19 1330	Received:
Relinquished:	Date/Time 6/18/19 1610	Received:

TOC dissolved samples are filtered
Contact lab with any exceeded MCL

1906-11253

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
906416	WW-191265 Total	06/13/19	1.05									
906417	WW-191265 Dissolved	06/13/19	1.16									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	06/21/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 06/22/19

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
906418	WW-191266 Total	06/13/19	1.31									
906419	WW-191266 Dissolved	06/13/19	1.25									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	06/21/19	Y

Electronically signed and approved by: Brian D. Bornstein Date: 06/22/19

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
906420	WW-191267 Total	06/13/19	0.904									
906421	WW-191267 Dissolved	06/13/19	0.996									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	06/21/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 06/22/19

906416 - 906422

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth ENV.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

NE Chromachem
Address 6 Nichols Street
Salem, MA 01970
Phone# 978-744-6600
Fax# 206 984 2474

Lab ID #	Date	Time	Com	Grab	Station location	DEP ID	Container	Pres.	Sample type	Analysis requested
WW-191265	06/13/19	1045		X	S-10 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 906416
							2VOA	H2SO4	Saltwater	Dissolved TOC 906417
WW-191266	06/13/19	1055		X	S-7 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 906418
							2VOA	H2SO4	Saltwater	Dissolved TOC 906419
WW-191267	06/13/19	1105		X	S-8A at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 906420
							2VOA	H2SO4	Saltwater	Dissolved TOC 906421
WW-191268	06/13/19	1530		X	Filter Blank		2VOA	H2SO4	Saltwater	Dissolved TOC 906422

Relinquished: C. Destefanis	Date/Time 06/19/1900	Received: UPS	DEP MDL REQUIRED by Method Contact lab with any Exceeded MCL
Relinquished: UPS	Date/Time 6/21/19 11:00	Received: BB	

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1925730
Client:	Envirotech Laboratories, Inc. 8 Jan Sebastian Drive Unit 12 Sandwich, MA 02563
ATTN:	Ron Saari
Phone:	(800) 339-6460
Project Name:	PLYMOUTH ENVIRONMENTAL MGMT
Project Number:	Not Specified
Report Date:	06/25/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1925730-01	WW-191265	WATER	Not Specified	06/13/19 10:45	06/14/19
L1925730-02	WW-191266	WATER	Not Specified	06/13/19 10:55	06/14/19
L1925730-03	WW-191267	WATER	Not Specified	06/13/19 11:05	06/14/19

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1925730
Project Number:	Not Specified	**Report Date:**	06/25/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1925730
Project Number:	Not Specified	**Report Date:**	06/25/19

Case Narrative (continued)

Chlorophyll A

L1925730-01, -02, and -03 were analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker Cristin Walker

Title: Technical Director/Representative Date: 06/25/19

INORGANICS
&
MISCELLANEOUS

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

SAMPLE RESULTS

Lab ID: L1925730-01
Client ID: WW-191265
Sample Location: Not Specified

Date Collected: 06/13/19 10:45
Date Received: 06/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	06/14/19 18:00	06/17/19 10:05	121,10200H	AG

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

SAMPLE RESULTS

Lab ID: L1925730-02
Client ID: WW-191266
Sample Location: Not Specified

Date Collected: 06/13/19 10:55
Date Received: 06/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.17		mg/m3	2.00	NA	1	06/14/19 18:00	06/17/19 10:05	121,10200H	AG

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

SAMPLE RESULTS

Lab ID: L1925730-03
Client ID: WW-191267
Sample Location: Not Specified

Date Collected: 06/13/19 11:05
Date Received: 06/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.33		mg/m3	2.00	NA	1	06/14/19 18:00	06/17/19 10:05	121,10200H	AG

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified
Lab Number: L1925730
Report Date: 06/25/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1248834-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	06/14/19 18:00	06/17/19 10:05	121,10200H	AG

Lab Duplicate Analysis

Batch Quality Control

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1248834-2 QC Sample: L1925730-03 Client ID: WW-191267						
Chlorophyll A	2.33	2.69	mg/m3	14		

Serial_No:06251921:52

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1925730
Report Date: 06/25/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
A	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L1925730-01A	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)
L1925730-01B	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)
L1925730-02A	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)
L1925730-02B	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)
L1925730-03A	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)
L1925730-03B	Brown Plastic 1000ml unpreserved	A	NA		3.3	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name: PLYMOUTH ENVIRONMENTAL MGMT **Lab Number:** L1925730

Project Number: Not Specified **Report Date:** 06/25/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1925730
Project Number:	Not Specified	**Report Date:**	06/25/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1925730
Project Number:	Not Specified	**Report Date:**	06/25/19

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:06251921:52

L1925730

CHAIN OF CUSTODY FORM

Proj. No.	Project Name: Plymouth Environmental Management
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460/1-800-339-6460
FAX (508)888-6446

Alpha Analytical
Address: 8 Walkup Drive
Westborough, MA 02346
Phone#: 508-898-9220
Fax #:

Lab ID #	Date	Time	Comp	Grab	Sample location	container	Pres.	Sample Type	Analysis Requested
WW-191265	06/13/19	1045		X	S-10 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191266	06/13/19	1055		X	S-7 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191267	06/13/19	1105		X	S-8A 2-4 HST	P	ice	surface water	Chlorophyll-a

Relinquished:	Date/Time	Received:	Relinquished:	Date/Time	Received:
	6/14/19 0910	MSA AAL	MSA	6/14/19 1156	C Welbeau
Relinquished:	Date/Time	Received:	Relinquished:	Date/Time	Received:

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Thursday, September 5, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Harbor Sampling*
Project Number: *S-10*
Sampled By: *Kim Tower*
Lab Order Number: *WW-191665*
Date Received: *08/12/19*

Comments:

Sample Type S-10 A	***Sample Time*** 10:20	***Sample Date*** 08/12/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.03	0.02	08/13/19	MC	SM 4500-NO3 E
Total Organic Carbon*	mg/L	3.50*	0.017	08/14/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.041*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.52	0.2	08/15/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.037	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.50	0.20	08/15/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.04*	0.017	08/14/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.08	NA	09/04/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.46	NA	09/04/19	MC	Calculation
Chlorophyll-a	*	7.41*	*	08/14/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.014	0.005	08/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.460	NA	09/04/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.02	NA	09/04/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.54	NA	09/04/19	MC	Calculation
E coli	CFU/100ml	<5	5	08/12/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

SAMPLE RESULTS

Lab ID: L1936239-01
Client ID: WW-191665
Sample Location: Not Specified

Date Collected: 08/12/19 10:20
Date Received: 08/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	7.41		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, September 4, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-7*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191666*	
Date Received:	*08/12/19*	

Sample Type S-7 A	***Sample Time*** 10:25	***Sample Date*** 08/12/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.03	0.02	08/13/19	MC	SM 4500-NO3 E
Total Organic Carbon*	mg/L	3.71*	0.017	08/14/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.60	0.2	08/15/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.030	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.48	0.20	08/15/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.38*	0.017	08/14/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.05	NA	09/04/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.46	NA	09/04/19	MC	Calculation
Chlorophyll-a	*	6.77*	*	08/14/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.014	0.005	08/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.330	NA	09/04/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.12	NA	09/04/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.51	NA	09/04/19	MC	Calculation
E coli	CFU/100ml	20	5	08/12/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

SAMPLE RESULTS

Lab ID: L1936239-02
Client ID: WW-191666
Sample Location: Not Specified

Date Collected: 08/12/19 10:25
Date Received: 08/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	6.77		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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Sandwich, MA 02563
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Wednesday, September 4, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-10 2-4 Hst*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191667*	
Date Received:	*08/12/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-10 2-4 HST A	12:20	08/12/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.02	0.02	08/13/19	MC	SM 4500-NO3 E
Total Organic Carbon*	mg/L	3.55*	0.017	08/14/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.49	0.2	08/15/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.039	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.45	0.20	08/15/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.98*	0.017	08/14/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.04	NA	09/04/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.43	NA	09/04/19	MC	Calculation
Chlorophyll-a	*	11.4*	*	08/14/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	08/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.570	NA	09/04/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.04	NA	09/04/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.47	NA	09/04/19	MC	Calculation
E coli	CFU/100ml	<5	5	08/12/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

SAMPLE RESULTS

Lab ID: L1936239-03
Client ID: WW-191667
Sample Location: Not Specified

Date Collected: 08/12/19 12:20
Date Received: 08/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	11.4		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

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Sandwich, MA 02563
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Wednesday, September 4, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-7 2-4 HST*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191668*	
Date Received:	*08/12/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-7 2-4 HST A	12:25	08/12/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.02	0.02	08/13/19	MC	SM 4500-NO3 E
Total Organic Carbon*	mg/L	4.22*	0.017	08/14/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	1.4	0.2	08/15/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.047	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.52	0.20	08/15/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.64*	0.017	08/14/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.04	NA	09/04/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.50	NA	09/04/19	MC	Calculation
Chlorophyll-a	*	6.07*	*	08/14/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	08/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.580	NA	09/04/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.88	NA	09/04/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.54	NA	09/04/19	MC	Calculation
E coli	CFU/100ml	5	5	08/12/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

SAMPLE RESULTS

Lab ID: L1936239-04
Client ID: WW-191668
Sample Location: Not Specified

Date Collected: 08/12/19 12:25
Date Received: 08/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	6.07		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
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FAX (508)888-6446

Wednesday, September 4, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*S-8A 2-4 HST*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191669*	
Date Received:	*08/12/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-8A 2-4 hst A	12:30	08/12/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.02	0.02	08/13/19	MC	SM 4500-NO3 E
Total Organic Carbon*	mg/L	3.74*	0.017	08/14/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.53	0.2	08/15/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.032	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.50	0.20	08/15/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.16*	0.017	08/14/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.04	NA	09/04/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.48	NA	09/04/19	MC	Calculation
Chlorophyll-a	*	6.61*	*	08/14/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	08/13/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.580	NA	09/04/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	09/04/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.52	NA	09/04/19	MC	Calculation
E coli	CFU/100ml	<5	5	08/12/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

SAMPLE RESULTS

Lab ID: L1936239-05
Client ID: WW-191669
Sample Location: Not Specified

Date Collected: 08/12/19 12:30
Date Received: 08/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	6.61		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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Sandwich, MA 02563
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FAX (508)888-6446

Wednesday, September 4, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:	*Trip Blank*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191670*	
Date Received:	*08/12/19*	

Sample Type Trip Blank A	***Sample Time***	***Sample Date*** 08/13/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Dissolved Total Organic Carbon	mg/L	0.325	0.017	08/14/19	MC	EPA 415.1

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Chain of Custody

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/12/19	1020	S-10	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
8/12/19	1025	S-7	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

KW-1911665

KW-1911666

<5

20

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time:

08/12/19 1350

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Chain of Custody

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/12/19	1220	S-10 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
8/12/19	1225	S-7 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

lww-191667

lww-191668

<5

5

NOTE: **Analysis needed for reporting in lowest detection possible;** O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time
Kim Tower

Received By: Date/Time:
08/12/19 1350

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Chain of Custody

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/12/19	1230	S-8A 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
8/12/19			1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
8/12/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
8/12/19			1	250 mL Plastic	NO2, NO3	
8/12/19			1	Glass	Ortho	NONE
8/12/19			1	100mL Plastic	Bacteria e-coli	NONE
8/12/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

lw-191669

lw191670 Trip Blank

<5

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time: 08/12/19 1350

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

				-Blank	Analytical Results								
Lab ID	Client ID	Date Sampled	TOC mg/L										
908287	WW-191665 Total	08/12/19	3.50										
908288	WW-191665 Dissolved	08/12/19	3.36	3.04									
908289	WW-191666 Total	08/12/19	3.71										
908290	WW-191666 Dissolved	08/12/19	3.35	3.38									
908291	WW-191667 Total	08/12/19	3.55										
908292	WW-191667 Dissolved	08/12/19	3.30	2.98									
908293	WW-191668 Total	08/12/19	4.22										
908294	WW-191668 Dissolved	08/12/19	3.97	3.64									
908295	WW-191669 Total	08/12/19	3.74										
908296	WW-191669 Dissolved	08/12/19	3.48	3.16									
908297	WW-191670 Filter Blank	08/12/19	0.325										

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	08/14/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 08/16/19

908287-908297

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth ENV.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

NE Chromachem
Address 6 Nichols Street
Salem, MA 01970
Phone# 978-744-6600
Fax# 206 984 2474

Lab ID #	Date	Time	Com	Grab	Station location	DEP ID	Container	Pres.	Sample type	Analysis requested
WW-191665	08/12/19	1020		X	S-10		2VOA	H2SO4	Saltwater	Total TOC 908287
							2VOA	H2SO4	Saltwater	Dissolved TOC 908288
WW-191666	08/12/19	1025		X	S-7		2VOA	H2SO4	Saltwater	Total TOC 908289
							2VOA	H2SO4	Saltwater	Dissolved TOC 908290
WW-191667	08/12/19	1220		X	S-10 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 908291
							2VOA	H2SO4	Saltwater	Dissolved TOC 908292
WW-191668	08/12/19	1225		X	S-7 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 908293
							2VOA	H2SO4	Saltwater	Dissolved TOC 908294
WW-191669	08/12/19	1230		X	S-8A at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 908295
							2VOA	H2SO4	Saltwater	Dissolved TOC 908296
WW-191670	08/12/19			X	Filter Blank		2VOA	H2SO4	Saltwater	Dissolved TOC 908297

Relinquished: C. Destefanis	Date/Time 1700 08/13/19	Received: UPS
Relinquished: UPS	Date/Time 8/14/19 11:00	Received: BL

DEP MDL REQUIRED by Method
Contact lab with any Exceeded MCL

R.I. ANALYTICAL
Specialists in Environmental Services

LABORATORY REPORT

Envirotech Laboratories, Inc.
Attn: Mr. Ron Saari
8 Jan Sebastian Drive
Sandwich, MA 02563

Date Received: 8/15/2019
Date Reported: 8/22/2019
P.O. Number WW-191665-9

Work Order #: 1908-15445
Project Name: PLYMOUTH ENV.

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Dawne E. Smart
Data Reporting Manager

Laboratory Certification Numbers (as applicable to sample's origin state):
Warwick RI * RI LAI00033, MA M-RI015, CT PH-0508 Hudson MA * M-MA1117, RI LAO00319

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1908-15445
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191665 S-10
Sample Type : GRAB
Sample Date / Time : 8/12/2019 @ 10:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.041	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 002
Sample Description: WW-191666 S-7
Sample Type : GRAB
Sample Date / Time : 8/12/2019 @ 10:25

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 003
Sample Description: WW-191667 S-10 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 8/12/2019 @ 12:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 004
Sample Description: WW-191668 S-7 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 8/12/2019 @ 12:25

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1908-15445
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191669 S-8A AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 8/12/2019 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

CHAIN OF CUSTODY FORM

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

RI Analytical
M RI 015
Address 41 Illinois Avenue
Warwick, RI 02888
Phone# 401-737-8500
Fax# 401-738-1970

PWS:

Project Name: Plymouth Env.

Sampler: KT

Page 4 of 4

Lab ID #	Date	Time	Comp	Grab	Station location	Container	Pres.	Sample type	Analysis requested
WW-191665	08/12/19	1020		X	S-10	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191666	08/12/19	1025		X	S-7	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191667	08/12/19	1220		X	S-10 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191668	08/12/19	1225		X	S-7 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191669	08/12/19	1230		X	S-8A at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)

5

1908-15495

Ammonia-N low level 0.02 mg/L

Relinquished:	Date/Time	Received:
C. DeStefano	08/15/19 1355	
	8/15/19 1635	

TOC dissolved samples are filtered
Contact lab with any exceeded MCL

ANALYTICAL REPORT

Lab Number:	L1936239
Client:	Envirotech Laboratories, Inc. 8 Jan Sebastian Drive Unit 12 Sandwich, MA 02563
ATTN:	Ron Saari
Phone:	(800) 339-6460
Project Name:	PLYMOUTH ENVIRONMENTAL MGMT
Project Number:	Not Specified
Report Date:	08/23/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1936239-01	WW-191665	WATER	Not Specified	08/12/19 10:20	08/13/19
L1936239-02	WW-191666	WATER	Not Specified	08/12/19 10:25	08/13/19
L1936239-03	WW-191667	WATER	Not Specified	08/12/19 12:20	08/13/19
L1936239-04	WW-191668	WATER	Not Specified	08/12/19 12:25	08/13/19
L1936239-05	WW-191669	WATER	Not Specified	08/12/19 12:30	08/13/19

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1936239
Project Number:	Not Specified	**Report Date:**	08/23/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1936239
Project Number:	Not Specified	**Report Date:**	08/23/19

Case Narrative (continued)

Chlorophyll A

L1936239-01 through -05 were filtered with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative

Date: 08/23/19

INORGANICS
&
MISCELLANEOUS

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified
Lab Number: L1936239
Report Date: 08/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1271960-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/13/19 18:00	08/14/19 11:35	121,10200H	AG

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1936239
Report Date: 08/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1271960-2 QC Sample: L1936239-01 Client ID: WW-191665						
Chlorophyll A	7.41	10.6	mg/m3	35		

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936239
Report Date: 08/23/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1936239-01A	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-01B	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-02A	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-02B	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-03A	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-03B	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-04A	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-04B	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-05A	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)
L1936239-05B	Brown Plastic 1000ml unpreserved	A	NA		3.5	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name: PLYMOUTH ENVIRONMENTAL MGMT **Lab Number:** L1936239

Project Number: Not Specified **Report Date:** 08/23/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when using acetone as a solvent.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial No:08231917:13

4936239

CHAIN OF CUSTODY FORM

Proj. No.	Project Name: Plymouth Environmental Management
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460/1-800-339-6460
FAX (508)888-6446

Alpha Analytical
Address: 8 Walkup Drive
Westborough, MA 02346
Phone#: 508-898-9220
Fax #:

Lab ID #	Date	Time	Comp	Grab	Sample location	container	Pres.	Sample Type	Analysis Requested
WW-191665	08/12/19	1020		X	S-10	P	ice	surface water	Chlorophyll-a
WW-191666	08/12/19	1025		X	S-7	P	ice	surface water	Chlorophyll-a
WW-191667	08/12/19	1220		X	S-10 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191668	08/12/19	1225		X	S-7 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191669	08/12/19	1230		X	S-8A at 2-4 HST	P	ice	surface water	Chlorophyll-a

Relinquished:	Date/Time	Received:	Reliquished:	Date/Time	Received:
	8/13/19 1910	MSM AAL	MSM	8/14/19 1205	AAL
Relinquished:	Date/Time	Received:	Relinquished:	Date/Time	Received:

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, October 15, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191904*	
Date Received:	*09/11/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-10 A	10:35	09/11/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.02	0.02	09/11/19	MC	SM 4500-NO3 E
Total Nitrogen	mg/L	0.52	NA	09/17/19	MC	Calculation
Total Organic Carbon*	mg/L	0.316	0.017	09/19/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.074	0.02	09/23/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.50	0.2	09/17/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.040	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.43	0.20	09/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/19/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	09/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.36	NA	09/19/19	MC	Calculation
Chlorophyll-a	*	8.65	*	09/16/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	09/12/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	09/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.07	NA	10/15/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.45	NA	09/19/19	MC	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1941715-01
Client ID: WW-191904
Sample Location: Not Specified

Date Collected: 09/11/19 10:35
Date Received: 09/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	8.65		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

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Tuesday, October 15, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191905*	
Date Received:	*09/11/19*	

Sample Type S-7 A	***Sample Time*** 10:45	***Sample Date*** 09/11/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Kjeldhal Nitrogen	mg/L	0.40	0.60	09/17/19	KB	SM4500-Norg B-C
Nitrate-N/Nitrite-N	mg/L	0.04	0.02	09/11/19	MC	SM 4500-NO3 E
Total Nitrogen	mg/L	0.44	NA	09/19/19	MC	Calculation
Total Organic Carbon*	mg/L	0.361	0.017	09/19/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.056	0.02	09/23/19	RIA*	SM4500 NH3 C
Total Phosphorous (P)	mg/L	0.042	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.40	0.20	09/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/19/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.10	NA	09/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.34	NA	09/19/19	MC	Calculation
Chlorophyll-a	*	13.4	*	09/16/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/12/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	09/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	10/15/19	RIA*	Calculation
Total Dissolved Nitrogen	mg/L	0.44	NA	09/19/19	MC	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1941715-02
Client ID: WW-191905
Sample Location: Not Specified

Date Collected: 09/11/19 10:45
Date Received: 09/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	13.4		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

LWM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191904 9/11/19	1035	S-10	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19	"	"	1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19	"	"	1	250 mL Plastic	NO2, NO3	None
9/11/19	"	"	1	Glass	Ortho	NONE
9/11/19	"	"	2	1 Liter Amber Plastic	Chlorophyll-a	NONE
WW-191905 9/11/19	1045	S-7	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19	"	"	1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19	"	"	1	250 mL Plastic	NO2, NO3	None
9/11/19	"	"	1	Glass	Ortho	NONE
9/11/19	"	"	2	1 Liter Amber Plastic	Chlorophyll-a	NONE

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

KimTa

Received By: Date/Time:

Wavally 9/11/19 1415

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
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FAX (508)888-6446

Tuesday, October 15, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Harbor Sampling* ***Comments:***
Project Number:
Sampled By: *Kim Tower*
Lab Order Number: *WW-191906*
Date Received: *09/11/19*

Sample Type S-10 2-4 HST A	***Sample Time*** 12:40	***Sample Date*** 09/11/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Kjeldhal Nitrogen	mg/L	0.57	0.60	09/17/19	KB	SM4500-Norg B-C
Nitrate-N/Nitrite-N	mg/L	0.03	0.02	09/11/19	MC	SM 4500-NO3 E
Total Nitrogen	mg/L	0.60	NA	09/19/19	MC	Calculation
Total Organic Carbon*	mg/L	0.330	0.017	09/19/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.045	0.02	09/23/19	RIA*	SM4500 NH3 C
Total Phosphorous (P)	mg/L	0.023	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.39	0.20	09/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/19/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.08	NA	09/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.35	NA	09/19/19	MC	Calculation
Chlorophyll-a	*	8.39	*	09/16/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	09/12/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	09/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.18	NA	10/15/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.42	NA	09/19/19	MC	Calculation

BRL=below reportable limits
****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1941715-03
Client ID: WW-191906
Sample Location: Not Specified

Date Collected: 09/11/19 12:40
Date Received: 09/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	8.39		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

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FAX (508)888-6446

Tuesday, October 15, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Harbor Sampling* ***Comments:***
Project Number:
Sampled By: *Kim Tower*
Lab Order Number: *WW-191907*
Date Received: *09/11/19*

Sample Type S-7 2-4HST A	***Sample Time*** 12:45	***Sample Date*** 09/11/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Kjeldhal Nitrogen	mg/L	0.55	0.60	09/17/19	KB	SM4500-Norg B-C
Nitrate-N/Nitrite-N	mg/L	0.04	0.02	10/11/19	MC	SM 4500-NO3 E
Total Nitrogen	mg/L	0.59	NA	09/19/19	MC	Calculation
Total Organic Carbon*	mg/L	0.371	0.017	09/19/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.045	0.02	09/23/19	RIA*	SM4500 NH3 C
Total Phosphorous (P)	mg/L	0.038	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.40	0.20	09/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/19/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	09/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.36	NA	09/19/19	MC	Calculation
Chlorophyll-a	*	3.68	*	09/16/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.008	0.005	09/12/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	09/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.15	NA	10/15/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.44	NA	09/19/19	MC	Calculation

BRL=below reportable limits
****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified
Lab Number: L1941715
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1941715-04
Client ID: WW-191907
Sample Location: Not Specified
Sample Depth:
Matrix: Water

Date Collected: 09/11/19 12:45
Date Received: 09/12/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.68		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

LSM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191906 9/11/19	1240	S-10 2-4H ST	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19			1	250 mL Plastic	NO2, NO3	None
9/11/19			1	Glass	Ortho	NONE
9/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
WW-191907 9/11/19	1245	S-7 2-4H ST	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19			1	250 mL Plastic	NO2, NO3	None
9/11/19			1	Glass	Ortho	NONE
9/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

NOTE: **Analysis needed for reporting in lowest detection possible;** O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time:
Wally 9/11/19 1415

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, October 15, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191908*	
Date Received:	*09/11/19*	

Sample Type S-8A 2-4HST A	***Sample Time*** 12:50	***Sample Date*** 09/11/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Kjeldhal Nitrogen	mg/L	0.49	0.60	09/17/19	KB	SM4500-Norg B-C
Nitrate-N/Nitrite-N	mg/L	0.03	0.02	09/11/19	MC	SM 4500-NO3 E
Total Nitrogen	mg/L	0.52	NA	09/19/19	MC	Calculation
Total Organic Carbon*	mg/L	0.359	0.017	09/19/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.059	0.02	09/23/19	RIA*	SM4500 NH3 C
Total Phosphorous (P)	mg/L	0.044	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.46	0.20	09/17/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/19/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	09/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.40	NA	09/19/19	MC	Calculation
Chlorophyll-a	*	2.80	*	09/16/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/12/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	09/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	10/15/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.49	NA	09/19/19	MC	Calculation

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1941715-05
Client ID: WW-191908
Sample Location: Not Specified

Date Collected: 09/11/19 12:50
Date Received: 09/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.80		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

KM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
9/11/19	1250	S-8A 2-4H2O	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19			1	250 mL Plastic	NO2, NO3	None
9/11/19			1	Glass	Ortho	NONE
9/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
9/11/19		Filter Blank	1	1 Liter Plastic	Dissolved TKN, TOC diss low,	NONE
9/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
9/11/19			1	250 mL Plastic	NO2, NO3	None
9/11/19			1	Glass	Ortho	NONE
9/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

WW-191908

WW-191908

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time: 9/11/19 1415

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1941715
Client:	Envirotech Laboratories, Inc. 8 Jan Sebastian Drive Unit 12 Sandwich, MA 02563
ATTN:	Ron Saari
Phone:	(800) 339-6460
Project Name:	PLYMOUTH ENVIRONMENTAL MANAGE
Project Number:	Not Specified
Report Date:	09/19/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1941715-01	WW-191904	WATER	Not Specified	09/11/19 10:35	09/12/19
L1941715-02	WW-191905	WATER	Not Specified	09/11/19 10:45	09/12/19
L1941715-03	WW-191906	WATER	Not Specified	09/11/19 12:40	09/12/19
L1941715-04	WW-191907	WATER	Not Specified	09/11/19 12:45	09/12/19
L1941715-05	WW-191908	WATER	Not Specified	09/11/19 12:50	09/12/19

Project Name:	PLYMOUTH ENVIRONMENTAL MANAGE	**Lab Number:**	L1941715
Project Number:	Not Specified	**Report Date:**	09/19/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PLYMOUTH ENVIRONMENTAL MANAGE	**Lab Number:**	L1941715
Project Number:	Not Specified	**Report Date:**	09/19/19

Case Narrative (continued)

Chlorophyll A

L1941715-01 through -05 were analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/19/19

INORGANICS
&
MISCELLANEOUS

Project Name: PLYMOUTH ENVIRONMENTAL MANA
Project Number: Not Specified
Lab Number: L1941715
Report Date: 09/19/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1283867-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/13/19 10:55	09/16/19 12:00	121,10200H	AG

Lab Duplicate Analysis

Batch Quality Control

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1283867-2 QC Sample: L1941715-01 Client ID: WW-191904						
Chlorophyll A	8.65	8.46	mg/m3	2		

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE
Project Number: Not Specified

Lab Number: L1941715
Report Date: 09/19/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1941715-01A	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-01B	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-02A	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-02B	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-03A	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-03B	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-04A	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-04B	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-05A	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)
L1941715-05B	Brown Plastic 1000ml unpreserved	A	NA		2.2	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE **Lab Number:** L1941715
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE **Lab Number:** L1941715

Project Number: Not Specified **Report Date:** 09/19/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name: PLYMOUTH ENVIRONMENTAL MANAGE **Lab Number:** L1941715
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REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L1941715

CHAIN OF CUSTODY FORM

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460/1-800-339-6460
FAX (508)888-6446

Alpha Analytical
Address: 8 Walkup Drive
Westborough, MA 02346
Phone#: 508-898-9220
Fax #:

Proj. No.	Project Name: Plymouth Environmental Management
Sampler:	KT

Lab ID #	Date	Time	Comp	Grab	Sample location	container	Pres.	Sample Type	Analysis Requested
WW-191904	09/11/19	1035			S-10	P	ice	surface water	Chlorophyll-a
WW-191905	09/11/19	1045			S-7	P	ice	surface water	Chlorophyll-a
WW-191906	09/11/19	1240			S-7 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191907	09/11/19	1245			S-8A at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191908	09/11/19	1250			S-10 at 2-4 HST	P	ice	surface water	Chlorophyll-a

Relinquished:	Date/Time	Received:	Reliquished:	Date/Time	Received:
	9/12/19 1315				
Relinquished:	Date/Time	Received:	Relinquished:	Date/Time	Received:

909266 - 909276

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth ENV.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

NE Chromachem
Address 6 Nichols Street
Salem, MA 01970
Phone# 978-744-6600
Fax# 206 984 2474

Lab ID #	Date	Time	Com	Grab	Station location	DEP ID	Container	Pres.	Sample type	Analysis requested
WW-191904	09/11/19	1035		X	S-10		2VOA	H2SO4	Saltwater	Total TOC 909266
							2VOA	H2SO4	Saltwater	Dissolved TOC 909267
WW-191905	09/11/19	1045		X	S-7		2VOA	H2SO4	Saltwater	Total TOC 909268
							2VOA	H2SO4	Saltwater	Dissolved TOC 909269
WW-191906	09/11/19	1204		X	S-10 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 909270
							2VOA	H2SO4	Saltwater	Dissolved TOC 909271
WW-191907	09/11/19	1245		X	S-7 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 909272
							2VOA	H2SO4	Saltwater	Dissolved TOC 909273
WW-191908	09/11/19	1250		X	S-8A at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 909274
							2VOA	H2SO4	Saltwater	Dissolved TOC 909275
WW-191918	09/11/19	1600		X	Filter Blank		2VOA	H2SO4	Saltwater	Dissolved TOC 909276

Relinquished:	Date/Time 9/17/19 1700	Received: to UPS	DEP MDL REQUIRED by Method Contact lab with any Exceeded MCL
Relinquished: UPS	Date/Time 9/18/19 12N	Received: BB	

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
909266	WW-191904	09/11/19	0.316									
909267	WW-191904 Dissolved	09/11/19	0.330									
909268	WW-191905	09/11/19	0.361									
909269	WW-191905 Dissolved	09/11/19	0.340									
909270	WW-191906	09/11/19	0.330									
909271	WW-191906 Dissolved	09/11/19	0.344									
909272	WW-191907	09/11/19	0.371									
909273	WW-191907 Dissolved	09/11/19	0.316									
909274	WW-191908	09/11/19	0.359									
909275	WW-191908 Dissolved	09/11/19	0.321									
909276	WW-191918 Filter Blank	09/11/19	0.673									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	09/19/19	Y

Electronically signed and approved by: Bruce A. Bonsteel Date: 09/19/19

R.I. ANALYTICAL
Specialists in Environmental Services

LABORATORY REPORT

Envirotech Laboratories, Inc.
Attn: Mr. Ron Saari
8 Jan Sebastian Drive
Sandwich, MA 02563

Date Received: 9/17/2019
Date Reported: 9/24/2019
P.O. Number WW-191904-191908

Work Order #: 1909-17471
Project Name: PLYMOUTH ENV.

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Dawne E. Smart
Data Reporting Manager

Laboratory Certification Numbers (as applicable to sample's origin state):
Warwick RI * RI LAI00033, MA M-RI015, CT PH-0508 Hudson MA * M-MA1117, RI LAO00319

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-17471
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191904 S-10
Sample Type : GRAB
Sample Date / Time : 9/11/2019 @ 10:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.074	0.020	mg/l	SM4500NH3-B,H 18-21ed	9/23/2019 10:04	SAS

Sample Number: 002
Sample Description: WW-191905 S-7
Sample Type : GRAB
Sample Date / Time : 9/11/2019 @ 10:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.056	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/23/2019 10:04	SAS

Sample Number: 003
Sample Description: WW-191906 S-10 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 9/11/2019 @ 12:04

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.045	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/23/2019 10:04	SAS

Sample Number: 004
Sample Description: WW-191907 S-7 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 9/11/2019 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.045	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/23/2019 10:04	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-17471
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191908 S-8A AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 9/11/2019 @ 12:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.059	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/23/2019 10:04	SAS

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth Env.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

RI Analytical
M RI 015
Address 41 Illinois Avenue
Warwick, RI 02888
Phone# 401-737-8500
Fax# 401-738-1970

Lab ID #	Date	Time	Comp	Grab	Station location	Container	Pres.	Sample type	Analysis requested
WW-191904	09/11/19	1035		X	S-10	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191905	09/11/19	1045		X	S-7	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191906	09/11/19	1204		X	S-10 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191907	09/11/19	1245		X	S-7 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191908	09/11/19	1250		X	S-8A at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)

5

Ammonia-N low level 0.02 mg/L

Relinquished: LLawaki	Date/Time 9/17/19 1035	Received: MLK	TOC dissolved samples are filtered Contact lab with any exceeded MCL
Relinquished: MLK	Date/Time 9/17/19 1522	Received:	MLK 4.8°C

1909-17471

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, August 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191474*	
Date Received:	*07/11/19*	

Sample Type S-10 A	***Sample Time*** 07:30	***Sample Date*** 07/11/19	***Comments*** S-10			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.04	0.02	07/12/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	33,400	6.0	07/16/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	4.17	0.017	07/16/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.041*	0.02	07/18/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.49	0.2	07/19/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.096	0.005	07/13/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.46	0.20	07/19/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.76*	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.08	NA	07/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.42	NA	07/19/19	MC	Calculation
Chlorophyll-a	*	2.53*	*	07/15/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	07/11/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.41	NA	08/21/19	NEC*	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	07/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.50	NA	07/19/19	MC	Calculation
E coli	CFU/100mL	5	<1	07/11/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

SAMPLE RESULTS

Lab ID: L1930604-01
Client ID: WW-191474
Sample Location: Not Specified

Date Collected: 07/11/19 07:30
Date Received: 07/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.53		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, August 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191475*	
Date Received:	*07/11/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-7 A	07:40	07/11/19	S-7			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.07	0.02	07/12/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	32,100	6.0	07/16/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.08*	0.017	07/16/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.054*	0.02	07/18/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.36	0.2	07/19/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.012	0.005	07/13/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.33	0.20	07/19/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.08	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.12	NA	07/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.28	NA	07/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	07/15/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.012	0.005	07/11/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	08/21/19	NEC*	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	07/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.40	NA	07/19/19	MC	Calculation
E coli	CFU/100mL	<5	<1	07/11/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

SAMPLE RESULTS

Lab ID: L1930604-02
Client ID: WW-191475
Sample Location: Not Specified

Date Collected: 07/11/19 07:40
Date Received: 07/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, August 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Harbor Sampling* ***Comments:***
Project Number:
Sampled By: *Kim Tower*
Lab Order Number: *WW-191476*
Date Received: *07/11/19*

Sample Type S-10 2-4 HST A	***Sample Time*** 09:50	***Sample Date*** 07/11/19	***Comments*** S-10 2-4 HST			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.06	0.02	07/12/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	32,900	6.0	07/16/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.21*	0.017	07/16/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.026*	0.02	07/18/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.47	0.2	07/19/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.010	0.005	07/13/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.45	0.20	07/19/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.65*	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	07/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.42	NA	07/19/19	MC	Calculation
Chlorophyll-a	*	2.96*	*	07/15/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	07/11/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	08/21/19	NEC*	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.02	NA	07/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.51	NA	07/19/19	MC	Calculation
E coli	CFU/100mL	<5	<1	07/11/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

SAMPLE RESULTS

Lab ID: L1930604-03
Client ID: WW-191476
Sample Location: Not Specified

Date Collected: 07/11/19 09:50
Date Received: 07/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.96		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, August 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191477*	
Date Received:	*07/11/19*	

Sample Type S-7 2-4 HST A	***Sample Time*** 10:20	***Sample Date*** 07/11/19	***Comments*** S-7 2-4 HST			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.04	0.02	07/12/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	32,900	6.0	07/16/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.70*	0.017	07/16/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.039*	0.02	07/18/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.44	0.2	07/19/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.052	0.005	07/13/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.41	0.20	07/19/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	4.78	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.08	NA	07/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.37	NA	07/19/19	MC	Calculation
Chlorophyll-a	*	2.73*	*	07/15/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	07/11/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	08/21/19	NEC*	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	07/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.45	NA	07/19/19	MC	Calculation
E coli	CFU/100mL	<5	<1	07/11/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

SAMPLE RESULTS

Lab ID: L1930604-04
Client ID: WW-191477
Sample Location: Not Specified

Date Collected: 07/11/19 10:20
Date Received: 07/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.73		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, August 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Harbor Sampling*	***Comments:***
Project Number:		
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191478*	
Date Received:	*07/11/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-8A 2-4 HST A	10:30	07/11/19	S-8A 2-4 HST			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N/Nitrite-N	mg/L	0.09	0.02	07/12/19	MC	SM 4500-NO3 E
Total Dissolved Solids	mg/L	32,600	6.0	07/16/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.82*	0.017	07/16/19	NEC*	SM 5310 C
Ammonia-N *	mg/L	0.044*	0.02	07/18/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.38	0.2	07/19/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.020	0.005	07/13/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.35	0.20	07/19/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.84*	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.13	NA	07/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.31	NA	07/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	07/15/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	07/11/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	08/21/19	NEC*	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	08/21/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.44	NA	07/19/19	MC	Calculation
E coli	CFU/100mL	<5	<1	07/11/19	MC	EPA 1603

BRL=below reportable limits

**see attached*

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

SAMPLE RESULTS

Lab ID: L1930604-05
Client ID: WW-191478
Sample Location: Not Specified

Date Collected: 07/11/19 10:30
Date Received: 07/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
907283	WW-191474 Total	7/11/2019	4.17									
907284	WW-191474 Dissolved	7/11/2019	3.88									
907285	WW-191475 Total	07/11/19	3.08									
907286	WW-191475 Dissolved	07/11/19	3.20									
907287	WW-191476 Total	07/11/19	3.21									
907288	WW-191476 Dissolved	07/11/19	3.77									
907289	WW-191477 Total	07/11/19	2.70									
907290	WW-191477 Dissolved	07/11/19	4.90									
907291	WW-191478 Total	07/11/19	3.82									
907292	WW-191478 Dissolved	07/11/19	3.96									
907293	WW-191479 Dissolved	07/11/19	0.116									

Analytical Methodology						
Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	07/16/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 07/18/19

907283-907293

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth ENV.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

NE Chromachem
Address 6 Nichols Street
Salem, MA 01970
Phone# 978-744-6600
Fax# 206 984 2474

Lab ID #	Date	Time	Com	Grab	Station location	DEP ID	Container	Pres.	Sample type	Analysis requested
WW-191474	07/11/19	0730		X	S-10		2VOA	H2SO4	Saltwater	Total TOC 907283
							2VOA	H2SO4	Saltwater	Dissolved TOC 907284
WW-191475	07/11/19	0740		X	S-7		2VOA	H2SO4	Saltwater	Total TOC 907285
							2VOA	H2SO4	Saltwater	Dissolved TOC 907286
WW-191476	07/11/19	0950		X	S-10 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 907287
							2VOA	H2SO4	Saltwater	Dissolved TOC 907288
WW-191477	07/11/19	1020		X	S-7 at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 907289
							2VOA	H2SO4	Saltwater	Dissolved TOC 907290
WW-191478	07/11/19	1030		X	S-8A at 2-4 HST		2VOA	H2SO4	Saltwater	Total TOC 907291
							2VOA	H2SO4	Saltwater	Dissolved TOC 907292
WW-191479	07/11/19	1500		X	Filter Blank		2VOA	H2SO4	Saltwater	Dissolved TOC 907293

Relinquished: C. Destefano	Date/Time 1700 07/15/19	Received: UPS
Relinquished: UPS	Date/Time 7/16/19 9:30	Received: BP

DEP MDL REQUIRED by Method
Contact lab with any Exceeded MCL

R.I. ANALYTICAL
Specialists in Environmental Services

LABORATORY REPORT

Envirotech Laboratories, Inc.
Attn: Mr. Ron Saari
8 Jan Sebastian Drive
Sandwich, MA 02563

Date Received: 7/15/2019
Date Reported: 7/22/2019
P.O. Number WW-191474-8

Work Order #: 1907-13112
Project Name: PLYMOUTH ENV.

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

Paul Perrotti
President

Laboratory Certification Numbers (as applicable to sample's origin state):
Warwick RI * RI LAI00033, MA M-RI015, CT PH-0508 Hudson MA * M-MA1117, RI LAO00319

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1907-13112
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191474 S-10
Sample Type : GRAB
Sample Date / Time : 7/11/2019 @ 07:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.041	0.020	mg/l	SM4500NH3-B,H 18-21ed	7/18/2019 13:00	SAS

Sample Number: 002
Sample Description: WW-191475 S-7
Sample Type : GRAB
Sample Date / Time : 7/11/2019 @ 07:40

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.054	0.020	mg/l	SM4500NH3-B,H 18-21ed	7/18/2019 13:00	SAS

Sample Number: 003
Sample Description: WW-191476 S-10 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 7/11/2019 @ 09:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.026	0.020	mg/l	SM4500NH3-B,H 18-21ed	7/18/2019 13:00	SAS

Sample Number: 004
Sample Description: WW-191477 S-7 AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 7/11/2019 @ 10:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.039	0.020	mg/l	SM4500NH3-B,H 18-21ed	7/18/2019 13:00	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1907-13112
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191478 S-8A AT 2-4 HST
Sample Type : GRAB
Sample Date / Time : 7/11/2019 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.044	0.020	mg/l	SM4500NH3-B,H 18-21ed	7/18/2019 13:00	SAS

CHAIN OF CUSTODY FORM

PWS:	Project Name: Plymouth Env.
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460
1-800-339-6460
FAX (508)888-6446

RI Analytical
M RI 015
Address 41 Illinois Avenue
Warwick, RI 02888
Phone# 401-737-8500
Fax# 401-738-1970

Lab ID #	Date	Time	Comp	Grab	Station location	Container	Pres.	Sample type	Analysis requested
WW-191474	07/11/19	0730		X	S-10	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191475	07/11/19	0740		X	S-7	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191476	07/11/19	0950		X	S-10 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191477	07/11/19	1020		X	S-7 at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)
WW-191478	07/11/19	1030		X	S-8A at 2-4 HST	P	H_2SO_4	Harbor	Ammonia-N (0.02 mdl)

5

MeL 4.5°C

Ammonia-N low level 0.02 mg/L

Relinquished:	Date/Time 07/15/19 1333	Received:	TOC dissolved samples are filtered
Relinquished: MeL	Date/Time 7/15/19 1534	Received:	Contact lab with any exceeded MCL

1907-1312

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1930604
Client:	Envirotech Laboratories, Inc. 8 Jan Sebastian Drive Unit 12 Sandwich, MA 02563
ATTN:	Ron Saari
Phone:	(800) 339-6460
Project Name:	PLYMOUTH ENVIRONMENTAL MGMT
Project Number:	Not Specified
Report Date:	07/23/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1930604
Report Date: 07/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1930604-01	WW-191474	WATER	Not Specified	07/11/19 07:30	07/12/19
L1930604-02	WW-191475	WATER	Not Specified	07/11/19 07:40	07/12/19
L1930604-03	WW-191476	WATER	Not Specified	07/11/19 09:50	07/12/19
L1930604-04	WW-191477	WATER	Not Specified	07/11/19 10:20	07/12/19
L1930604-05	WW-191478	WATER	Not Specified	07/11/19 10:30	07/12/19

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1930604
Project Number:	Not Specified	**Report Date:**	07/23/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PLYMOUTH ENVIRONMENTAL MGMT	**Lab Number:**	L1930604
Project Number:	Not Specified	**Report Date:**	07/23/19

Case Narrative (continued)

Chlorophyll A

L1930604-01 through -05 were filtered with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Amita Naik

Title: Technical Director/Representative Date: 07/23/19

INORGANICS
&
MISCELLANEOUS

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified
Lab Number: L1930604
Report Date: 07/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1259401-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	07/12/19 21:40	07/15/19 12:25	121,10200H	AG

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1930604
Report Date: 07/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1259401-2 QC Sample: L1930604-05 Client ID: WW-191478						
Chlorophyll A	ND	ND	mg/m3	NC		

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1930604-01A	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-01B	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-02A	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-02B	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-03A	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-03B	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-04A	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-04B	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-05A	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)
L1930604-05B	Brown Plastic 1000ml unpreserved	A	NA		5.6	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name: PLYMOUTH ENVIRONMENTAL MGMT **Lab Number:** L1930604

Project Number: Not Specified **Report Date:** 07/23/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name: PLYMOUTH ENVIRONMENTAL MGMT **Lab Number:** L1930604

Project Number: Not Specified **Report Date:** 07/23/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name: PLYMOUTH ENVIRONMENTAL MGMT **Lab Number:** L1930604
Project Number: Not Specified **Report Date:** 07/23/19

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.**

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:07231920:00 L1930604

CHAIN OF CUSTODY FORM

Proj. No.	Project Name: Plymouth Environmental Management
Sampler:	KT

ENVIROTECH LABS, INC.
8 Jan Sebastian Dr., Unit 12
Sandwich, MA 02563
(508)888-6460/1-800-339-6460
FAX (508)888-6446

Alpha Analytical
Address: 8 Walkup Drive
Westborough, MA 02346
Phone#: 508-898-9220
Fax #:

Lab ID #	Date	Time	Comp	Grab	Sample location	container	Pres.	Sample Type	Analysis Requested
WW-191474	07/11/19	0730		X	S-10	P	ice	surface water	Chlorophyll-a
WW-191475	07/11/19	0740		X	S-7	P	ice	surface water	Chlorophyll-a
WW-191476	07/11/19	0950		X	S-10 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191477	07/11/19	1020			S-7 at 2-4 HST	P	ice	surface water	Chlorophyll-a
WW-191478	07/11/19	1030			S-8A at 2-4 HST	P	ice	surface water	Chlorophyll-a

Relinquished:	Date/Time	Received:	Reliquished:	Date/Time	Received:
	7/12/19 0910			7/11/19 1315	
Relinquished:	Date/Time	Received:	Relinquished:	Date/Time	Received:

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
7/11/19	0730	S-10	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	Bacteria e-coli	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
7/11/19	0740	S-7	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	Bacteria e-coli	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

NW-191474

WW191475

1535 (4) ~~1735~~ MC

~~AE~~ 5

E5

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

KimTa

Received By: Date/Time:

04/11/19 1455

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
7/11/19	0950	S-10 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	Bacteria e-coli	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
7/11/19	1020	S-7 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	Bacteria e-coli	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

nw-191476

nw191477

<5

<5

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Kim Tow

Received By: Date/Time:

07/11/19 1455

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Department of Marine and Environmental Affairs
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Harbor Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
7/11/19	1030	S-8A 2-4HST	1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	Bacteria e-coli	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE
7/11/19			1	1 Liter Plastic	Dissolved TKN, TOC diss low, TDS,	NONE
7/11/19			1	1 Liter Plastic	TKN, TN, TP, TOC Low	H2SO4
7/11/19			1	250 mL Plastic	NO2, NO3	
7/11/19			1	Glass	Ortho	NONE
7/11/19			1	100mL Plastic	~~Bacteria e-coli~~	NONE
7/11/19			2	1 Liter Amber Plastic	Chlorophyll-a	NONE

WW-191478

<5

WW191479 Trip Blank TOC

NOTE: **Analysis needed for reporting in lowest detection possible**; O-Phosphate, Total Phosphate, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, Total Dissolved Nitrogen, Dissolved Inorganic Nitrogen, Dissolved Organic Nitrogen, Particulate Organic Carbon, Particulate Organic Nitrogen, Bacteria E-coli, Chlorophyll-a

Relinquished By: Date/Time

Received By: Date/Time: 07/11/19/1455

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 8B*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190879*	
Date Received:	*04/29/19*	

Sample Type S 8B A	***Sample Time*** 09:50	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	109	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.35	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.021	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.22	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.095*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.57	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	47	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	BRL	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.38	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.14	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.32	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.29	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.210	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.19	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.60	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	15	5	04/29/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 5B*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190880*	
Date Received:	*04/29/19*	

Sample Type S 5B A	***Sample Time*** 10:15	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	105	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.39	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.016	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.22	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.19*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.58	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	47	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.014	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.38	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.86	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.41	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.19	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.011	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.530	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.20	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.60	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	25	5	04/29/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

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Ronald J. Saari
Laboratory Director

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 4A*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190881*	
Date Received:	*04/29/19*	

Sample Type S 4A A	***Sample Time*** 10:45	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	89	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.68	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.17	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.18*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.48	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	36	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.026	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.42	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.25	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.35	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.24	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.012	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.430	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.06	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.59	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	130	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
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(508)888-6460 1-800-339-6460
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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 3A*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190882*	
Date Received:	*04/29/19*	

Sample Type S 3A A	***Sample Time*** 10:55	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	88	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.74	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.25	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.11*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.50	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	34	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.013	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.35	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.33	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.36	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.24	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.010	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.410	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.15	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.60	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	<5	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

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FAX (508)888-6446

Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-2C*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190883*	
Date Received:	*04/29/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-2C A	11:25	04/29/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	80	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.76	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.010	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.16	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.11*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.46	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	30	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.005	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.25	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.26	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.27	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.14	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	BRL	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.500	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.21	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.41	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	<5	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

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Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-6A*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190884*	
Date Received:	*04/29/19*	

Sample Type S-6A A	***Sample Time*** 12:15	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	66	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.41	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.010	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.36	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.07*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.25	0.2	05/07/19	KB	SM4500-Norg B-C
Chloride	mg/L	22	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.015	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.23	0.20	05/07/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.01	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.43	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.16	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.012	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.400	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.02	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.59	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	15	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 12*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190885*	
Date Received:	*04/29/19*	

Sample Type S 12 A	***Sample Time*** 12:35	***Sample Date*** 04/29/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	62	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.70	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.38	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.07*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	05/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	21	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.016	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	05/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.38	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.45	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.13	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.010	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.320	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.58	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	15	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

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MA CERT. NO.: M-MA 063

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Sandwich, MA 02563
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Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S 13*	
Sampled By:	*K Tower*	
Lab Order Number:	*WW-190886*	
Date Received:	*04/29/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S 13 A	13:00	04/29/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	52	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.66	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.010	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.33	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.06*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.27	0.2	05/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	19	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.015	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	05/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.34	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.39	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.14	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.012	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.320	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.07	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.53	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	20	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald Saari

Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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Sandwich, MA 02563
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FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW Sampling*
Project Number: *S-14*
Sampled By: *K Tower*
Lab Order Number: *WW-190887*
Date Received: *04/29/19*

Comments:

Sample Type S-14 A	*Sample Time* 13:30	*Sample Date* 04/29/19	*Comments*			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	54	6.0	05/01/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.39	0.017	05/02/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	05/02/19	MC	EPA 200.7
Nitrate-N	mg/L	0.29	0.01	04/30/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	04/30/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.07*	0.02	05/09/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.23	0.2	05/08/19	KB	SM4500-Norg B-C
Chloride	mg/L	19	3.0	04/30/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.075	0.005	05/01/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.20	0.20	05/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.76	0.017	05/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.36	NA	07/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.13	NA	07/01/19	MC	Calculation
Ortho Phosphorous (P)	mg/L	0.014	0.005	04/30/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.630	NA	07/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	07/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.49	NA	05/08/19	KB	Calculation
E coli	CFU/100ml	<5	5	04/29/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari
Ronald J. Saari
Laboratory Director

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
				Blank								
Lab ID	**Client ID**	**Date Sampled**	**TOC mg/L**									
905041	WW-190879 low	4/29/2019	2.35									
905042	WW-190879 diss low	4/29/2019	2.42	2.14								
905043	WW-190880 low	04/29/19	2.39									
905044	WW-190880 diss low	04/29/19	2.14	1.86								
905045	WW-190881 low	04/29/19	3.68									
905046	WW-190881 diss low	04/29/19	3.53	3.25								
905047	WW-190882 low	04/29/19	1.74									
905048	WW-190882 diss low	04/29/19	1.61	1.33								
905049	WW-190883 low	04/29/19	1.76									
905050	WW-190883 diss low	04/29/19	1.54	1.26								
905051	WW-190884 low	04/29/19	1.41									
905052	WW-190884 diss low	04/29/19	1.29	1.01								
905053	WW-190885 low	04/29/19	1.70									
905054	WW-190885 diss low	04/29/19	1.66	1.38								
905055	WW-190886 low	04/29/19	1.66									
905056	WW-190886 diss low	04/29/19	1.62	1.34								
905057	WW-190887 low	04/29/19	1.39									
905058	WW-190887 diss low	04/29/19	1.04	0.76								
905059	WW-190888 diss low	04/29/19	0.278									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.09	mg/L	05/02/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 05/03/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1905-08033
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-190879 S-8B
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 09:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.095	0.020	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 002
Sample Description: WW-190880 S-5B
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 10:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.19	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 003
Sample Description: WW-190881 S-4A
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 10:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.18	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 004
Sample Description: WW-190882 S-3A
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 10:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.11	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1905-08033
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-190883 S-2C
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 11:25

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.11	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 006
Sample Description: WW-190884 S-6A
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 12:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.07	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 007
Sample Description: WW-190885 S-12
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 12:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.07	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Sample Number: 008
Sample Description: WW-190886 S-13
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 13:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.06	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1905-08033
Project Name: PLYMOUTH ENV.

Sample Number: 009
Sample Description: WW-190887 S-14
Sample Type : GRAB
Sample Date / Time : 4/29/2019 @ 13:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.07	0.02	mg/l	SM4500NH3-B,H 18-21ed	5/9/2019 16:57	SAS

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

* chlorophyll resampled on 5/8/19

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4/29/19	0950	S-8B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a *	NONE redone
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE 15
4/29/19	1015	S-5B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a *	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE 25

JW-190879

JW-190880

Relinquished By: Date/Time

Received By: Date/Time: 04/29/19 1415

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
NW-190881 4/29/19	1045	S-4A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE 130
NW-190882 4/29/19	1055	S-3A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE <5

Relinquished By: Date/Time
KTu

Received By: Date/Time:
RAm 04/29/19 1415

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
NW-190883 4/29/19	1125	S-2C	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
NW-190884 4/29/19	1215	S-6A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

Relinquished By: Date/Time

KTR

Received By: Date/Time:

04/29/19 14:15

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
UW-190885 4/29/19	1235	S-12	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
UW-190886 4/29/19	1300	S-13	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

15

20

Relinquished By: Date/Time

Received By: Date/Time: 04/29/19 1415

(2)

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

NW-190887

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
4/29/19	1350	S-14	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
			1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, NH3, TOC LOW, TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

< 5

NW-190888

Relinquished By: Date/Time

Received By: Date/Time: 04/29/19 1415

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Monday, November 18, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW*	***Comments:***
Project Number:		
Sampled By:	*K. Tower*	
Lab Order Number:	*WW-190961*	
Date Received:	*05/08/19*	

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-8B A	11:30	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	13.4*	*	05/11/19	Alpha*	*

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-5B B	11:40	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	13.3*	*	05/11/19	Alpha*	*

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-4A C	11:50	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	6.60*	*	05/11/19	Alpha*	*

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Monday, November 18, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW*	***Comments:***
Project Number:		
Sampled By:	*K. Tower*	
Lab Order Number:	*WW-190961*	
Date Received:	*05/08/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-3A D	12:05	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	12.8*	*	05/11/19	Alpha*	*

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-2C E	12:15	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	15.9*	*	05/11/19	Alpha*	*

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-6A F	12:25	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	3.59*	*	05/11/19	Alpha*	*

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Monday, November 18, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW* ***Comments:***
Project Number:
Sampled By: *K. Tower*
Lab Order Number: *WW-190961*
Date Received: *05/08/19*

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-12 G	12:35	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	4.58*	*	05/11/19	Alpha*	*

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-13 H	12:50	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	10.9*	*	05/11/19	Alpha*	*

Sample Type	*Sample Time*	*Sample Date*	*Comments*			
S-14 I	13:10	05/08/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Chlorophyll-a	*	2.48*	*	05/11/19	Alpha*	*

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-01
Client ID: WW-190961A
Sample Location: Not Specified

Date Collected: 05/08/19 11:30
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	13.4		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-02
Client ID: WW-190961B
Sample Location: Not Specified

Date Collected: 05/08/19 11:40
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	13.3		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-03
Client ID: WW-190961C
Sample Location: Not Specified

Date Collected: 05/08/19 11:50
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	6.60		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-04
Client ID: WW-190961D
Sample Location: Not Specified

Date Collected: 05/08/19 12:05
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	12.8		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-05
Client ID: WW-190961E
Sample Location: Not Specified

Date Collected: 05/08/19 12:15
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	15.9		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-06
Client ID: WW-190961F
Sample Location: Not Specified

Date Collected: 05/08/19 12:25
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.59		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-07
Client ID: WW-190961G
Sample Location: Not Specified

Date Collected: 05/08/19 12:35
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	4.58		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-08
Client ID: WW-190961H
Sample Location: Not Specified

Date Collected: 05/08/19 12:50
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	10.9		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

Project Name: PLYMOUTH ENV MANAGEMENT
Project Number: Not Specified

Lab Number: L1919368
Report Date: 05/20/19

SAMPLE RESULTS

Lab ID: L1919368-09
Client ID: WW-190961H
Sample Location: Not Specified

Date Collected: 05/08/19 13:20
Date Received: 05/09/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.48		mg/m3	2.00	NA	1	05/09/19 23:15	05/11/19 13:35	121,10200H	AG

RL

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

WW-19094

	Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
A	5/8/19	1130	S-8B	2	1 Liter Amber	Chlorophyll-a	NONE
B	5/8/19	1140	S-5B	2	1 Liter Amber	Chlorophyll-a	NONE
C	5/8/19	1150	S-4A	2	1 Liter Amber	Chlorophyll-a	NONE
D	5/8/19	1205	S-3A	2	1 Liter Amber	Chlorophyll-a	NONE
E	5/8/19	1215	S-2L	2	1 Liter Amber	Chlorophyll-a	NONE
F	5/8/19	1225	S-6A	2	1 Liter Amber	Chlorophyll-a	NONE
G	5/8/19	1235	S-12	2	1 Liter Amber	Chlorophyll-a	NONE
H	5/8/19	1250	S-13	2	1 Liter Amber	Chlorophyll-a	NONE
I	5/8/19	1310	S-14	2	1 Liter Amber	Chlorophyll-a	NONE

Relinquished By: Date/Time

Received By: Date/Time: 5/8/19 1500

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-8B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191368*	
Date Received:	*06/27/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-8B A	09:30	06/27/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	BRL	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	BRL	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	0.236	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	07/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	BRL	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	07/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	ND	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	ND*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	ND	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	07/06/19	KB	Calculation
E coli	CFU/100ml	<5	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-01
Client ID: WW-191368
Sample Location: Not Specified

Date Collected: 06/27/19 09:30
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-5B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191369*	
Date Received:	*06/27/19*	

Sample Type S-5B A	***Sample Time*** 09:50	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	110	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	44	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	3.17	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.10	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.54	0.2	07/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.018	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.35	0.20	07/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.71	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.12	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.33	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	17.0*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.460	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.19	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.45	NA	07/06/19	KB	Calculation
E coli	CFU/100ml	60	5	06/27/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-02
Client ID: WW-191369
Sample Location: Not Specified

Date Collected: 06/27/19 09:50
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	17.0		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-8A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191370*	
Date Received:	*06/27/19*	

Sample Type S-8A A	***Sample Time*** 10:10	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	110	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	44	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	5.11	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.10	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	0.04*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.48	0.2	07/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.034	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.29	0.20	07/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.61	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.14	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.25	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	14.4*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.015	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	2.50	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.19	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.39	NA	07/06/19	KB	Calculation
E coli	CFU/100ml	45	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-03
Client ID: WW-191370
Sample Location: Not Specified

Date Collected: 06/27/19 10:10
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	14.4		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-4A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191371*	
Date Received:	*06/27/19*	

Sample Type S-4A A	***Sample Time*** 10:35	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	94	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	35	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	3.82	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.08	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.29	0.2	07/08/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.032	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.29	0.20	07/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.27	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.10	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.27	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	14.8*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.550	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.37	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	50	5	06/27/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-04
Client ID: WW-191371
Sample Location: Not Specified

Date Collected: 06/27/19 10:55
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	14.8		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW Sampling*
Project Number: *S-3A*
Sampled By: *Kim Tower*
Lab Order Number: *WW-191372*
Date Received: *06/27/19*

Comments:

Sample Type S-3A A	***Sample Time*** 10:50	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	79	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	31	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	2.71	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.14	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.51	0.2	07/08/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.016	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.20	0.20	07/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.86	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.16	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	21.2*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.850	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.31	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.34	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	60	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-05
Client ID: WW-191372
Sample Location: Not Specified

Date Collected: 06/27/19 10:50
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	21.2		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW Sampling*
Project Number: *S-2C*
Sampled By: *Kim Tower*
Lab Order Number: *WW-191373*
Date Received: *06/27/19*

Comments:

Sample Type S-2C A	*Sample Time* 11:10	*Sample Date* 06/27/19	*Comments*			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	77	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	27	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	2.90	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.05	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.41	0.2	07/08/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.008	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.23	0.20	07/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.07	0.017	07/02/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.07	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.21	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	24.4*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.005	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.830	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.18	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.28	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	5	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-06
Client ID: WW-191373
Sample Location: Not Specified

Date Collected: 06/27/19 11:10
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	24.4		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-6A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191374*	
Date Received:	*06/27/19*	

Sample Type S-6A A	***Sample Time*** 11:35	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	79	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	21	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	3.67	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.17	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.50	0.2	07/08/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.020	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.26	0.20	07/08/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.25	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.19	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.24	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	2.30*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.420	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.24	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.43	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	45	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-07
Client ID: WW-191374
Sample Location: Not Specified

Date Collected: 06/27/19 11:35
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.30		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-12*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191375*	
Date Received:	*06/27/19*	

Sample Type S-12 A	***Sample Time*** 12:00	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	69	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	20	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	4.90	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.14	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.43	0.2	07/09/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.019	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.33	0.20	07/09/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	4.17	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.16	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.31	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	2.60*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.017	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.730	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.10	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.47	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	40	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-08
Client ID: WW-191375
Sample Location: Not Specified

Date Collected: 06/27/19 12:00
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.60		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-13*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191376*	
Date Received:	*06/27/19*	

Sample Type S-13 A	***Sample Time*** 12:20	***Sample Date*** 06/27/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	68	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	18	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	6.57	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.19	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.33	0.2	07/09/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.019	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.24	0.20	07/09/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	4.50	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.21	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.22	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	2.67*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.014	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	2.07	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.09	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.43	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	25	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-09
Client ID: WW-191376
Sample Location: Not Specified

Date Collected: 06/27/19 12:20
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.67		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-14*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191377*	
Date Received:	*06/27/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-14 A	12:45	06/27/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	65	6.0	07/02/19	KB	SM 2540 C
Chloride grab	mg/L	15	3.0	06/27/19	LL	EPA 300.0
Total Organic Carbon*	mg/L	8.16	0.017	07/02/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	07/03/19	MC	EPA 200.7
Nitrate-N	mg/L	0.10	0.01	06/27/19	LL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	06/27/19	LL	EPA 300.0
Ammonia-N *	mg/L	0.04*	0.02	07/02/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.52	0.2	07/09/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.090	0.005	07/10/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.28	0.20	07/09/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	3.40	0.017	07/16/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.14	NA	08/01/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.24	NA	08/01/19	MC	Calculation
Chlorophyll-a	*	9.16*	*	07/02/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.036	0.005	06/28/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	4.76	NA	08/01/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.24	NA	08/01/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.38	NA	07/10/19	KB	Calculation
E coli	CFU/100ml	20	5	06/27/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1928419
Report Date: 07/12/19

SAMPLE RESULTS

Lab ID: L1928419-10
Client ID: WW-191377
Sample Location: Not Specified

Date Collected: 06/27/19 12:45
Date Received: 06/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	9.16		mg/m3	2.00	NA	1	06/29/19 08:30	07/02/19 11:15	121,10200H	AG

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L	blank								
907021	WW-191368 Total	6/27/2019	0.236									
907022	WW-191368 Dissolved	6/27/2019	0.248	ND								
907023	WW-191369 Total	06/27/19	3.17									
907024	WW-191369 Dissolved	06/27/19	3.03	2.71								
907025	WW-191370 Total	06/27/19	5.11									
907026	WW-191370 Dissolved	06/27/19	2.93	2.61								
907027	WW-191371 Total	06/27/19	3.82									
907028	WW-191371 Dissolved	06/27/19	3.59	3.27								
907029	WW-191372 Total	06/27/19	2.71									
907030	WW-191372 Dissolved	06/27/19	2.18	1.86								
907031	WW-191373 Total	06/27/19	2.90									
907032	WW-191373 Dissolved	06/27/19	2.39	2.07								
907033	WW-191374 Dissolved	06/27/19	3.57	3.25								
907034	WW-191374 Total	06/27/19	3.67	3.35								
907035	WW-191375 Dissolved	06/27/19	4.49	4.17								
907036	WW-191375 Total	06/27/19	4.90	4.58								
907037	WW-191376 Dissolved	06/27/19	4.82	4.50								
907038	WW-191376 Total	06/27/19	6.57									
907039	WW-191377 Dissolved	06/27/19	3.72	3.40								
907040	WW-191377 Total	06/27/19	8.16									
907041	WW-191378 Trip Blank	06/27/19	0.324									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	07/02/19	Y

Electronically signed and approved by: Bruce A. Bornstein Date: 07/03/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1906-12102
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191368 S-8B
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 09:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 002
Sample Description: WW-191369 S-5B
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 09:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 003
Sample Description: WW-191370 S-8A
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 10:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.04	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 004
Sample Description: WW-191371 S-4A
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 10:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1906-12102
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191372 S-3A
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 10:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 006
Sample Description: WW-191373 S-2C
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 11:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 007
Sample Description: WW-191374 S-6A
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 11:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 008
Sample Description: WW-191375 S-12
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1906-12102
Project Name: PLYMOUTH ENV.

Sample Number: 009
Sample Description: WW-191376 S-13
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 12:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Sample Number: 010
Sample Description: WW-191377 S-14
Sample Type : GRAB
Sample Date / Time : 6/27/2019 @ 12:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.04	0.02	mg/l	SM4500NH3-B,H 18-21ed	7/2/2019 14:38	SAS

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
6/27/19	0930	S-8B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE
6/27/19	0950	S-5B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE

Relinquished By: Date/Time

Received By: Date/Time: 6/27/19 1350

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191370- 6/27/19	1010	S-8A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE
WW-191371- 6/27/19	1035	S-4A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE

45

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Relinquished By: Date/Time

Received By: Date/Time: 6/27/19 1350

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191372 6/27/19	1050	S-3A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE
WW-191373 6/27/19	1110	S-2C	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE

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Relinquished By: Date/Time

Received By: Date/Time:
Mavalley 6/27/19 1350

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191374 6/27/19	1135	S-6A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE
WW-191375 6/27/19	1200	S-12	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE

45

10

Relinquished By: Date/Time

Received By: Date/Time:

LLavalley 6/27/19 1350

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
WW-191376 6/27/19	1220	S-13	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE
WW-191377 6/27/19	1245	S-14	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	NONE
			1	100mL Plastic	Bacteria	NONE

25

20

WW-191378 TOC

Relinquished By: Date/Time

K Tow

Received By: Date/Time:

Cavalla 6/27/19 1350

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-8B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191691*	
Date Received:	*08/14/19*	

Sample Type S-8B A	***Sample Time*** 09:40	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	BRL	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.229	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.034*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	BRL	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	BRL	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.172	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.21	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.04	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.057	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	<5	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-01
Client ID: WW-191691
Sample Location: Not Specified

Date Collected: 08/14/19 09:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-5B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191692*	
Date Received:	*08/14/19*	

Sample Type S-5B A	***Sample Time*** 10:00	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	110	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.26	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.014	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.06	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.45	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	50	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.049	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.41	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.91	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.08	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.39	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	4.92*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.350	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.04	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.47	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	60	5	08/14/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: Ronald J. Saari
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-02
Client ID: WW-191692
Sample Location: Not Specified

Date Collected: 08/14/19 10:00
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	4.92		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW Sampling*
Project Number: *S-8A*
Sampled By: *Kim Tower*
Lab Order Number: *WW-191693*
Date Received: *08/14/19*

Comments:

Sample Type S-8A A	***Sample Time*** 10:10	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	110	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.31	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.013	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.06	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.025*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.39	0.2	08/24/19	KB	SM4500-Norg B-C
Chloride	mg/L	50	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.168	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.38	0.20	08/24/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.75	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.36	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	4.77*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.008	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.56	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.01	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.44	NA	08/27/19	KB	Calculation
E coli	CFU/100ml	70	5	08/14/19	MC	EPA 1603

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-03
Client ID: WW-191693
Sample Location: Not Specified

Date Collected: 08/14/19 10:10
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	4.77		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-4A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191694*	
Date Received:	*08/14/19*	

Sample Type S-4A A	***Sample Time*** 10:35	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	81	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.20	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.41	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	33	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.033	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.41	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.62	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.39	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.009	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.580	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.41	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	20	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-04
Client ID: WW-191694
Sample Location: Not Specified

Date Collected: 08/14/19 10:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-2C*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191695*	
Date Received:	*08/14/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-2C A	10:45	08/14/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	87	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.55	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.05	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.62	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	33	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.058	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.43	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.82	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.07	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.41	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	36.6*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.005	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.730	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.19	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.48	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	5	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-05
Client ID: WW-191695
Sample Location: Not Specified

Date Collected: 08/14/19 10:45
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	36.6		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-6A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191696*	
Date Received:	*08/14/19*	

Sample Type S-6A A	***Sample Time*** 11:05	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	68	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.96	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.14	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.050*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.35	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	23	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.034	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.33	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.64	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.19	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.28	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	2.01*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.008	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.320	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.02	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.47	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	60	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-06
Client ID: WW-191696
Sample Location: Not Specified

Date Collected: 08/14/19 11:05
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	2.01		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-12*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191697*	
Date Received:	*08/14/19*	

Sample Type S-12 A	***Sample Time*** 11:20	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	63	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.57	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.012	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.09	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.055*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.47	0.2	08/20/19	KB	SM4500-Norg B-C
Chloride	mg/L	22	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.029	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.38	0.20	08/20/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.12	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.15	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.33	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	3.65*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.450	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.09	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.47	NA	08/21/19	KB	Calculation
E coli	CFU/100ml	65	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

**see attached*

By: R Ronald Saari

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-07
Client ID: WW-191697
Sample Location: Not Specified

Date Collected: 08/14/19 11:20
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.65		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

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Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-13*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191698*	
Date Received:	*08/14/19*	

Sample Type S-13 A	***Sample Time*** 11:40	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	60	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.78	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	08/23/19	MC	EPA 200.7
Nitrate-N	mg/L	0.13	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.36	0.2	08/24/19	KB	SM4500-Norg B-C
Chloride	mg/L	20	3.0	08/14/19	RL	EPA 300.0
Total Phosphorous (P)	mg/L	0.029	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.26	0.20	08/24/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.16	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.15	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.24	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	4.92*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.620	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.10	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.39	NA	08/27/19	KB	Calculation
E coli	CFU/100ml	50	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-08
Client ID: WW-191698
Sample Location: Not Specified

Date Collected: 08/14/19 11:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	4.92		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Tuesday, November 19, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-14*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191699*	
Date Received:	*08/14/19*	

Sample Type S-14 A	***Sample Time*** 12:00	***Sample Date*** 08/14/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	56	6.0	09/05/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.94	0.017	08/28/19	NEC*	SM 5310 C
Boron	mg/L	0.013	0.010	08/27/19	MC	EPA 200.7
Nitrate-N	mg/L	0.11	0.01	08/14/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/14/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	08/21/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.70	0.2	08/24/19	KB	SM4500-Norg B-C
Chloride	mg/L	19	3.0	08/14/19	RLM	EPA 300.0
Total Phosphorous (P)	mg/L	0.028	0.005	08/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.39	0.20	08/24/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.38	0.017	08/28/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.13	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.37	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	32.6*	*	08/18/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.005	0.005	08/16/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.560	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.31	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.50	NA	08/27/19	KB	Calculation
E coli	CFU/100ml	15	5	08/14/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: R. Saari

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1936752
Report Date: 08/27/19

SAMPLE RESULTS

Lab ID: L1936752-09
Client ID: WW-191699
Sample Location: Not Specified

Date Collected: 08/14/19 12:00
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	32.6		mg/m3	2.00	NA	1	08/15/19 23:20	08/18/19 16:35	121,10200H	AG

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

Lab ID	Client ID	Date Sampled	TOC mg/L	Analytical Results								
				blank								
908547	WW-191691 Total	8/14/2019	0.229									
908548	WW-191691 Dissolved	8/14/2019	0.360	0.172								
908549	WW-191692 Total	8/14/2019	2.26									
908550	WW-191692 Dissolved	8/14/2019	2.10	1.91								
908551	WW-191693 Total	8/14/2019	2.31									
908552	WW-191693 Dissolved	8/14/2019	1.94	1.75								
908553	WW-191694 Total	8/14/2019	3.20									
908554	WW-191694 Dissolved	8/14/2019	2.81	2.62								
908555	WW-191695 Total	8/14/2019	2.55									
908556	WW-191695 Dissolved	8/14/2019	2.01	1.82								
908557	WW-191696 Total	8/14/2019	1.96									
908558	WW-191696 Dissolved	8/14/2019	1.83	1.64								
908559	WW-191697 Total	8/14/2019	2.57									
908560	WW-191697 Dissolved	8/14/2019	2.31	2.12								
908561	WW-191698 Total	8/14/2019	2.78									
908562	WW-191698 Dissolved	8/14/2019	2.35	2.16								
908563	WW-191699 Total	8/14/2019	2.94									
908564	WW-191699 Dissolved	8/14/2019	2.57	2.38								
908565	WW-191700 Trip Blank	8/14/2019	0.188									

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	08/28/19	Y

Electronically signed and approved by: Brian L. Bornstein Date: 08/29/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1908-15443
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191691 S-8B
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 09:40

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.034	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 002
Sample Description: WW-191692 S-5B
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 10:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 003
Sample Description: WW-191693 S-8A
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 10:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.025	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 004
Sample Description: WW-191694 S-4A
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 10:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1908-15443
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191695 S-2C
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 10:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 006
Sample Description: WW-191696 S-6A
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 11:05

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.050	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 007
Sample Description: WW-191697 S-12
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 11:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.055	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

Sample Number: 008
Sample Description: WW-191698 S-13
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 11:40

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1908-15443
Project Name: PLYMOUTH ENV.

Sample Number: 009
Sample Description: WW-191699 S-14
Sample Type : GRAB
Sample Date / Time : 8/14/2019 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	8/21/2019 12:35	BR

KSM

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/14/19	0940	S-8B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2 1	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/14/19	1000	S-5B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191691

WW-191692

5.8

6.0

Relinquished By: Date/Time

KM Tower

Received By: Date/Time:

R Allen 08/14/19 1310

LOM

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/14/19	1010	S-8A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/14/19	1035	S-4A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191693

WW-191694

70

20

Relinquished By: Date/Time

Received By: Date/Time: 08/14/19 1310

LOM

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/14/19	1045	S-2C	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/14/19	1105	S-6A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191695

5

WW-191696

60

Relinquished By: Date/Time

Received By: Date/Time: 08/14/19 1310

LSM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/14/19	1120	S-12	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/14/19	1140	S-13	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191697

65

WW-191698

50

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time:

08/14/19 1310

LJM

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/14/19	1200	S-14	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
			1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191699

WW-191700

Trip Blank

15

Relinquished By: Date/Time

Received By: Date/Time: 08/14/19 1310

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-8B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191808*	
Date Received:	*08/28/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-8B A	09:45	08/28/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	BRL	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	BRL	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	0.327	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.025	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	09/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	BRL	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	09/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	0.230	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.18	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.097	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	09/05/19	KB	Calculation
E coli	CFU/100ml	<5	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-01
Client ID: WW-191808
Sample Location: Not Specified

Date Collected: 08/28/19 09:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-5B*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191809*	
Date Received:	*08/28/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-5B A	10:00	08/28/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	110	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	49	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	1.76	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.021	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	0.06	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.39	0.2	09/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.030	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.29	0.20	09/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.70	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.08	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.27	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.060	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.10	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.35	NA	09/05/19	KB	Calculation
E coli	CFU/100ml	30	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-02
Client ID: WW-191809
Sample Location: Not Specified

Date Collected: 08/28/19 10:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-8A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191810*	
Date Received:	*08/28/19*	

Sample Type S-8A A	***Sample Time*** 10:10	***Sample Date*** 08/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	120	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	49	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	1.97	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.020	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	0.06	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.36	0.2	09/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.026	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.33	0.20	09/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.67	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.08	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.31	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.008	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.30	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.39	NA	09/05/19	KB	Calculation
E coli	CFU/100ml	30	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-03
Client ID: WW-191810
Sample Location: Not Specified

Date Collected: 08/28/19 10:10
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-4A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191811*	
Date Received:	*08/28/19*	

Sample Type S-4A A	***Sample Time*** 10:20	***Sample Date*** 08/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	88	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	36	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	2.17	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.015	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	BRL	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.36	0.2	09/05/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.025	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.33	0.20	09/05/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.08	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.03	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.31	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.090	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.03	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.33	NA	09/05/19	KB	Calculation
E coli	CFU/100ml	20	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-04
Client ID: WW-191811
Sample Location: Not Specified

Date Collected: 08/28/19 10:20
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-3A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191812*	
Date Received:	*08/28/19*	

Sample Type S-3A A	***Sample Time*** 10:30	***Sample Date*** 08/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	88	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	35	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	1.51	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.015	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	0.13	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	<0.02*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.33	0.2	09/11/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.019	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.32	0.20	09/11/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.22	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.15	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.30	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.290	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.01	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.45	NA	09/12/19	KB	Calculation
E coli	CFU/100ml	60	5	08/28/19	MC	EPA 1603

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We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-05
Client ID: WW-191812
Sample Location: Not Specified

Date Collected: 08/28/19 10:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

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MA CERT. NO.: M-MA 063

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Sandwich, MA 02563
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FAX (508)888-6446

Thursday, November 21, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-6A*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191813*	
Date Received:	*08/28/19*	

Sample Type S-6A A	***Sample Time*** 11:30	***Sample Date*** 08/28/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	66	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	23	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	1.67	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.016	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	0.16	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.03*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.35	0.2	09/11/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.020	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.27	0.20	09/11/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.47	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.19	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.24	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.200	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.08	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.43	NA	09/12/19	KB	Calculation
E coli	CFU/100ml	40	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-06
Client ID: WW-191813
Sample Location: Not Specified

Date Collected: 08/28/19 11:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW Sampling*	***Comments:***
Project Number:	*S-12*	
Sampled By:	*Kim Tower*	
Lab Order Number:	*WW-191814*	
Date Received:	*08/28/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-12 A	12:00	08/28/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Total Dissolved Solids	mg/L	59	6.0	09/03/19	KB	SM 2540 C
Chloride grab	mg/L	22	3.0	08/29/19	RL	EPA 300.0
Total Organic Carbon*	mg/L	2.24	0.017	09/05/19	NEC*	SM 5310 C
Boron	mg/L	0.017	0.010	09/11/19	MC	EPA 200.7
Nitrate-N	mg/L	0.12	0.01	08/29/19	RL	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	08/29/19	RL	EPA 300.0
Ammonia-N *	mg/L	0.06*	0.02	09/16/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.37	0.2	09/11/19	KB	SM4500-Norg B-C
Total Phosphorous (P)	mg/L	0.023	0.005	09/09/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.29	0.20	09/11/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.79	0.017	09/05/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.18	NA	11/19/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.23	NA	11/19/19	MC	Calculation
Chlorophyll-a	*	ND*	*	08/30/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	08/29/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.450	NA	11/19/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.08	NA	11/19/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.41	NA	09/12/19	KB	Calculation
E coli	CFU/100ml	20	5	08/28/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MGMT
Project Number: Not Specified

Lab Number: L1939298
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939298-07
Client ID: WW-191814
Sample Location: Not Specified

Date Collected: 08/28/19 12:00
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	08/29/19 20:30	08/30/19 09:00	121,10200H	DW

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	**Client ID**	**Date Sampled**	**TOC mg/L**									
909069	WW-191808 Total	08/28/19	0.327									
909070	WW-191808 Dissolved	08/28/19	0.304	0.230								
909071	WW-191809 Total	08/28/19	1.76									
909072	WW-191809 Dissolved	08/28/19	1.77	1.70								
909073	WW-191810 Total	08/28/19	1.97									
909074	WW-191810 Dissolved	08/28/19	1.74	1.67								
909075	WW-191811 Total	08/28/19	2.17									
909076	WW-191811 Dissolved	08/28/19	2.15	2.08								
909077	WW-191812 Total	08/28/19	1.51									
909078	WW-191812 Dissolved	08/28/19	1.29	1.22								
909079	WW-191813 Total	08/28/19	1.67									
909080	WW-191813 Dissolved	08/28/19	1.54	1.47								
909081	WW-191814 Total	08/28/19	2.24									
909082	WW-191814 Dissolved	08/28/19	1.86	1.79								
909083	WW-191815 Trip Blank	08/28/19	0.074	~~1.74~~								

Analytical Methodology

Analyte	**Method**	**Detection Limit**	**PQL**	**Units**	**Date Analyzed**	**Cert Status**
TOC	Standard Methods 5310C	0.017	0.085	mg/L	09/05/19	Y

Electronically signed and approved by: Bruce L. Bornstein Date: 09/06/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-16957
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191808 S-8B
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 09:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Sample Number: 002
Sample Description: WW-191809 S-5B
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 10:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Sample Number: 003
Sample Description: WW-191810 S-8A
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 10:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Sample Number: 004
Sample Description: WW-191811 S-4A
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 10:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-16957
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191812 S-3A
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	<0.02	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Sample Number: 006
Sample Description: WW-191813 S-6A
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 11:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.03	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Sample Number: 007
Sample Description: WW-191814 S-12
Sample Type : GRAB
Sample Date / Time : 8/28/2019 @ 12:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.06	0.02	mg/l	SM4500NH3-B,H 18-21ed	9/16/2019 10:39	SAS

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

WW-19808

WW-19809

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/28/19	0945	S-8B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/28/11	1000	S-5B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

<5

30

Relinquished By: Date/Time
Kim Tow

Received By: Date/Time:
08/28/19 1230

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/28/19	1010	S-8A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/28/19	1020	S-4A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

ww191810

ww191811

30

20

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time:

08/28/19 1230

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/28/14	1030	S-3A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
8/28/14	1130	S-6A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-19812

WW-19813

60

40

Relinquished By: Date/Time

Received By: Date/Time: 08/28/14 1230

Laboratory:

Chain of Custody

Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

WW191814

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
8/28/19	1200	S-12	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE
Field Blank			1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
			1	1 Liter Plastic	TKN, TN,TP, TOC	H2SO4
			2	1 Liter Amber	Chlorophyll-a	NONE
			1	Glass	Orthophosphate	NONE
			1	500mL Plastic	NO3, NO2, Chloride	NONE
			1	250mL	Boron	HNO3
			1	100mL Plastic	Bacteria	NONE

WW-191815

20

Relinquished By: Date/Time

Kim Tower

Received By: Date/Time:

08/28/19 1230

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

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(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-8B*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191984*	
Date Received:	*09/18/19*	

Sample Type S-8B A	***Sample Time*** 10:00	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	BRL	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	<0.21	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	BRL	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	0.282	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.061*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	BRL	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	BRL	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	BRL	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	<0.07	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.14	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	ND*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	<0.265	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.21	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	<5	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: Ronald J. Saari

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-01
Client ID: WW-191984
Sample Location: Not Specified

Date Collected: 09/18/19 10:00
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-8A*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191985*	
Date Received:	*09/18/19*	

Sample Type S-8A A	***Sample Time*** 10:15	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.09	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	0.42	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	110	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.84	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	0.010	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.073*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.33	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	48	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.035	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.29	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.61	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.16	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.22	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	3.75*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.230	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.04	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.38	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	40	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-02
Client ID: WW-191985
Sample Location: Not Specified

Date Collected: 09/18/19 10:15
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.75		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-5B*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191986*	
Date Received:	*09/18/19*	

Sample Type S-5B A	***Sample Time*** 10:30	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.09	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	0.43	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	110	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.91	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	0.010	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.078*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.34	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	48	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.041	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.27	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.64	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.17	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.19	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	3.18*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.006	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.27	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.07	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.36	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	45	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-03
Client ID: WW-191986
Sample Location: Not Specified

Date Collected: 09/18/19 10:30
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.18		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-4A*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191987*	
Date Received:	*09/18/19*	

Sample Type S-4A A	***Sample Time*** 10:50	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.04	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	0.84	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	77	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	3.80	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.047*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.80	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	31	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.034	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	0.23	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	2.59	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.09	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	0.18	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	33.2*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	0.010	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	1.21	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	0.57	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	0.27	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	120	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-04
Client ID: WW-191987
Sample Location: Not Specified

Date Collected: 09/18/19 10:50
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	33.2		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-3A*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191988*	
Date Received:	*09/18/19*	

Sample Type S-3A A	***Sample Time*** 11:05	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.15	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	<0.35	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	88	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.65	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.071*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	BRL	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	35	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.019	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.13	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.22	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.13	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	3.47*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.520	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	ND	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.35	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	45	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-05
Client ID: WW-191988
Sample Location: Not Specified

Date Collected: 09/18/19 11:05
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	3.47		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
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Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName: *Eel River SW sampling*
Project Number: *S-6A*
Sampled By: *Kim Towers*
Lab Order Number: *WW-191989*
Date Received: *09/18/19*

Comments:

Sample Type S-6A A	***Sample Time*** 11:50	***Sample Date*** 09/18/19	***Comments***			
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.23	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	0.46	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	62	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	1.77	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	BRL	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.047*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.23	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	23	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.022	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.57	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.28	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.15	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	ND*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.200	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.03	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.43	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	30	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____
Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-06
Client ID: WW-191989
Sample Location: Not Specified

Date Collected: 09/18/19 11:50
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

ENVIROTECH LABORATORIES, INC.
MA CERT. NO.: M-MA 063

8 Jan Sebastian Drive
Sandwich, MA 02563
(508)888-6460 1-800-339-6460
FAX (508)888-6446

Wednesday, November 20, 2019

Plymouth Environmental Management
K.Towers/ 11 Lincoln St.
Plymouth, MA

ProjectName:	*Eel River SW sampling*	***Comments:***
Project Number:	*S-12*	
Sampled By:	*Kim Towers*	
Lab Order Number:	*WW-191990*	
Date Received:	*09/18/19*	

Sample Type	***Sample Time***	***Sample Date***	***Comments***			
S-12 A	12:05	09/18/19				
Parameters	***Units***	***Test Results***	***Reportable Limits***	***Date Analyzed***	***Analyst***	***Method***
Nitrate-N	mg/L	0.20	0.01	09/18/19	MC	EPA 300.0
Nitrite-N	mg/L	BRL	0.006	09/18/19	MC	EPA 300.0
Total Nitrogen	mg/L	0.73	NA	10/02/19	KB	Calculation
Total Dissolved Solids	mg/L	59	6.0	09/25/19	KB	SM 2540 C
Total Organic Carbon*	mg/L	2.31	0.017	09/24/19	NEC*	SM 5310 C
Boron	mg/L	0.011	0.010	09/23/19	MC	EPA 200.7
Ammonia-N *	mg/L	0.052*	0.02	09/25/19	RIA*	SM4500 NH3 C
Total Kjeldhal Nitrogen	mg/L	0.53	0.2	09/27/19	KB	SM4500-Norg B-C
Chloride	mg/L	22	3.0	09/18/19	MC	EPA 300.0
Total Phosphorous (P)	mg/L	0.032	0.005	09/22/19	MC	SM 4500-P
Dissolved Kjeldhal Nitrogen	mg/L	BRL	0.20	09/27/19	KB	SM4500 Norg B-C
Dissolved Total Organic Carbon	mg/L	1.52	0.017	09/24/19	NEC*	EPA 415.1
Dissolved Inorganic Nitrogen	mg/L	0.25	NA	10/18/19	MC	Calculation
Dissolved Organic Nitrogen	mg/L	<0.15	NA	10/18/19	MC	Calculation
Chlorophyll-a	*	5.50*	*	09/22/19	Alpha*	*
Ortho Phosphorous (P)	mg/L	BRL	0.005	09/19/19	MC	SM 4500-P
Particulate Organic Carbon	mg/L	0.790	NA	10/18/19	MC	SM 5310 C
Particulate Organic Nitrogen	mg/L	<0.33	NA	10/18/19	MC	Calculation
Total Dissolved Nitrogen	mg/L	<0.40	NA	10/18/19	MC	Calculation
E coli	CFU/100ml	5	5	09/18/19	MC	EPA 1603

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results.

We certify that the following results are true and accurate to the best of our knowledge.

BRL=below reportable limits

****see attached***

By: _____

Ronald J. Saari
Laboratory Director

Project Name: PLYMOUTH ENVIRONMENTAL MANAGEM
Project Number: Not Specified

Lab Number: L1943208
Report Date: 09/25/19

SAMPLE RESULTS

Lab ID: L1943208-07
Client ID: WW-191990
Sample Location: Not Specified

Date Collected: 09/18/19 12:05
Date Received: 09/19/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	5.50		mg/m3	2.00	NA	1	09/19/19 22:30	09/22/19 16:35	121,10200H	AG

New England ChromaChem
6 Nichols Street
Salem, MA 01970
978-744-6600

Massachusetts DEP Lab. M-MA072

Client: Envirotech Laboratory, Inc.
State: Liquid

			Analytical Results									
Lab ID	Client ID	Date Sampled	TOC mg/L									
909329	WW-191984 Total	9/18/2019	0.282									
909330	WW-191984 Dissolved	9/18/2019	0.339	0.624								
909331	WW-191985 Total	9/18/2019	1.84									
909332	WW-191985 Dissolved	9/18/2019	1.95	1.61								
909333	WW-191986 Total	9/18/2019	1.91									
909334	WW-191986 Dissolved	9/18/2019	1.98	1.64								
909335	WW-191987 Total	9/18/2019	3.80									
909336	WW-191987 Dissolved	9/18/2019	2.93	2.54								
909337	WW-191988 Total	9/18/2019	1.65									
909338	WW-191988 Dissolved	9/18/2019	1.47	1.13								
909339	WW-191989 Total	9/18/2019	1.77									
909340	WW-191989 Dissolved	9/18/2019	1.91	1.57								
909341	WW-191990 Dissolved	9/18/2019	1.86	1.52								
909342	WW-191990 Total	9/18/2019	2.31									
909343	WW-191991 Trip Blank	9/18/2019	1.09	0.339 Wdl								

Analytical Methodology

Analyte	Method	Detection Limit	PQL	Units	Date Analyzed	Cert Status
TOC	Standard Methods 5310C	0.017	0.085	mg/L	09/24/19	Y

Electronically signed and approved by: Brian L. Bornstein Date: 09/25/19

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-17692
Project Name: PLYMOUTH ENV.

Sample Number: 001
Sample Description: WW-191984 S-8B
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 10:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.061	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Sample Number: 002
Sample Description: WW-191985 S-8A
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 10:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.073	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Sample Number: 003
Sample Description: WW-191986 S-5B
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.078	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Sample Number: 004
Sample Description: WW-191987 S-4A
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 10:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.047	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

R.I. Analytical Laboratories, Inc.

Laboratory Report

Envirotech Laboratories, Inc.
Work Order #: 1909-17692
Project Name: PLYMOUTH ENV.

Sample Number: 005
Sample Description: WW-191988 S-3A
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 11:05

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.071	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Sample Number: 006
Sample Description: WW-191989 S-6A
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 11:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.047	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Sample Number: 007
Sample Description: WW-191990 S-12
Sample Type : GRAB
Sample Date / Time : 9/18/2019 @ 12:05

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Ammonia (as N)	0.052	0.030	mg/l	SM4500NH3-B,H 18-21ed	9/25/2019 13:02	BR

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
9/18/19	1000	S-8B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE
9/18/19	1015	S-8A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE

Relinquished By: Date/Time
KiTa

Received By: Date/Time:
9/18/19 1302

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
9/18/19	1030	S-5B	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE
9/18/19	1050	S-4A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE

Relinquished By: Date/Time

Received By: Date/Time: 9/18/19 1300

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
9/18/19	1105	S-3A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE
9/18/19	1150	S-6A	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE

Relinquished By: Date/Time

Received By: Date/Time: 9/18/19 1300

LDM

Chain of Custody

Laboratory:
Envirotech Laboratories, 8 Sebastian Drive, Unit 12, Sandwich Ma 02563
(508) 888-6460

Client:
Town of Plymouth - Marine & Environmental Affairs Attn: Kim Tower
26 Court Street, Plymouth, MA 02360 /508-747-1620 x10198, ktower@townhall.plymouth.ma.us
Project Name: **Eel River SW Sampling** -Plymouth MA
Sampler: Kim Tower (KT)

LWI91990

Date	Time	Sample ID	# bottles	Type bottle	Analysis	Preservative
9/18/19	1205	S-12	1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE
9/18/19			1	1 Liter Plastic	Diss TKN, TOC diss low, TDS, diss TDS	NONE
9/18/19			1	1 Liter Plastic	TKN, NH3, TN,TP, TOC	H2SO4
9/18/19			2	1 Liter Amber	Chlorophyll-a	NONE
9/18/19			1	Glass	Orthophosphate	NONE
9/18/19			1	500mL Plastic	NO3, NO2, Chloride	NONE
9/18/19			1	250mL	Boron	HNO3
9/18/19			1	100mL Plastic	Bacteria	NONE

5

LWI9 5991 trip Blank TOC dissolved

Relinquished By: Date/Time

Received By: Date/Time:

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

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Transaction ID:	**1121350**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2920.28K**
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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Jun Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	53,000				6.87	6.89	ND	
2	12,000				6.89	6.83	ND	
3	38,000				6.80	6.88	0.02	
4	45,000				7.01	6.84	ND	
5	91,000				7.01	6.95	0.02	
6	123,000				7.10	6.82	ND	
7	43,000				6.92	6.87	ND	
8	141,000				7.02	6.88	ND	
9	18,000				7.04	6.86	ND	
10	33,000				6.76	6.88	ND	
11	122,000				7.03	6.96	ND	
12	140,000				7.14	7.02	ND	
13	238,000				7.04	6.94	ND	
14	90,000				6.93	6.89	ND	
15	192,000				6.88	6.89	ND	
16	26,000				6.90	6.84	0.02	
17	132,000				6.77	6.89	ND	
18	71,000				6.84	6.92	ND	
19	55,000				6.98	6.84	ND	
20	115,000				6.92	6.86	ND	
21	114,000				6.89	6.81	ND	
22	243,000				6.86	6.88	ND	
23	38,000				6.92	6.80	ND	
24	59,000				6.82	6.87	ND	
25	104,000				6.92	6.99	ND	
26	52,000				6.77	6.81	ND	
27	109,000				6.87	6.77	0.02	
28	44,000				6.88	6.82	ND	
29	102,000				6.85	6.90	ND	
30	15,000				6.85	6.84	ND	
31								

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

6/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
TOTAL DISSOLVED SOLIDS		1,420	25.0
MG/L			
AMMONIA-N	27.7		
MG/L			
NITRATE-N		4.38	0.0500
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)	44.0	6.3	0.400
MG/L			
TOTAL PHOSPHORUS AS P	5.00	2.8	0.0213
MG/L			
ORTHO PHOSPHATE		2.43	0.0400
MG/L			
OIL & GREASE	34.0	3.37	1.05
MG/L			
SODIUM	224	376	1.00
MG/L			
CHLORIDE	271	673	20.0
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN BI-MONTHLY 2
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,440	25.0
AMMONIA-N MG/L	31.3		
NITRATE-N MG/L		4.87	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	44.5	6.9	0.400
TOTAL PHOSPHORUS AS P MG/L	9.38	3.1	0.0213
ORTHO PHOSPHATE MG/L		2.89	0.0400
OIL & GREASE MG/L	31.1	1.05	1.05
SODIUM MG/L	221	468	1.00
CHLORIDE MG/L	282	701	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Jun Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.78	5.31	5.59	6.65	6.03	5.95
TOTAL PHOSPHORUS AS P MG/L	0.04	0.02	0.01	0.01	0.02	0.02
ORTHO PHOSPHATE MG/L	0.02	0.02	0.01	0.01	0.02	0.10
STATIC WATER LEVEL FEET	54.20	34.40	34.70	99.40	21.60	21.40

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 JUN MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

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- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	6.37	6.56	5.59			
TOTAL PHOSPHORUS AS P	MG/L	7.93	0.02	0.02			
ORTHO PHOSPHATE	MG/L	7.12	0.02	0.06			
STATIC WATER LEVEL	FEET	26.00	54.40	26.35			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN MONTHLY
3. Sampling Month & Frequency

A. Facility Information

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.22	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JUN WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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b. Telephone Number | c. e-mail address

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6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Weekly 1

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Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 JUN WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	190	11.8	2.00
MG/L			
TSS	184	16.5	2.50
MG/L			
TOTAL SOLIDS		1,130	25.0
MG/L			
CHLORINE RESIDUAL		ND	0.02
MG/L			
FECAL COLIFORM		4	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JUN WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	154	6.2	2.00
MG/L			
TSS	185	25.5	2.50
MG/L			
TOTAL SOLIDS		1,470	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		5	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JUN WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Weekly 3

☐ All forms for submittal have been completed.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	194	10.2	2.00
MG/L			
TSS	245	8.3	2.50
MG/L			
TOTAL SOLIDS		1,360	25.0
MG/L			
CHLORINE RESIDUAL		ND	0.02
MG/L			
FECAL COLIFORM		8	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JUN WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

6/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jun Weekly 4

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUN WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	358	8.7	2.00
MG/L			
TSS	890	6.4	2.50
MG/L			
TOTAL SOLIDS		1,510	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		15	1
/100 ML			

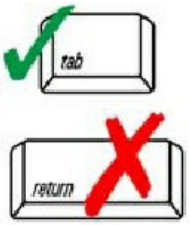
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	7/12/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

THERE WAS TWO (2) GROUNDWATER PERMIT EXCURSION TO REPORT FOR THE MONTH OF JUNE 2019. AS REQUIRED BY GROUNDWATER PERMIT NO. 1-677, A GRAB SAMPLE OF THE PLANT EFFLUENT IS TESTED FOR TDS TWICE MONTHLY. THE EFFLUENT SAMPLE COLLECTED ON JUNE 5 AND 18, 2019 WAS ANALYZED BY MICROBAC LABORATORY AND A MEASURED CONCENTRATION OF 1,420 MG/L AND 1,440 TDS WAS REPORTED. THE TDS PERMIT LIMIT IS 1000 MG/L RESULTING IN THE PERMIT EXCURSION FOR GROUNDWATER.

ATTACHMENTS
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTLEABLE SOLIDS REPORTING
3) MONTHLY FLOWS VS ANNUAL AVERAGE
4) MONTHLY OPERATING REPORTS 1 AND 2
5) PLYMOUTH WWTP STAFFING

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1129222**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**4862.15K**
Status of Transaction:	**Submitted**
Date and Time Created:	**8/14/2019:9:58:10 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

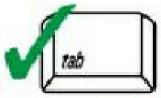
DAILY LOG SHEET

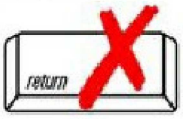
677
1. Permit Number

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2019 JUL DAILY
3. Sampling Month & Frequency

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PLYMOUTH	MA	02360
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

7/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Jul Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

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2019 JUL DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	71,000				6.64	7.01	ND	
2	43,000				6.78	6.92	0.02	
3	89,000				6.85	6.95	0.02	
4	50,000				6.86	6.87	ND	
5	41,000				6.76	6.86	ND	
6	107,000				6.73	6.84	ND	
7	18,000				6.78	6.92	ND	
8	81,000				6.70	6.88	ND	
9	47,000				6.94	6.85	ND	
10	42,000				6.77	6.80	ND	
11	35,000				6.81	6.82	0.02	
12	459,000				6.68	6.88	ND	
13	338,000				7.08	6.86	ND	
14	71,000				6.79	6.91	ND	
15	314,000				6.77	7.04	ND	
16	144,000				6.91	6.77	0.02	
17	323,000				6.78	6.94	0.02	
18	376,000				6.87	6.84	ND	
19	112,000				6.92	6.89	0.02	
20	88,000				6.88	6.93	0.02	
21	42,000				6.87	6.87	ND	
22	53,000				6.75	6.98	0.02	
23	131,000				6.84	6.96	ND	
24	333,000				6.88	6.89	ND	
25	101,000				6.82	6.83	0.02	
26	53,000				6.79	6.93	0.03	
27	76,000				6.78	6.95	ND	
28	30,000				6.77	6.89	ND	
29	90,000				6.52	7.00	ND	
30	90,000				6.81	7.01	ND	
31	72,000				6.77	6.99	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

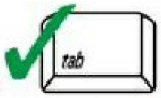
DISCHARGE MONITORING REPORT

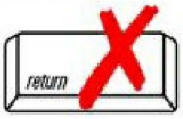
677
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2019 JUL BI-MONTHLY 1
3. Sampling Month & Frequency

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A. Facility Information

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2. Contact information:

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

7/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jul Bi-Monthly 1

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2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 JUL BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,640	25.0
AMMONIA-N MG/L	30.6		
NITRATE-N MG/L		3.66	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	38.7	4.9	0.400
TOTAL PHOSPHORUS AS P MG/L	8.95	4.34	0.0213
ORTHO PHOSPHATE MG/L		3.87	0.0400
OIL & GREASE MG/L	46.6	1.05	1.05
SODIUM MG/L	365	458	1.00
CHLORIDE MG/L	820	487	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

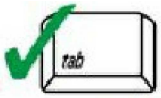
DISCHARGE MONITORING REPORT

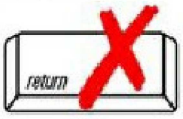
677
1. Permit Number

[redacted]
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2019 JUL BI-MONTHLY 2
3. Sampling Month & Frequency

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A. Facility Information

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131 CAMELOT DRIVE
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PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

7/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jul Bi-Monthly 2

☐ All forms for submittal have been completed.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUL BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
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- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,330	25.0
AMMONIA-N MG/L	24.5		
NITRATE-N MG/L		2.86	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	29.3	4.4	0.400
TOTAL PHOSPHORUS AS P MG/L	7.23	5.60	0.0213
ORTHO PHOSPHATE MG/L		5.83	0.0400
OIL & GREASE MG/L	31.8	1.37	1.05
SODIUM MG/L	247	415	1.00
CHLORIDE MG/L	278	622	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

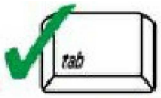
DISCHARGE MONITORING REPORT

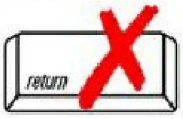
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2019 JUL MONTHLY
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Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

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Discharge Monitoring Report - 2019 Jul Monthly

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Groundwater Permit

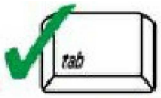
DISCHARGE MONITORING REPORT

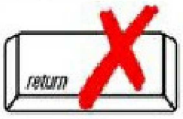
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2019 JUL WEEKLY 1
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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
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Discharge Monitoring Report - 2019 Jul Weekly 1

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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 JUL WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	345	14.8	2.00
MG/L			
TSS	299	5.1	2.50
MG/L			
TOTAL SOLIDS		1,400	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		4	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

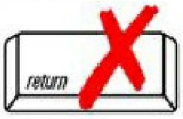
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2019 JUL WEEKLY 2
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2019 JUL WEEKLY 2
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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	202	5.3	2.00
MG/L			
TSS	225	4.3	2.50
MG/L			
TOTAL SOLIDS		1,750	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		2	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

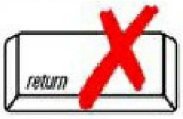
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2019 JUL WEEKLY 3
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Discharge Monitoring Report - 2019 Jul Weekly 3

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Groundwater Permit

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2019 JUL WEEKLY 3
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D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	121	17.5	2.00
MG/L			
TSS	147	6.1	2.50
MG/L			
TOTAL SOLIDS		1,290	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

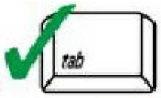
DISCHARGE MONITORING REPORT

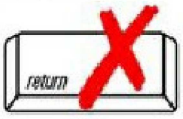
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2019 JUL WEEKLY 4
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A. Facility Information

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a. Name of Facility Contact Person

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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
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Discharge Monitoring Report - 2019 Jul Weekly 4

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Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 JUL WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	181	9.2	2.00
MG/L			
TSS	220	9.1	2.50
MG/L			
TOTAL SOLIDS		1,380	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

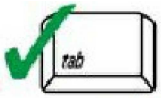
MONITORING WELL DATA REPORT

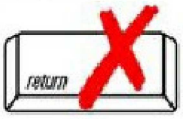
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Monitoring Well Data Report - 2019 Jul Monthly

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JUL MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.19	6.43	6.63	6.41	7.12	6.46
TOTAL PHOSPHORUS AS P MG/L	0.01	0.02	0.02	0.01	0.01	0.01
ORTHO PHOSPHATE MG/L	0.02	0.02	0.01	0.01	0.04	0.04
STATIC WATER LEVEL FEET	55.20	34.80	35.20	67.00	21.10	21.20

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	6.55	6.37	6.55			
TOTAL PHOSPHORUS AS P	MG/L	3.90	0.02	0.02			
ORTHO PHOSPHATE	MG/L	3.99	0.02	0.03			
STATIC WATER LEVEL	FEET	25.20	54.30	26.60			

Massachusetts Department of Environmental Protection
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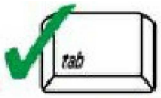
DISCHARGE MONITORING REPORT

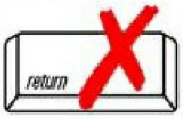
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2019 QUARTERLY 2
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A. Facility Information

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Discharge Monitoring Report - 2019 Quarterly 2

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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 QUARTERLY 2
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E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
ACETONE UG/L	211	ND	20
BENZENE UG/L	ND	ND	5
1,1 DICHLOROETHANE UG/L	ND	ND	5
1,2 DICHLOROETHANE UG/L	ND	ND	5
1,1 DICHLOROETHYLENE UG/L	ND	ND	5
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	5
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	5
ETHYL BENZENE UG/L	ND	ND	5
METHYLENECHLORIDE UG/L	ND	ND	5
TOLUENE UG/L	ND	ND	5
O-XYLENE UG/L	ND	ND	5
P/M XYLENE UG/L	ND	ND	5
CARBON TETRACHLORIDE UG/L	ND	ND	5
CHLOROFORM UG/L	ND	ND	5
2-BUTANONE (MEK) UG/L	ND	ND	5

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E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
4-METHYL-2-PENTANONE (MIBK) UG/L	ND	ND	20
TRICHLOROETHYLENE UG/L	ND	ND	5
TETRACHLOROETHYLENE UG/L	ND	ND	5
1,1,1 TRICHLOROETHANE UG/L	ND	ND	5
VINYLCHLORIDE UG/L	ND	ND	5
STYRENE UG/L	ND	ND	5
CHLOROBENZENE UG/L	ND	ND	5
METHYL TERTIARY BUTYL ETHER UG/L	ND	ND	5
CHLOROETHANE UG/L	ND	ND	5
1,2-DICHLOROPROPANE UG/L	ND	ND	5
DIBROMOCHLOROMETHANE UG/L	61.70	61.70	5
1,1,2-TRICHLOROETHANE UG/L	ND	ND	5
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	20
BROMODICHLOROMETHANE UG/L	26.60	26.60	5
BROMOFORM UG/L	47.30	47.30	5

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1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	5
CHLOROMETHANE UG/L	ND	ND	5
BROMOMETHANE UG/L	ND	ND	5
CARBONDISULFIDE UG/L	ND	ND	20
2-HEXANONE UG/L	ND	ND	20
ACROLEIN UG/L	ND	ND	20
ACRYLONITRILE UG/L	ND	ND	20
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	5
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	5

Massachusetts Department of Environmental Protection
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MONITORING WELL DATA REPORT

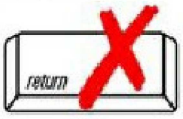
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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

7/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Quarterly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 2
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	3.0	4.5	2.0	27.5	7.0	11.0
DISSOLVED OXYGEN MG/L	9.53	4.68	4.83	8.42	4.60	8.03
NITRATE-N MG/L	0.09	1.08	0.62	2.21	1.39	1.43
TOTAL NITROGEN(NO3+NO2+TK MG/L	16.80	1.29	0.83	2.57	1.60	1.64
TURBIDITY NTUS	0.50	0.30	0.60	0.40	0.30	0.30
SODIUM MG/L	8.63	11.40	8.96	168	104.0	60.3
CHLORIDE MG/L	15.2	28.20	16.90	273	183	112.0
SPECIFIC CONDUCTANCE UMHOS/C	112.0	118.0	157.0	635.0	730.0	427.0
TEMPERATURE DEG C	14.43	12.73	12.39	16.81	14.31	16.92
COPPER MG/L	0.0036	0.0020	0.0020	0.0020	0.0020	0.0020
BORON MG/L	0.0068	0.0117	0.0098	0.0878	0.1900	0.0298

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 2
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	85.0	27.5	4.0			
DISSOLVED OXYGEN MG/L	7.72	7.44	5.75			
NITRATE-N MG/L	4.98	3.31	1.69			
TOTAL NITROGEN(NO3+NO2+TK MG/L	5.79	3.89	1.90			
TURBIDITY NTUS	0.40	0.30	0.40			
SODIUM MG/L	300	256	32.4			
CHLORIDE MG/L	421	376	74.2			
SPECIFIC CONDUCTANCE UMHOS/C	1,860	1,615	469			
TEMPERATURE DEG C	20.10	16.21	12.72			
COPPER MG/L	0.0053	0.0020	0.0020			
BORON MG/L	0.1580	0.1240	0.0216			

Massachusetts Department of Environmental Protection
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Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 2
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE UG/L	ND	ND	ND	ND	ND	ND
BENZENE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
ETHYL BENZENE UG/L	ND	ND	ND	ND	ND	ND
METHYLENECHLORIDE UG/L	ND	ND	ND	ND	ND	ND
TOLUENE UG/L	ND	ND	ND	ND	ND	ND
O-XYLENE UG/L	ND	ND	ND	ND	ND	ND
P/M XYLENE UG/L	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE UG/L	ND	ND	ND	ND	ND	ND
CHLOROFORM UG/L	ND	ND	ND	ND	ND	6.35
2-BUTANONE (MEK) UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2. Tax identification Number

2019 QUARTERLY 2
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK	ND	ND	ND	ND	ND	ND
UG/L						
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,1 TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
VINYLCHLORIDE	ND	ND	ND	ND	ND	ND
UG/L						
STYRENE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROBENZENE	ND	ND	ND	ND	ND	ND
UG/L						
METHYL TERTIARY BUTYL ETHE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND	ND
UG/L						
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND	ND
UG/L						
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
BROMOFORM	ND	ND	ND	ND	ND	ND
UG/L						

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 2
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
CHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
BROMOMETHANE UG/L	ND	ND	ND	ND	ND	ND
CARBONDISULFIDE UG/L	ND	ND	ND	ND	ND	ND
2-HEXANONE UG/L	ND	ND	ND	ND	ND	ND
ACROLEIN UG/L	ND	ND	ND	ND	ND	ND
ACRYLONITRILE UG/L	ND	ND	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
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Groundwater Permit

MONITORING WELL DATA REPORT

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2. Tax identification Number

2019 QUARTERLY 2
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE	UG/L	ND	ND	ND			
BENZENE	UG/L	ND	ND	ND			
1,1 DICHLOROETHANE	UG/L	ND	ND	ND			
1,2 DICHLOROETHANE	UG/L	ND	ND	ND			
1,1 DICHLOROETHYLENE	UG/L	ND	ND	ND			
CIS-1,2-DICHLOROETHYLENE	UG/L	ND	ND	ND			
TRANS 1,2 DICHLOROETHYLENE	UG/L	ND	ND	ND			
ETHYL BENZENE	UG/L	ND	ND	ND			
METHYLENECHLORIDE	UG/L	ND	ND	ND			
TOLUENE	UG/L	ND	ND	ND			
O-XYLENE	UG/L	ND	ND	ND			
P/M XYLENE	UG/L	ND	ND	ND			
CARBON TETRACHLORIDE	UG/L	ND	ND	ND			
CHLOROFORM	UG/L	ND	ND	ND			
2-BUTANONE (MEK)	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 2
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D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK	UG/L	ND	ND	ND			
TRICHLOROETHYLENE	UG/L	ND	ND	ND			
TETRACHLOROETHYLENE	UG/L	ND	ND	ND			
1,1,1 TRICHLOROETHANE	UG/L	ND	ND	ND			
VINYLCHLORIDE	UG/L	ND	ND	ND			
STYRENE	UG/L	ND	ND	ND			
CHLOROBENZENE	UG/L	ND	ND	ND			
METHYL TERTIARY BUTYL ETHE	UG/L	ND	ND	ND			
CHLOROETHANE	UG/L	ND	ND	ND			
1,2-DICHLOROPROPANE	UG/L	ND	ND	ND			
DIBROMOCHLOROMETHANE	UG/L	ND	ND	ND			
1,1,2-TRICHLOROETHANE	UG/L	ND	ND	ND			
2-CHLOROETHYLVINYL ETHER	UG/L	ND	ND	ND			
BROMODICHLOROMETHANE	UG/L	ND	ND	ND			
BROMOFORM	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 2
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE	UG/L	ND	ND	ND			
CHLOROMETHANE	UG/L	ND	ND	ND			
BROMOMETHANE	UG/L	ND	ND	ND			
CARBONDISULFIDE	UG/L	ND	ND	ND			
2-HEXANONE	UG/L	ND	ND	ND			
ACROLEIN	UG/L	ND	ND	ND			
ACRYLONITRILE	UG/L	ND	ND	ND			
TRANS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			
CIS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			

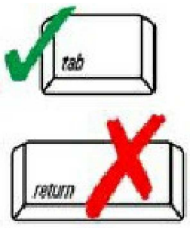
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

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2. Tax identification Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	8/13/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND THE ATTACHED DMR INCLUDING DAILY, WEEKLY, BIMONTHLY AND MONTHLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THERE WERE TWO (2) PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF JULY 2019. THE EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS (TDS). THE EFFLUENT SAMPLE COLLECTED ON 7/10+24/2019 AND SENT TO MICROBAC LABORATORY FOR SAMPLE ANALYSIS AND MEASURED 1,640 & 1,340 MG/L. THE PERMIT LIMIT IS 1000 MG/L RESULTING IN THE EXCURSION.

ATTACHMENT:
1) DMR COVER LETTER
2) ADDEMNDUM FOR SPECIFIC CONDUCTANCE AND SETTLEABLE SOLIDS REPORTING
3) MONTHLY FLOW VS ANNUAL AVERAGES
4) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT VEOLIA PROJECT MANAGER BOB BLANCHARD AT (508)830-4150 X207

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1136470**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**4855.27K**
Status of Transaction:	**Submitted**
Date and Time Created:	**9/12/2019:2:39:52 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

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Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

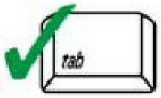
DISCHARGE MONITORING REPORT

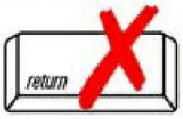
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 AUG BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Aug Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 AUG BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,730	25.0
AMMONIA-N MG/L	31.9		
NITRATE-N MG/L		3.46	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	40.4	4.8	0.400
TOTAL PHOSPHORUS AS P MG/L	9.07	3.42	0.0213
ORTHO PHOSPHATE MG/L		3.33	0.0400
OIL & GREASE MG/L	34.3	1.00	1.05
SODIUM MG/L	244	514	1.00
CHLORIDE MG/L	357	815	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

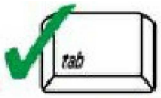
DISCHARGE MONITORING REPORT

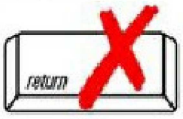
677
1. Permit Number

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2019 AUG BI-MONTHLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

8/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Aug Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2. Tax identification Number

2019 AUG BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,490	25.0
AMMONIA-N MG/L	30.3		
NITRATE-N MG/L		3.95	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	44.9	5.9	0.400
TOTAL PHOSPHORUS AS P MG/L	2.15	4.91	0.0213
ORTHO PHOSPHATE MG/L		4.60	0.0400
OIL & GREASE MG/L	30.3	1.05	1.05
SODIUM MG/L	296	423	1.00
CHLORIDE MG/L	262	678	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

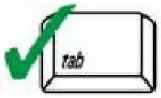
DAILY LOG SHEET

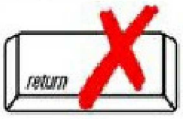
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 AUG DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Aug Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 AUG DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	89,000				6.74	6.94	ND	
2	70,000				6.93	6.90	0.02	
3	108,000				6.91	6.98	ND	
4	44,000				6.85	6.91	0.02	
5	72,000				6.74	6.96	ND	
6	82,000				6.83	6.99	ND	
7	69,000				6.88	6.89	ND	
8	115,000				6.91	7.00	0.02	
9	65,000				6.80	6.99	0.02	
10	75,000				6.85	6.94	ND	
11	54,000				6.81	6.88	ND	
12	85,000				6.69	7.03	0.02	
13	54,000				6.86	6.94	ND	
14	54,000				6.87	7.06	0.02	
15	38,000				6.95	6.91	ND	
16	52,000				6.84	7.00	ND	
17	17,000				6.85	6.94	ND	
18	8,000				6.77	6.92	ND	
19	48,000				6.74	7.09	ND	
20	29,000				6.87	6.95	ND	
21	36,000				6.95	6.97	0.02	
22	22,000				7.02	6.94	ND	
23	36,000				6.95	7.04	ND	
24	26,000				6.89	7.01	ND	
25	600,000				6.86	6.94	0.02	
26	23,000				6.78	6.96	ND	
27	19,000				6.92	7.02	0.03	
28	45,000				6.85	7.03	0.02	
29	253,000				6.98	6.96	ND	
30	91,000				6.95	6.97	0.02	
31	19,000				6.94	6.88	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

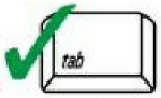
DISCHARGE MONITORING REPORT

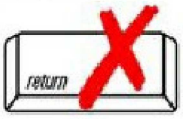
677
1. Permit Number

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2019 AUG MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Aug Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 AUG MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.24	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

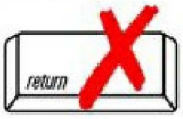
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3. Sampling Month & Frequency

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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
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B. Form Selection

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Monitoring Well Data Report - 2019 Aug Monthly

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Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
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2019 AUG MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	4.28	5.57	5.71	4.97	5.68	4.86
TOTAL PHOSPHORUS AS P MG/L	0.01	0.01	0.01	0.01	0.01	0.01
ORTHO PHOSPHATE MG/L	0.01	0.02	0.02	0.04	0.04	0.02
STATIC WATER LEVEL FEET	54.50	35.00	35.30	66.90	21.80	21.20

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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C. Contaminant Analysis Information

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- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	5.07	5.10	5.82			
TOTAL PHOSPHORUS AS P	MG/L	4.27	0.02	0.01			
ORTHO PHOSPHATE	MG/L	4.15	0.02	0.02			
STATIC WATER LEVEL	FEET	26.10	54.70	27.00			

Massachusetts Department of Environmental Protection
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Groundwater Permit

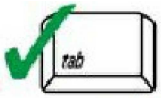
DISCHARGE MONITORING REPORT

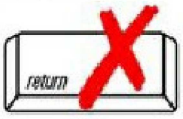
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2019 AUG WEEKLY 1
3. Sampling Month & Frequency

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2. Contact information:

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a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Aug Weekly 1

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 AUG WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	209	19.6	2.00
MG/L			
TSS	227	5.4	2.50
MG/L			
TOTAL SOLIDS		1,300	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

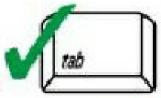
DISCHARGE MONITORING REPORT

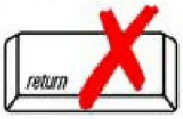
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2019 AUG WEEKLY 2
3. Sampling Month & Frequency

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a. Name of Facility Contact Person

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b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Aug Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 AUG WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	198	17.5	2.00
MG/L			
TSS	223	7.4	2.50
MG/L			
TOTAL SOLIDS		1,750	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

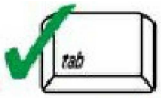
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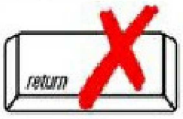
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2019 AUG WEEKLY 3
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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

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Discharge Monitoring Report - 2019 Aug Weekly 3

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 AUG WEEKLY 3
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D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	173	15.8	2.00
MG/L			
TSS	202	7.2	2.50
MG/L			
TOTAL SOLIDS		1,620	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

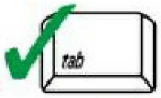
DISCHARGE MONITORING REPORT

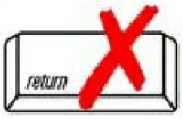
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2019 AUG WEEKLY 4
3. Sampling Month & Frequency

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A. Facility Information

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Discharge Monitoring Report - 2019 Aug Weekly 4

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 AUG WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	196	15.6	2.00
MG/L			
TSS	217	6.1	2.50
MG/L			
TOTAL SOLIDS		1,520	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

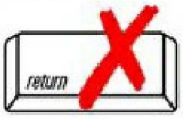
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2019 QUARTERLY 3
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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
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Discharge Monitoring Report - 2019 Quarterly 3

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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 QUARTERLY 3
3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
ACETONE UG/L	200	ND	20
BENZENE UG/L	ND	ND	5
1,1 DICHLOROETHANE UG/L	ND	ND	5
1,2 DICHLOROETHANE UG/L	ND	ND	5
1,1 DICHLOROETHYLENE UG/L	ND	ND	5
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	5
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	5
ETHYL BENZENE UG/L	ND	ND	5
METHYLENECHLORIDE UG/L	ND	ND	5
TOLUENE UG/L	ND	ND	5
O-XYLENE UG/L	ND	ND	5
P/M XYLENE UG/L	ND	ND	5
CARBON TETRACHLORIDE UG/L	ND	ND	5
CHLOROFORM UG/L	ND	18.00	5
2-BUTANONE (MEK) UG/L	ND	ND	20

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3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
4-METHYL-2-PENTANONE (MIBK) UG/L	ND	ND	20
TRICHLOROETHYLENE UG/L	ND	ND	5
TETRACHLOROETHYLENE UG/L	ND	ND	5
1,1,1 TRICHLOROETHANE UG/L	ND	ND	5
VINYLCHLORIDE UG/L	ND	ND	5
STYRENE UG/L	ND	ND	5
CHLOROBENZENE UG/L	ND	ND	5
METHYL TERTIARY BUTYL ETHER UG/L	ND	ND	5
CHLOROETHANE UG/L	ND	ND	5
1,2-DICHLOROPROPANE UG/L	ND	ND	5
DIBROMOCHLOROMETHANE UG/L	ND	ND	5
1,1,2-TRICHLOROETHANE UG/L	ND	44.00	5
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	20
BROMODICHLOROMETHANE UG/L	ND	29.00	5
BROMOFORM UG/L	ND	15.00	5

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- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	5
CHLOROMETHANE UG/L	ND	ND	5
BROMOMETHANE UG/L	ND	ND	5
CARBONDISULFIDE UG/L	ND	ND	20
2-HEXANONE UG/L	ND	ND	20
ACROLEIN UG/L	ND	ND	20
ACRYLONITRILE UG/L	ND	ND	20
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	5
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	5

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

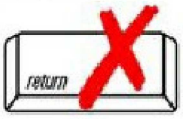
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 3
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

8/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Quarterly 3

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 3
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	2.1	4.9	2.1	46.7	6.2	12.0
DISSOLVED OXYGEN MG/L	9.74	8.57	7.79	6.23	4.71	5.30
NITRATE-N MG/L	ND	0.60	0.07	4.90	1.61	0.26
TOTAL NITROGEN(NO3+NO2+TK MG/L	ND	0.60	0.07	4.90	1.78	0.44
TURBIDITY NTUS	0.78	3.29	2.17	5.78	0.54	0.61
SODIUM MG/L	8.58	6.40	7.08	87	74.3	60.8
CHLORIDE MG/L	14.0	7.40	12.80	133	169	117
SPECIFIC CONDUCTANCE UMHOS/C	136.0	53.0	67.00	1,622	1,055	774
TEMPERATURE DEG C	13.63	12.62	13.25	17.21	16.10	15.77
COPPER MG/L	ND	ND	ND	ND	ND	ND
BORON MG/L	ND	0.0080	00.0079	0.0442	0.0176	0.0271

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2. Tax identification Number

2019 QUARTERLY 3
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY	MG/L	114.0	16.4	3.1			
DISSOLVED OXYGEN	MG/L	6.51	7.08	6.99			
NITRATE-N	MG/L	4.26	3.79	1.96			
TOTAL NITROGEN(NO3+NO2+TK	MG/L	5.32	4.04	1.96			
TURBIDITY	NTUS	1.43	0.79	2.77			
SODIUM	MG/L	350	221	32.4			
CHLORIDE	MG/L	514	339	69.7			
SPECIFIC CONDUCTANCE	UMHOS/C	4,595	2,162	371			
TEMPERATURE	DEG C	24.51	16.30	12.50			
COPPER	MG/L	0.0051	ND	ND			
BORON	MG/L	0.2140	0.1120	0.0195			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 3
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE UG/L	ND	ND	ND	ND	ND	ND
BENZENE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
ETHYL BENZENE UG/L	ND	ND	ND	ND	ND	ND
METHYLENECHLORIDE UG/L	ND	ND	ND	ND	ND	ND
TOLUENE UG/L	ND	ND	ND	ND	ND	ND
O-XYLENE UG/L	ND	ND	ND	ND	ND	ND
P/M XYLENE UG/L	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE UG/L	ND	ND	ND	ND	ND	ND
CHLOROFORM UG/L	ND	ND	ND	ND	ND	ND
2-BUTANONE (MEK) UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 3
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK	ND	ND	ND	ND	ND	ND
UG/L						
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,1 TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
VINYLCHLORIDE	ND	ND	ND	ND	ND	ND
UG/L						
STYRENE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROBENZENE	ND	ND	ND	ND	ND	ND
UG/L						
METHYL TERTIARY BUTYL ETHE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND	ND
UG/L						
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND	ND
UG/L						
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
BROMOFORM	ND	ND	ND	ND	ND	ND
UG/L						

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 3
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
CHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
BROMOMETHANE UG/L	ND	ND	ND	ND	ND	ND
CARBONDISULFIDE UG/L	ND	ND	ND	ND	ND	ND
2-HEXANONE UG/L	ND	ND	ND	ND	ND	ND
ACROLEIN UG/L	ND	ND	ND	ND	ND	ND
ACRYLONITRILE UG/L	ND	ND	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 QUARTERLY 3
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE	UG/L	ND	ND	ND			
BENZENE	UG/L	ND	ND	ND			
1,1 DICHLOROETHANE	UG/L	ND	ND	ND			
1,2 DICHLOROETHANE	UG/L	ND	ND	ND			
1,1 DICHLOROETHYLENE	UG/L	ND	ND	ND			
CIS-1,2-DICHLOROETHYLENE	UG/L	ND	ND	ND			
TRANS 1,2 DICHLOROETHYLENE	UG/L	ND	ND	ND			
ETHYL BENZENE	UG/L	ND	ND	ND			
METHYLENECHLORIDE	UG/L	ND	ND	ND			
TOLUENE	UG/L	ND	ND	ND			
O-XYLENE	UG/L	ND	ND	ND			
P/M XYLENE	UG/L	ND	ND	ND			
CARBON TETRACHLORIDE	UG/L	ND	ND	ND			
CHLOROFORM	UG/L	8.00	ND	ND			
2-BUTANONE (MEK)	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 3
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- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK	UG/L	ND	ND	ND			
TRICHLOROETHYLENE	UG/L	ND	ND	ND			
TETRACHLOROETHYLENE	UG/L	ND	ND	ND			
1,1,1 TRICHLOROETHANE	UG/L	ND	ND	ND			
VINYLCHLORIDE	UG/L	ND	ND	ND			
STYRENE	UG/L	ND	ND	ND			
CHLOROBENZENE	UG/L	ND	ND	ND			
METHYL TERTIARY BUTYL ETHE	UG/L	ND	ND	ND			
CHLOROETHANE	UG/L	ND	ND	ND			
1,2-DICHLOROPROPANE	UG/L	ND	ND	ND			
DIBROMOCHLOROMETHANE	UG/L	ND	ND	ND			
1,1,2-TRICHLOROETHANE	UG/L	ND	ND	ND			
2-CHLOROETHYLVINYL ETHER	UG/L	ND	ND	ND			
BROMODICHLOROMETHANE	UG/L	ND	ND	ND			
BROMOFORM	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 3
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE	UG/L	ND	ND	ND			
CHLOROMETHANE	UG/L	ND	ND	ND			
BROMOMETHANE	UG/L	ND	ND	ND			
CARBONDISULFIDE	UG/L	ND	ND	ND			
2-HEXANONE	UG/L	ND	ND	ND			
ACROLEIN	UG/L	ND	ND	ND			
ACRYLONITRILE	UG/L	ND	ND	ND			
TRANS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			
CIS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			

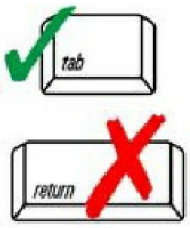
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	9/11/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY, WEEKLY,BIWEEKLY AND MONTHLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THERE WERE TWO PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF AUGUST 2019. THE EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS (TDS). THE EFFLUENT SAMPLES COLLECTED ON 8/7/19 AND 8/21/19 AND SENT TO MICROBAC LABORATORY FOR ANALYSIS WERE MEASURED AT 1,730 AND 1,490 MG/L RESPECTIVELY. THE PERMIT LIMIT IS 1000 MG/L RESULTING IN THE TWO PERMIT EXCURSIONS.

ATTACHMENTS:
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTABLE SOLIDS REPORTING
3) MONTHLY FLOW VS. ANNUAL AVERAGES
4) MONTHLY OPERATING REPORTS 1&2
5) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 830-4150 X 207

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1144058**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2905.66K**
Status of Transaction:	**Submitted**
Date and Time Created:	**10/15/2019:2:55:01 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

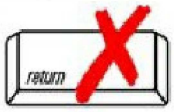
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Sep Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,670	25.0
AMMONIA-N MG/L	26.4		
NITRATE-N MG/L		3.11	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	38.5	3.11	0.400
TOTAL PHOSPHORUS AS P MG/L	4.83	2.31	0.0213
ORTHO PHOSPHATE MG/L		2.00	0.0400
OIL & GREASE MG/L	54.5	1.37	1.05
SODIUM MG/L	305	462	1.00
CHLORIDE MG/L	383	838	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

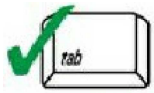
DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP BI-MONTHLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Sep Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,390	25.0
AMMONIA-N MG/L	35.0		
NITRATE-N MG/L		4.88	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	53.9	7.5	0.400
TOTAL PHOSPHORUS AS P MG/L	8.45	6.22	0.0213
ORTHO PHOSPHATE MG/L		5.92	0.0400
OIL & GREASE MG/L	21.0	1.00	1.05
SODIUM MG/L	229	444	1.00
CHLORIDE MG/L	270	607	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

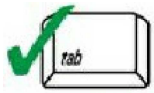
DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

9/1/2019 | IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Sep Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	56,000				6.79	6.89	ND	
2	22,000				6.62	6.93	0.03	
3	117,000				6.63	6.96	0.02	
4	15,000				6.60	6.84	ND	
5	35,000				6.86	6.84	ND	
6	40,000				7.09	6.86	0.02	
7	47,000				7.13	7.02	ND	
8	19,000				6.97	6.91	0.02	
9	12,000				6.94	6.99	0.02	
10	14,000				6.81	7.00	0.02	
11	11,000				6.91	7.09	ND	
12	36,000				6.91	6.99	0.03	
13	27,000				6.93	7.00	0.03	
14	8,000				6.94	6.92	ND	
15	13,000				6.86	6.89	0.03	
16	18,000				6.78	7.08	0.02	
17	16,000				6.88	7.05	0.02	
18	22,000				6.98	6.92	ND	
19	15,000				6.96	6.93	0.02	
20	22,000				6.94	6.94	0.02	
21	7,000				6.90	6.88	ND	
22	3,000				6.81	6.94	ND	
23	8,000				6.75	7.03	ND	
24	6,000				6.92	6.90	ND	
25	ND				6.90	6.87	ND	
26	1,000				6.83	6.89	ND	
27	19,000				6.82	6.86	0.02	
28	1,000				6.86	6.83	ND	
29	3,000				6.93	6.89	ND	
30	17,000				6.83	6.99	0.02	
31								

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

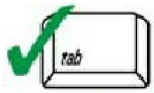
MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Sep Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	5.62	6.17	5.78	5.85	6.00	6.85
TOTAL PHOSPHORUS AS P MG/L	0.02	0.02	0.01	0.02	6.17	0.01
ORTHO PHOSPHATE MG/L	0.02	0.02	0.01	0.01	0.02	0.01
STATIC WATER LEVEL FEET	55.30	36.00	36.10	68	22.60	22.60

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
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2019 SEP MONTHLY
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C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
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- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.37	5.95	6.44			
TOTAL PHOSPHORUS AS P MG/L	6.15	0.02	0.02			
ORTHO PHOSPHATE MG/L	6.04	0.02	0.02			
STATIC WATER LEVEL FEET	27.30	55.40	28.00			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

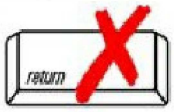
677
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c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Sep Monthly

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 SEP MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BORON		0.24	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

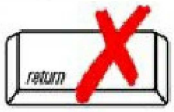
677
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2019 SEP WEEKLY 1
3. Sampling Month & Frequency

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a. Name of Facility Contact Person

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b. Telephone Number | c. e-mail address

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9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Sep Weekly 1

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	289	16.3	2.00
MG/L			
TSS	376	8.2	2.50
MG/L			
TOTAL SOLIDS		1,830	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

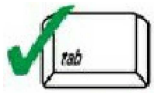
DISCHARGE MONITORING REPORT

677
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2019 SEP WEEKLY 2
3. Sampling Month & Frequency

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b. Telephone Number | c. e-mail address

3. Sampling information:

9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Sep Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BOD MG/L	197	12.8	2.00
TSS MG/L	165	4.2	2.50
TOTAL SOLIDS MG/L		1,350	25.0
CHLORINE RESIDUAL MG/L		0.03	0.02
FECAL COLIFORM /100 ML		3	1

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

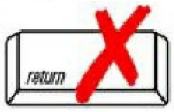
677
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2019 SEP WEEKLY 3
3. Sampling Month & Frequency

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A. Facility Information

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a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
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B. Form Selection

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Discharge Monitoring Report - 2019 Sep Weekly 3

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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2019 SEP WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD MG/L	225	8.6	2.00
TSS MG/L	205	5.2	2.50
TOTAL SOLIDS MG/L		1,450	25.0
CHLORINE RESIDUAL MG/L		0.03	0.02
FECAL COLIFORM /100 ML		2	1

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

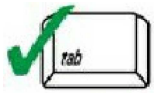
DISCHARGE MONITORING REPORT

677
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2019 SEP WEEKLY 4
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

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b. Telephone Number | c. e-mail address

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9/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Sep Weekly 4

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 SEP WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD MG/L	230	8.3	2.00
TSS MG/L	192	7.8	2.50
TOTAL SOLIDS MG/L		1,350	25.0
CHLORINE RESIDUAL MG/L		0.02	0.02
FECAL COLIFORM /100 ML		1	1

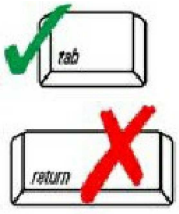
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	10/10/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY, WEEKLY, BIWEEKLY AND MONTHLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THERE WERE TWO PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF SEPTEMBER 2019. THE EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS (TDS). THE EFFLUENT SAMPLES COLLECTED ON 9/4/2019 AND 9/18/2019 THEN SENT TO MICROBAC LABORATORY FOR ANALYSIS AND MEASURED AT 1,670 AND 1,390 RESPECTIVELY. THE PERMIT LIMIT IS 1000 MG/L RESULTING IN THE TWO PERMIT EXCURSIONS.

ATTACHMENTS
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTABLE SOLIDS
3) MONTHLY FLOW VS ANNUAL AVERAGES
4) MONTHLY OPERATING REPORTS 1&2
5)PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 830-4150 X 207

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1652

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, November 22, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1652

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 11/19/2019
Reported: 11/22/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9K1652-01	Groundwater	Grab		11/19/19 10:10	11/19/19 15:20
Well #475 (filtered)	D9K1652-02	Groundwater	Grab		11/19/19 10:10	11/19/19 15:20
Well #6D	D9K1652-03	Groundwater	Grab		11/19/19 11:00	11/19/19 15:20
Well #6D (filtered)	D9K1652-04	Groundwater	Grab		11/19/19 11:00	11/19/19 15:20
Well #6S	D9K1652-05	Groundwater	Grab		11/19/19 11:35	11/19/19 15:20
Well #6S (filtered)	D9K1652-06	Groundwater	Grab		11/19/19 11:35	11/19/19 15:20
Well #A11	D9K1652-07	Groundwater	Grab		11/19/19 12:40	11/19/19 15:20
Well #A11 (filtered)	D9K1652-08	Groundwater	Grab		11/19/19 12:40	11/19/19 15:20

CERTIFICATE OF ANALYSIS

D9K1652

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-01
Collected By: Customer
Collection Date: 11/19/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0234**	0.0106	mg/L	1		11/19/19 2105	11/21/19 0922	CLW

Client Sample ID: Well #475 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-02
Collected By: Customer
Collection Date: 11/19/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0220**	0.0100	mg/L	1		11/19/19 1755	11/19/19 1930	DJM

Client Sample ID: Well #6D
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-03
Collected By: Customer
Collection Date: 11/19/2019 11:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0340**	0.0106	mg/L	1		11/19/19 2105	11/21/19 0922	CLW

Client Sample ID: Well #6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-04
Collected By: Customer
Collection Date: 11/19/2019 11:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0210**	0.0100	mg/L	1		11/19/19 1755	11/19/19 1932	DJM

Client Sample ID: Well #6S
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-05
Collected By: Customer
Collection Date: 11/19/2019 11:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0202**	0.0106	mg/L	1		11/19/19 2105	11/21/19 0923	CLW

CERTIFICATE OF ANALYSIS

D9K1652

Client Sample ID: Well #6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-06
Collected By: Customer
Collection Date: 11/19/2019 11:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0120**	0.0100	mg/L	1		11/19/19 1755	11/19/19 1933	DJM

Client Sample ID: Well #A11
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-07
Collected By: Customer
Collection Date: 11/19/2019 12:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0266**	0.0106	mg/L	1		11/19/19 2105	11/21/19 0924	CLW

Client Sample ID: Well #A11 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1652-08
Collected By: Customer
Collection Date: 11/19/2019 12:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0190**	0.0100	mg/L	1		11/19/19 1755	11/19/19 1934	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK91146 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DK91146-BLK1)			Prepared & Analyzed: 11/19/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DK91146-BS1)			Prepared & Analyzed: 11/19/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DK91146-DUP1)		**Source: D9K1611-05**	Prepared & Analyzed: 11/19/2019							
Ortho-phosphate as P	2.43	0.0200	mg/L		2.43			0.124	20	
Matrix Spike (DK91146-MS1)		**Source: D9K1611-05**	Prepared & Analyzed: 11/19/2019							
Ortho-phosphate as P	3.34	0.0200	mg/L	1.00	2.43	90.8	90-110			
Matrix Spike (DK91146-MS2)		**Source: D9K1611-09**	Prepared & Analyzed: 11/19/2019							
Ortho-phosphate as P	2.87	0.0200	mg/L	1.00	1.92	95.2	90-110			
Batch DK91170 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DK91170-BLK1)			Prepared: 11/19/2019 Analyzed: 11/21/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DK91170-BS1)			Prepared: 11/19/2019 Analyzed: 11/21/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DK91170-DUP1)		**Source: D9K1588-08**	Prepared: 11/19/2019 Analyzed: 11/21/2019							
Phosphorus - Total as P	0.690	0.0106	mg/L		0.666			3.45	20	
Matrix Spike (DK91170-MS1)		**Source: D9K1588-08**	Prepared: 11/19/2019 Analyzed: 11/21/2019							
Phosphorus - Total as P	1.87	0.0106	mg/L	1.25	0.666	96.2	90-110			
Matrix Spike (DK91170-MS2)		**Source: L9K0271-04**	Prepared: 11/19/2019 Analyzed: 11/21/2019							
Phosphorus - Total as P	5.35	0.0425	mg/L	1.25	4.25	87.7	90-110			M2

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1652

Definitions

M2:	Matrix spike recovery is below acceptance limits.
mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 11/22/2019 12:13

MICROBAC

Microbac Laboratories, Inc.

D9K1652

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

Wells - Monthly TP & Ortho-P

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	11/19/2019	10:10		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	11/19/2019	10:16		X	WW	1		X	X				
Well # 6D (250 mL)	11/19/2019	11:00		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	11/19/2019	11:00		X	WW	1		X	X				
Well # 6S (250 mL)	11/19/2019	11:35		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	11/19/2019	11:35		X	WW	1		X	X				
Well # A11 (250 mL)	11/19/2019	12:40		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	11/19/2019	12:40		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	11-19-19	
RECEIVED:		
RELINQUISHED:	11-19-19	13:02
RECEIVED:	11-19-19	13:02
RELINQUISHED:	11-19-19	15:20
RECEIVED:	11:19:19	15:20

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐

2.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1982

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Monday, November 25, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1982

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 11/21/2019
Reported: 11/25/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9K1982-01	Groundwater	Grab		11/21/19 08:35	11/21/19 15:15
Well #1S (filtered)	D9K1982-02	Groundwater	Grab		11/21/19 08:35	11/21/19 15:15
Well #A9	D9K1982-03	Groundwater	Grab		11/21/19 09:20	11/21/19 15:15
Well #A9 (filtered)	D9K1982-04	Groundwater	Grab		11/21/19 09:20	11/21/19 15:15
Well #A10	D9K1982-05	Groundwater	Grab		11/21/19 10:00	11/21/19 15:15
Well #A10 (filtered)	D9K1982-06	Groundwater	Grab		11/21/19 10:00	11/21/19 15:15
Well #A8	D9K1982-07	Groundwater	Grab		11/21/19 10:50	11/21/19 15:15
Well #A8 (filtered)	D9K1982-08	Groundwater	Grab		11/21/19 10:50	11/21/19 15:15
Well #A16	D9K1982-09	Groundwater	Grab		11/21/19 11:35	11/21/19 15:15
Well #A16 (filtered)	D9K1982-10	Groundwater	Grab		11/21/19 11:35	11/21/19 15:15

CERTIFICATE OF ANALYSIS

D9K1982

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-01
Collected By: Customer
Collection Date: 11/21/2019 8:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0128**	0.0106	mg/L	1		11/22/19 2036	11/25/19 0948	CLW

Client Sample ID: Well #1S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-02
Collected By: Customer
Collection Date: 11/21/2019 8:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0160**	0.0100	mg/L	1		11/21/19 1836	11/21/19 2004	DJM

Client Sample ID: Well #A9
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-03
Collected By: Customer
Collection Date: 11/21/2019 9:20

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0202**	0.0106	mg/L	1		11/22/19 2036	11/25/19 0948	CLW

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-04
Collected By: Customer
Collection Date: 11/21/2019 9:20

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0210**	0.0100	mg/L	1		11/21/19 1836	11/21/19 2004	DJM

Client Sample ID: Well #A10
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-05
Collected By: Customer
Collection Date: 11/21/2019 10:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		11/22/19 2036	11/25/19 0949	CLW

CERTIFICATE OF ANALYSIS

D9K1982

Client Sample ID: Well #A10 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-06
Collected By: Customer
Collection Date: 11/21/2019 10:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0550**	0.0100	mg/L	1		11/21/19 1836	11/21/19 2005	DJM

Client Sample ID: Well #A8
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-07
Collected By: Customer
Collection Date: 11/21/2019 10:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**5.90**	0.0425	mg/L	4		11/22/19 2036	11/25/19 1047	CLW

Client Sample ID: Well #A8 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-08
Collected By: Customer
Collection Date: 11/21/2019 10:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**5.67**	0.0400	mg/L	4		11/21/19 1836	11/21/19 2042	DJM

Client Sample ID: Well #A16
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-09
Collected By: Customer
Collection Date: 11/21/2019 11:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0106**	0.0106	mg/L	1		11/22/19 2036	11/25/19 0951	CLW

Client Sample ID: Well #A16 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9K1982-10
Collected By: Customer
Collection Date: 11/21/2019 11:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0130**	0.0100	mg/L	1		11/21/19 1836	11/21/19 2008	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK91360 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DK91360-BLK1)			Prepared & Analyzed: 11/21/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DK91360-BS1)			Prepared & Analyzed: 11/21/2019							
Ortho-phosphate as P	1.04	0.0100	mg/L	1.00		103	90-110			
Duplicate (DK91360-DUP1)		**Source: D9K1932-05**	Prepared & Analyzed: 11/21/2019							
Ortho-phosphate as P	2.24	0.0200	mg/L		2.26			0.799	20	
Matrix Spike (DK91360-MS1)		**Source: D9K1932-05**	Prepared & Analyzed: 11/21/2019							
Ortho-phosphate as P	3.17	0.0200	mg/L	1.00	2.26	90.7	90-110			
Matrix Spike (DK91360-MS2)		**Source: D9K1932-09**	Prepared & Analyzed: 11/21/2019							
Ortho-phosphate as P	2.64	0.0200	mg/L	1.00	1.67	97.0	90-110			
Batch DK91449 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DK91449-BLK1)			Prepared: 11/22/2019 Analyzed: 11/25/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DK91449-BS1)			Prepared: 11/22/2019 Analyzed: 11/25/2019							
Phosphorus - Total as P	1.02	0.0106	mg/L	1.00		102	90-110			
Duplicate (DK91449-DUP1)		**Source: D9K1961-02**	Prepared: 11/22/2019 Analyzed: 11/25/2019							
Phosphorus - Total as P	2.32	0.0213	mg/L		2.28			1.66	20	
Matrix Spike (DK91449-MS1)		**Source: D9K1961-02**	Prepared: 11/22/2019 Analyzed: 11/25/2019							
Phosphorus - Total as P	3.61	0.0213	mg/L	1.25	2.28	106	90-110			
Matrix Spike (DK91449-MS2)		**Source: L9K0404-01**	Prepared: 11/22/2019 Analyzed: 11/25/2019							
Phosphorus - Total as P	2.02	0.0213	mg/L	1.25	0.686	106	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9K1982

Definitions

mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 11/25/2019 16:31

MICROBAC

Microbac Laboratories, Inc.

D 9 K 1 9 8 2

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

Wells - Monthly TP & Ortho-P

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1S (250 mL)	11/21/2019	8:35		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	11/21/2019	8:35		X	WW	1		X	X				
Well # A9 (250 mL)	11/21/2019	9:20		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	11/21/2019	9:20		X	WW	1		X	X				
Well # A10 (250 mL)	11/21/2019	10:00		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	11/21/2019	10:00		X	WW	1		X	X				
Well# A8 (250 mL)	11/21/2019	10:50		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	11/21/2019	10:50		X	WW	1		X	X				
Well # A16 (250 mL)	11/21/2019	11:35		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	11/21/2019	11:35		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	11-21-19	
RECEIVED:		
RELINQUISHED:	11/21/19	1258
CEIVED:	11/21-19	1258
LINQUISHED:	11/21-19	1515
CEIVED:	11.21.19	1515

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐

4.1°C

PB

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L0403

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, December 6, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L0403

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 12/05/2019
Reported: 12/06/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9L0403-01	Groundwater	Grab		12/05/19 10:04	12/05/19 16:00
Well #475 (filtered)	D9L0403-02	Groundwater	Grab		12/05/19 10:04	12/05/19 16:00
Well #6D	D9L0403-03	Groundwater	Grab		12/05/19 10:49	12/05/19 16:00
Well #6D (filtered)	D9L0403-04	Groundwater	Grab		12/05/19 10:49	12/05/19 16:00
Well #6S	D9L0403-05	Groundwater	Grab		12/05/19 11:14	12/05/19 16:00
Well #6S (filtered)	D9L0403-06	Groundwater	Grab		12/05/19 11:14	12/05/19 16:00
Well #A11	D9L0403-07	Groundwater	Grab		12/05/19 12:07	12/05/19 16:00
Well #A11 (filtered)	D9L0403-08	Groundwater	Grab		12/05/19 12:07	12/05/19 16:00

CERTIFICATE OF ANALYSIS

D9L0403

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-01
Collected By: Customer
Collection Date: 12/05/2019 10:04

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0159**	0.0106	mg/L	1		12/05/19 1949	12/06/19 0915	CLW

Client Sample ID: Well #475 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-02
Collected By: Customer
Collection Date: 12/05/2019 10:04

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0190**	0.0100	mg/L	1		12/05/19 1810	12/05/19 1949	DJM

Client Sample ID: Well #6D
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-03
Collected By: Customer
Collection Date: 12/05/2019 10:49

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0159**	0.0106	mg/L	1		12/05/19 1949	12/06/19 0916	CLW

Client Sample ID: Well #6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-04
Collected By: Customer
Collection Date: 12/05/2019 10:49

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0200**	0.0100	mg/L	1		12/05/19 1810	12/05/19 1950	DJM

Client Sample ID: Well #6S
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-05
Collected By: Customer
Collection Date: 12/05/2019 11:14

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		12/05/19 1949	12/06/19 0917	CLW

CERTIFICATE OF ANALYSIS

D9L0403

Client Sample ID: Well #6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-06
Collected By: Customer
Collection Date: 12/05/2019 11:14

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0110**	0.0100	mg/L	1		12/05/19 1810	12/05/19 1950	DJM

Client Sample ID: Well #A11
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-07
Collected By: Customer
Collection Date: 12/05/2019 12:07

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0181**	0.0106	mg/L	1		12/05/19 1949	12/06/19 0917	CLW

Client Sample ID: Well #A11 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L0403-08
Collected By: Customer
Collection Date: 12/05/2019 12:07

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0150**	0.0100	mg/L	1		12/05/19 1810	12/05/19 1951	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DL90333 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DL90333-BLK1)			Prepared & Analyzed: 12/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DL90333-BS1)			Prepared & Analyzed: 12/05/2019							
Ortho-phosphate as P	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DL90333-DUP1)		**Source: D9L0368-02**	Prepared & Analyzed: 12/05/2019							
Ortho-phosphate as P	0.0130	0.0100	mg/L		0.0130			0.00	20	
Matrix Spike (DL90333-MS1)		**Source: D9L0368-02**	Prepared & Analyzed: 12/05/2019							
Ortho-phosphate as P	0.967	0.0100	mg/L	1.00	0.0130	95.3	90-110			
Batch DL90344 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DL90344-BLK1)			Prepared: 12/05/2019 Analyzed: 12/06/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DL90344-BS1)			Prepared: 12/05/2019 Analyzed: 12/06/2019							
Phosphorus - Total as P	0.997	0.0106	mg/L	1.00		99.7	90-110			
Duplicate (DL90344-DUP1)		**Source: D9L0371-01**	Prepared: 12/05/2019 Analyzed: 12/06/2019							
Phosphorus - Total as P	0.183	0.0106	mg/L		0.179			2.35	20	
Matrix Spike (DL90344-MS1)		**Source: D9L0371-01**	Prepared: 12/05/2019 Analyzed: 12/06/2019							
Phosphorus - Total as P	1.44	0.0106	mg/L	1.25	0.179	101	90-110			
Matrix Spike (DL90344-MS2)		**Source: L9L0055-01**	Prepared: 12/05/2019 Analyzed: 12/06/2019							
Phosphorus - Total as P	1.49	0.0106	mg/L	1.25	0.243	99.9	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L0403

Definitions

mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.7ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 12/06/2019 15:34

D 9 L 0 4 0 3

MICROBAC

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	12/5/2019	10:04		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	12/5/2019	10:04		X	WW	1		X	X				
Well # 6D (250 mL)	12/5/2019	10:49		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	12/5/2019	10:49		X	WW	1		X	X				
Well # 6S (250 mL)	12/5/2019	11:14		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	12/5/2019	11:14		X	WW	1		X	X				
Well # A11 (250 mL)	12/5/2019	12:07		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	12/5/2019	12:07		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	12-5-19	
RECEIVED:		
RELINQUISHED:	12-5-19	1320
RECEIVED:	12-5-19	1300
RELINQUISHED:	12-5-19	1600
RECEIVED:	12.5.19	1600

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: PRESERVATIVE VERIFIED Initials AB

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐

2.7° AB

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, December 27, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 12/24/2019
Reported: 12/27/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9L1990-01	Groundwater	Grab		12/24/19 09:42	12/24/19 14:25
Well #1S (filtered)	D9L1990-02	Groundwater	Grab		12/24/19 09:42	12/24/19 14:25
Well #A9	D9L1990-03	Groundwater	Grab		12/24/19 10:45	12/24/19 14:25
Well #A9 (filtered)	D9L1990-04	Groundwater	Grab		12/24/19 10:45	12/24/19 14:25
Well #A10	D9L1990-05	Groundwater	Grab		12/24/19 11:40	12/24/19 14:25
Well #A10 (filtered)	D9L1990-06	Groundwater	Grab		12/24/19 11:40	12/24/19 14:25

CERTIFICATE OF ANALYSIS

D9L1990

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-01
Collected By: Customer
Collection Date: 12/24/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		12/26/19 1650	12/27/19 1025	CLW

Client Sample ID: Well #1S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-02
Collected By: Customer
Collection Date: 12/24/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0120**	0.0100	mg/L	1		12/24/19 1440	12/24/19 1742	DJM

Client Sample ID: Well #A9
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-03
Collected By: Customer
Collection Date: 12/24/2019 10:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0202**	0.0106	mg/L	1		12/26/19 1650	12/27/19 1026	CLW

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-04
Collected By: Customer
Collection Date: 12/24/2019 10:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0240**	0.0100	mg/L	1		12/24/19 1440	12/24/19 1742	DJM

Client Sample ID: Well #A10
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-05
Collected By: Customer
Collection Date: 12/24/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		12/26/19 1650	12/27/19 1028	CLW

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Client Sample ID:	Well #A10 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9L1990-06	**Collection Date:**	12/24/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		12/24/19 1440	12/24/19 1743	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DL91488 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DL91488-BLK1)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DL91488-BLK2)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DL91488-BS1)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.04	0.0100	mg/L	1.00		104	90-110			
LCS (DL91488-BS2)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.04	0.0100	mg/L	1.00		104	90-110			
Duplicate (DL91488-DUP1)		**Source: D9L1827-01**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	0.0370	0.0100	mg/L		0.0370			0.00	20	
Matrix Spike (DL91488-MS1)		**Source: D9L1827-01**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0370	103	90-110			
Matrix Spike (DL91488-MS2)		**Source: D9L1827-02**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00	0.0130	104	90-110			
Batch DL91565 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DL91565-BLK1)			Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DL91565-BS1)			Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.03	0.0106	mg/L	1.00		103	90-110			
Duplicate (DL91565-DUP1)		**Source: D9L1909-02**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	0.354	0.0106	mg/L		0.359			1.49	20	
Matrix Spike (DL91565-MS1)		**Source: D9L1909-02**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.57	0.0106	mg/L	1.25	0.359	96.6	90-110			
Matrix Spike (DL91565-MS2)		**Source: D9L1917-13**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.38	0.0106	mg/L	1.25	0.236	91.3	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Definitions

mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.5°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 12/27/2019 14:24

MICROBAC

D 9 L 1 9 9 0

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1s (250 mL)	12/24/2019	9:42		X	WW	1	X			X			
Well # 1s (250 mL) (filtered)	12/24/2019	9:42		X	WW	1		X	X				
Well # A9 (250 mL)	12/24/2019	10:45		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	12/24/2019	10:45		X	WW	1		X	X				
Well # A10 (250 mL)	12/24/2019	11:40		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	12/24/2019	11:40		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	12/24/19	
RECEIVED:		
RELINQUISHED:	12-24-19	12:45
RECEIVED:	12-24-19	12:45
RELINQUISHED:	12-24-19	14:55
RECEIVED:	12.24.19	1455

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 1.5 °C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, December 27, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 12/24/2019
Reported: 12/27/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9L1990-01	Groundwater	Grab		12/24/19 09:42	12/24/19 14:25
Well #1S (filtered)	D9L1990-02	Groundwater	Grab		12/24/19 09:42	12/24/19 14:25
Well #A9	D9L1990-03	Groundwater	Grab		12/24/19 10:45	12/24/19 14:25
Well #A9 (filtered)	D9L1990-04	Groundwater	Grab		12/24/19 10:45	12/24/19 14:25
Well #A10	D9L1990-05	Groundwater	Grab		12/24/19 11:40	12/24/19 14:25
Well #A10 (filtered)	D9L1990-06	Groundwater	Grab		12/24/19 11:40	12/24/19 14:25

CERTIFICATE OF ANALYSIS

D9L1990

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-01
Collected By: Customer
Collection Date: 12/24/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		12/26/19 1650	12/27/19 1025	CLW

Client Sample ID: Well #1S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-02
Collected By: Customer
Collection Date: 12/24/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0120**	0.0100	mg/L	1		12/24/19 1440	12/24/19 1742	DJM

Client Sample ID: Well #A9
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-03
Collected By: Customer
Collection Date: 12/24/2019 10:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0202**	0.0106	mg/L	1		12/26/19 1650	12/27/19 1026	CLW

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-04
Collected By: Customer
Collection Date: 12/24/2019 10:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0240**	0.0100	mg/L	1		12/24/19 1440	12/24/19 1742	DJM

Client Sample ID: Well #A10
Sample Matrix: Groundwater
Lab Sample ID: D9L1990-05
Collected By: Customer
Collection Date: 12/24/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		12/26/19 1650	12/27/19 1028	CLW

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Client Sample ID:	Well #A10 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9L1990-06	**Collection Date:**	12/24/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		12/24/19 1440	12/24/19 1743	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DL91488 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DL91488-BLK1)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DL91488-BLK2)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DL91488-BS1)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.04	0.0100	mg/L	1.00		104	90-110			
LCS (DL91488-BS2)			Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.04	0.0100	mg/L	1.00		104	90-110			
Duplicate (DL91488-DUP1)		**Source: D9L1827-01**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	0.0370	0.0100	mg/L		0.0370			0.00	20	
Matrix Spike (DL91488-MS1)		**Source: D9L1827-01**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0370	103	90-110			
Matrix Spike (DL91488-MS2)		**Source: D9L1827-02**	Prepared & Analyzed: 12/24/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00	0.0130	104	90-110			
Batch DL91565 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DL91565-BLK1)			Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DL91565-BS1)			Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.03	0.0106	mg/L	1.00		103	90-110			
Duplicate (DL91565-DUP1)		**Source: D9L1909-02**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	0.354	0.0106	mg/L		0.359			1.49	20	
Matrix Spike (DL91565-MS1)		**Source: D9L1909-02**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.57	0.0106	mg/L	1.25	0.359	96.6	90-110			
Matrix Spike (DL91565-MS2)		**Source: D9L1917-13**	Prepared: 12/26/2019 Analyzed: 12/27/2019							
Phosphorus - Total as P	1.38	0.0106	mg/L	1.25	0.236	91.3	90-110			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9L1990

Definitions

mg/L:	Milligrams per Liter
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.5°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 12/27/2019 14:24

MICROBAC

D 9 L 1 9 9 0

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1s (250 mL)	12/24/2019	9:42		X	WW	1	X			X			
Well # 1s (250 mL) (filtered)	12/24/2019	9:42		X	WW	1		X	X				
Well # A9 (250 mL)	12/24/2019	10:45		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	12/24/2019	10:45		X	WW	1		X	X				
Well # A10 (250 mL)	12/24/2019	11:40		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	12/24/2019	11:40		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	12/24/19	
RECEIVED:		
RELINQUISHED:	12-24-19	12:45
RECEIVED:	12-24-19	12:45
RELINQUISHED:	12-24-19	14:55
RECEIVED:	12.24.19	1455

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 1.5 °C

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1114816**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2905.92K**
Status of Transaction:	**Submitted**
Date and Time Created:	**6/17/2019:7:53:00 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY BI-MONTHLY 1
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,280	25.0
AMMONIA-N MG/L	27.3		
NITRATE-N MG/L		4.05	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	30.9	5.4	0.400
TOTAL PHOSPHORUS AS P MG/L	4.56	3.74	0.0213
ORTHO PHOSPHATE MG/L		3.33	0.0400
OIL & GREASE MG/L	26.8	1.05	1.05
SODIUM MG/L	197	399	1.00
CHLORIDE MG/L	225	577	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY BI-MONTHLY 2
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,520	25.0
AMMONIA-N MG/L	24.3		
NITRATE-N MG/L		3.69	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	34.6	5.9	0.400
TOTAL PHOSPHORUS AS P MG/L	4.94	3.41	0.0213
ORTHO PHOSPHATE MG/L		4.07	0.0400
OIL & GREASE MG/L	28.4	1.05	1.05
SODIUM MG/L	215	432	1.00
CHLORIDE MG/L	256	702	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

5/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 May Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	107,000				7.05	6.85	ND	
2	72,000				6.94	6.63	ND	
3	51,000				6.92	6.86	0.02	
4	53,000				6.90	6.83	ND	
5	53,000				7.04	6.79	ND	
6	51,000				6.93	6.55	0.02	
7	53,000				7.33	6.80	ND	
8	140,000				7.10	6.78	ND	
9	106,000				7.11	6.72	ND	
10	135,000				7.03	6.89	ND	
11	94,000				6.61	6.74	ND	
12	57,000				6.74	6.79	0.02	
13	76,000				6.80	6.80	ND	
14	104,000				7.04	6.77	0.02	
15	239,000				6.85	6.81	ND	
16	65,000				6.9	6.78	0.03	
17	223,000				6.94	6.82	0.02	
18	43,000				6.91	6.78	ND	
19	45,000				6.85	6.78	0.02	
20	92,000				6.98	6.76	0.02	
21	116,000				7.27	6.84	ND	
22	247,000				7.08	6.76	ND	
23	50,000				7.05	6.85	ND	
24	233,000				6.86	6.84	0.02	
25	22,000				6.82	6.84	ND	
26	30,000				6.85	6.81	ND	
27	26,000				6.91	6.78	ND	
28	61,000				6.92	6.95	ND	
29	29,000				7.05	6.87	ND	
30	38,000				6.90	6.86	ND	
31	212,000				6.89	6.90	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 May Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.51	6.73	7.47	7.09	6.77	7.69
TOTAL PHOSPHORUS AS P MG/L	0.01	0.01	0.01	0.01	0.01	0.01
ORTHO PHOSPHATE MG/L	0.02	0.02	0.01	0.01	0.02	0.02
STATIC WATER LEVEL FEET	54.00	32.25	34.60	67.00	21.10	21.60

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

<

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	7.78	7.00	6.60			
TOTAL PHOSPHORUS AS P	MG/L	6.57	0.01	0.02			
ORTHO PHOSPHATE	MG/L	6.38	0.02	0.06			
STATIC WATER LEVEL	FEET	25.80	54010	26.20			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.19	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

5/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Weekly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	183	6.0	2.00
MG/L			
TSS	179	11.0	2.50
MG/L			
TOTAL SOLIDS		1,060	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		38	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Weekly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	154	8.2	2.00
MG/L			
TSS	185	15.1	2.50
MG/L			
TOTAL SOLIDS		1,270	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		119	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
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PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Weekly 3

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	148	10.9	2.00
MG/L			
TSS	172	18.5	2.50
MG/L			
TOTAL SOLIDS		1,210	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		11	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

5/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 May Weekly 4

☐ All forms for submittal have been completed.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAY WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	181	7.8	2.00
MG/L			
TSS	245	9.7	2.50
MG/L			
TOTAL SOLIDS		1,500	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		11	1
/100 ML			

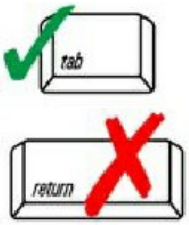
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	6/14/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

THERE WAS TWO (2) GROUNDWATER PERMIT EXCURSION TO REPORT FOR THE MONTH OF MAY 2019.
AS REQUIRED BY GROUNDWATER PERMIT NO. 1-677, A GRAB SAMPLE OF THE PLANT EFFLUENT IS TESTED FOR TDS TWICE MONTHLY. THE EFFLUENT SAMPLE COLLECTED ON MAY 8 AND 22, 2019 WAS ANALYZED BY MICROBAC LABORATORY AND A MEASURED CONCENTRATION OF 1280 MG/L AND 1,520 TDS WAS REPORTED. THE TDS PERMIT LIMIT IS 1000 MG/L RESULTING IN THE PERMIT EXCURSION FOR GROUNDWATER.

ATTACHMENT:
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTLEABLE SOLIDS REPORTING
3)MONTHLY FLOW VS ANNUAL FLOW AVERAGE
4) MONTHLY OPERATING REPORTS 1&2
5) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT THE VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 830-4159 X207

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1165133**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2907.04K**
Status of Transaction:	**Submitted**
Date and Time Created:	**1/9/2020:9:47:21 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC BI-MONTHLY 1
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
TOTAL DISSOLVED SOLIDS		1,650	25.0
MG/L			
AMMONIA-N	21.8		
MG/L			
NITRATE-N		3.96	0.0500
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)	31.0	6.3	0.400
MG/L			
TOTAL PHOSPHORUS AS P	5.07	2.04	0.0213
MG/L			
ORTHO PHOSPHATE		1.77	0.0400
MG/L			
OIL & GREASE	19.5	1.05	1.05
MG/L			
SODIUM	236	456	1.00
MG/L			
CHLORIDE	299	798	20.0
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC BI-MONTHLY 2
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Bi-Monthly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,280	25.0
AMMONIA-N MG/L	25.8		
NITRATE-N MG/L		2.61	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	36.1	7.4	0.400
TOTAL PHOSPHORUS AS P MG/L	6.15	1.57	0.0213
ORTHO PHOSPHATE MG/L		1.44	0.0400
OIL & GREASE MG/L	18.3	1.05	1.05
SODIUM MG/L	267	421	1.00
CHLORIDE MG/L	243	609	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

12/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Dec Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	14,000				6.91	6.85	0.02	
2	199,000				6.94	6.89	0.02	
3	295,000				7.15	6.78	0.02	
4	162,000				7.28	6.76	0.02	
5	108,000				7.17	6.75	0.02	
6	40,000				7.02	6.78	ND	
7	68,000				7.09	6.79	ND	
8	12,000				7.03	6.98	0.02	
9	89,000				6.86	6.90	ND	
10	267,000				7.22	6.98	0.03	
11	126,000				7.13	6.79	0.02	
12	176,000				7.13	6.89	0.02	
13	100,000				7.08	6.86	0.04	
14	286,000				6.83	6.81	0.02	
15	290,000				6.77	6.77	0.02	
16	48,000				6.88	6.78	ND	
17	83,000				6.99	6.86	ND	
18	79,000				7.31	6.68	ND	
19	177,000				7.08	6.76	0.02	
20	32,000				6.76	6.85	ND	
21	43,000				6.86	6.79	0.02	
22	17,000				7.00	6.89	0.03	
23	28,000				6.95	6.89	0.02	
24	80,000				6.78	6.98	ND	
25	31,000				6.81	6.87	0.03	
26	33,000				6.94	7.01	0.02	
27	33,000				6.89	6.85	ND	
28	32,000				6.86	7.00	ND	
29	11,000				6.79	7.01	ND	
30	84,000				6.83	7.01	ND	
31	408,000				7.14	6.74	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

12/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Dec Monthly

☐ All forms for submittal have been completed.

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3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	7.44	6.70	6.74	6.78	7.00	6.64
TOTAL PHOSPHORUS AS P MG/L	0.01	0.02	0.01	0.01	0.02	0.01
ORTHO PHOSPHATE MG/L	0.01	0.02	0.01	0.01	0.02	0.01
STATIC WATER LEVEL FEET	55.00	36.40	36.70	67.00	22.30	21.70

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	7.07	6.76	6.52			
TOTAL PHOSPHORUS AS P	MG/L	8.92	0.02	0.02			
ORTHO PHOSPHATE	MG/L	8.56	0.02	0.02			
STATIC WATER LEVEL	FEET	26.20	55.10	28.40			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

12/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Monthly

☐ All forms for submittal have been completed.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.24	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Weekly 1

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	134	18.0	2.00
MG/L			
TSS	133	6.3	2.50
MG/L			
TOTAL SOLIDS		1,730	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	282	5.5	2.00
MG/L			
TSS	325	11.7	2.50
MG/L			
TOTAL SOLIDS		1,190	25.0
MG/L			
CHLORINE RESIDUAL		0.04	0.02
MG/L			
FECAL COLIFORM		2	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Dec Weekly 3

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
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[redacted]
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2019 DEC WEEKLY 3
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D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	147	5.2	2.00
MG/L			
TSS	161	7.0	2.50
MG/L			
TOTAL SOLIDS		1,370	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		3	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

12/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Dec Weekly 4

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 DEC WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD MG/L	245	5.2	2.00
TSS MG/L	257	5.6	2.50
TOTAL SOLIDS MG/L		1,420	25.0
CHLORINE RESIDUAL MG/L		0.03	0.02
FECAL COLIFORM /100 ML		1	1

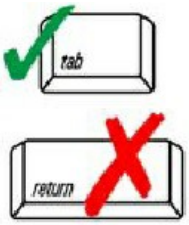
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	1/9/2020
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY, BIWEEKLY AND MONTHLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THEE WERE TWO (2) PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF DECEMBER 2019. THE EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS. THE EFFLUENT SAMPLES COLLECTED ON DECEMBER 4TH AND 18TH, WERE THEN SENT TO MICROBAC LABORATORY FOR SAMPLE ANALYSIS AND MEASURED 1650 & 1280 MG/L. THE PERMIT LIMIT IS 1000 MG/L RESULTING IN THE EXCURSION.

ATTACHMENTS
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTABLE SOLIDS REPORT.
3) MONTHLY FLOW VS ANNUAL AVERAGES
4) MONTHLY OPERATING REPORTS
5) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS CONCERNING THIS REPORT, PLEASE CONTACT THE VEOLIA PROJECT MANAGER AT (508) 830-4159

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1152201**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**4847.48K**
Status of Transaction:	**Submitted**
Date and Time Created:	**11/14/2019:9:16:39 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

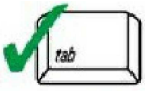
DISCHARGE MONITORING REPORT

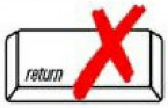
677
1. Permit Number

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2019 OCT BI-MONTHLY 1
3. Sampling Month & Frequency

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131 CAMELOT DRIVE
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PLYMOUTH | MA | 02360
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Oct Bi-Monthly 1

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 OCT BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		2,040	25.0
AMMONIA-N MG/L	32.3		
NITRATE-N MG/L		4.59	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	45.3	9.72	0.400
TOTAL PHOSPHORUS AS P MG/L	6.23	6.22	0.0213
ORTHO PHOSPHATE MG/L		5.57	0.0400
OIL & GREASE MG/L	32.2	1.00	1.05
SODIUM MG/L	277	577	1.00
CHLORIDE MG/L	369	1,020	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

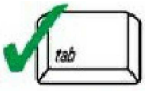
DISCHARGE MONITORING REPORT

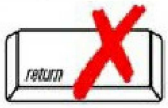
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2019 OCT BI-MONTHLY 2
3. Sampling Month & Frequency

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A. Facility Information

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TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Oct Bi-Monthly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2. Tax identification Number

2019 OCT BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,370	25.0
AMMONIA-N MG/L	32.8		
NITRATE-N MG/L		7.90	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	43.57	10.6	0.400
TOTAL PHOSPHORUS AS P MG/L	5.13	7.04	0.0213
ORTHO PHOSPHATE MG/L		5.87	0.0400
OIL & GREASE MG/L	34.9	1.00	1.05
SODIUM MG/L	311	433	1.00
CHLORIDE MG/L	263	603	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

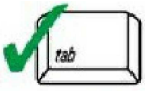
DAILY LOG SHEET

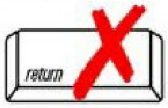
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 OCT DAILY
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Oct Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 OCT DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	3,000				6.94	6.91	0.02	
2	11,000				6.76	6.82	0.04	
3	10,000				6.98	6.86	ND	
4	4,000				6.87	6.98	0.02	
5	4,000				6.86	6.92	ND	
6	ND				6.90	6.89	0.02	
7	1,000				6.75	7.01	0.02	
8	9,000				6.96	6.88	0.02	
9	47,000				5.82	6.94	0.02	
10	48,000				7.07	6.89	0.02	
11	160,000				7.02	6.89	0.02	
12	38,000				6.97	6.84	ND	
13	1,000				6.95	6.83	ND	
14	1,000				6.81	6.90	ND	
15	1,000				6.74	6.88	ND	
16	86,000				6.90	6.89	ND	
17	117,000				7.09	6.82	ND	
18	135,000				6.97	6.88	0.02	
19	ND				6.98	6.88	ND	
20	2,000				6.95	6.86	ND	
21	ND				6.86	6.90	ND	
22	14,000				6.80	6.86	ND	
23	566,000				6.95	6.92	0.02	
24	253,000				6.89	6.91	0.02	
25	14,000				6.88	6.99	ND	
26	19,000				6.87	6.90	ND	
27	25,000				6.96	7.00	0.02	
28	117,000				6.82	7.02	ND	
29	35,000				7.08	6.88	ND	
30	38,000				6.94	6.87	ND	
31	34,000				7.06	6.87	0.02	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

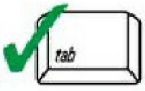
MONITORING WELL DATA REPORT

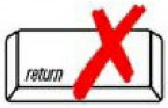
677
1. Permit Number

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2019 OCT MONTHLY
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Oct Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 OCT MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	5.27	7.47	7.60	5.91	5.10	5.96
TOTAL PHOSPHORUS AS P MG/L	0.01	0.03	0.02	0.01	0.02	0.02
ORTHO PHOSPHATE MG/L	0.01	0.02	0.01	0.01	0.01	0.01
STATIC WATER LEVEL FEET	55.50	36.20	36.40	65.00	22.65	22.60

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
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2019 OCT MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

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- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.82	6.33	7.50			
TOTAL PHOSPHORUS AS P MG/L	5.46	0.04	0.03			
ORTHO PHOSPHATE MG/L	5.53	0.08	0.02			
STATIC WATER LEVEL FEET	27.20	56.00	28.20			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

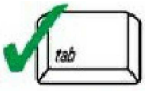
DISCHARGE MONITORING REPORT

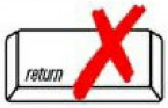
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A. Facility Information

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
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B. Form Selection

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Discharge Monitoring Report - 2019 Oct Monthly

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Groundwater Permit

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D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.30	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

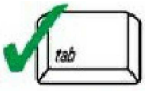
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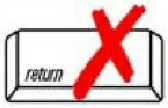
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Discharge Monitoring Report - 2019 Oct Weekly 1

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	181	9.8	2.00
MG/L			
TSS	238	17.4	2.50
MG/L			
TOTAL SOLIDS		2,130	25.0
MG/L			
CHLORINE RESIDUAL		0.04	0.02
MG/L			
FECAL COLIFORM		3	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

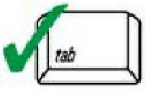
DISCHARGE MONITORING REPORT

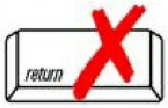
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 OCT WEEKLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

10/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Oct Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
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2019 OCT WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BOD	205	11.8	2.00
MG/L			
TSS	217	19.3	2.50
MG/L			
TOTAL SOLIDS		1,440	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		12	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

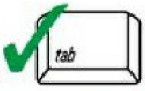
DISCHARGE MONITORING REPORT

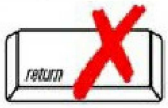
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2019 OCT WEEKLY 3
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5088304159 | robert.blanchard@veolia.com
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a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Oct Weekly 3

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 OCT WEEKLY 3
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D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BOD MG/L	230	20.8	2.00
TSS MG/L	226	28.3	2.50
TOTAL SOLIDS MG/L		1,430	25.0
CHLORINE RESIDUAL MG/L		0.02	0.02
FECAL COLIFORM /100 ML		1	1

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

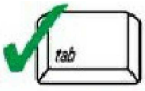
DISCHARGE MONITORING REPORT

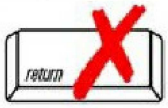
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Discharge Monitoring Report - 2019 Oct Weekly 4

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Groundwater Permit

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2019 OCT WEEKLY 4
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- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BOD	266	11.1	2.00
MG/L			
TSS	344	16.9	2.50
MG/L			
TOTAL SOLIDS		1,450	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		5	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

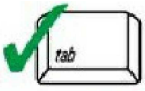
MONITORING WELL DATA REPORT

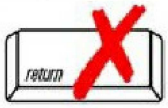
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a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

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Monitoring Well Data Report - 2019 Quarterly 4

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2. Tax identification Number

2019 QUARTERLY 4
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
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- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	2.5	4.0	2.5	32.5	6.5	7.5
DISSOLVED OXYGEN MG/L	6.63	5.51	7.63	5.73	4.44	5.50
NITRATE-N MG/L	0.07	1.27	0.50	3.10	1.22	0.07
TOTAL NITROGEN(NO3+NO2+TK MG/L	0.28	1.48	0.71	3.89	1.51	0.28
TURBIDITY NTUS	0.11	0.11	0.13	0.30	0.30	0.16
SODIUM MG/L	8.67	11.80	8.39	251	98.6	56.1
CHLORIDE MG/L	13.2	36.70	17.10	378	187	109.0
SPECIFIC CONDUCTANCE UMHOS/C	434	151	79.30	239	580	410
TEMPERATURE DEG C	12.57	13.80	13.32	14.28	14.70	13.77
COPPER MG/L	0.002	0.0020	0.0020	0.0020	0.0020	0.0024
BORON MG/L	0.0085	0.0055	0.0050	0.1220	0.0180	0.0331

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 4
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	77.5	27.5	3.0			
DISSOLVED OXYGEN MG/L	6.73	7.60	5.90			
NITRATE-N MG/L	4.18	3.94	1.81			
TOTAL NITROGEN(NO3+NO2+TK MG/L	4.99	4.35	2.02			
TURBIDITY NTUS	0.15	0.10	0.09			
SODIUM MG/L	229	259	35.5			
CHLORIDE MG/L	320	391	78.7			
SPECIFIC CONDUCTANCE UMHOS/C	1,353	1,493	469			
TEMPERATURE DEG C	14.87	13.43	14.13			
COPPER MG/L	0.0037	0.0024	0.0020			
BORON MG/L	0.1630	0.1460	0.0168			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 4
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE UG/L	ND	ND	ND	ND	ND	ND
BENZENE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
ETHYL BENZENE UG/L	ND	ND	ND	ND	ND	ND
METHYLENECHLORIDE UG/L	ND	ND	ND	ND	ND	ND
TOLUENE UG/L	ND	ND	ND	ND	ND	ND
O-XYLENE UG/L	ND	ND	ND	ND	ND	ND
P/M XYLENE UG/L	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE UG/L	ND	ND	ND	ND	ND	ND
CHLOROFORM UG/L	ND	ND	ND	ND	ND	ND
2-BUTANONE (MEK) UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 4
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
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- DRY = Not enough water in well to sample.

Parameter/Contaminant Units	1S Well #: 1	6D Well #: 2	6S Well #: 3	A10 Well #: 4	A11 Well #: 5	A16 Well #: 6
4-METHYL-2-PENTANONE (MIBK UG/L	ND	ND	ND	ND	ND	ND
TRICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
TETRACHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
1,1,1 TRICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
VINYLCHLORIDE UG/L	ND	ND	ND	ND	ND	ND
STYRENE UG/L	ND	ND	ND	ND	ND	ND
CHLOROBENZENE UG/L	ND	ND	ND	ND	ND	ND
METHYL TERTIARY BUTYL ETHE UG/L	ND	ND	ND	ND	ND	ND
CHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,2-DICHLOROPROPANE UG/L	ND	ND	ND	ND	ND	ND
DIBROMOCHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
1,1,2-TRICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	ND	ND	ND	ND
BROMODICHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
BROMOFORM UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

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2019 QUARTERLY 4
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Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
CHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
BROMOMETHANE UG/L	ND	ND	ND	ND	ND	ND
CARBONDISULFIDE UG/L	ND	ND	ND	ND	ND	ND
2-HEXANONE UG/L	ND	ND	ND	ND	ND	ND
ACROLEIN UG/L	ND	ND	ND	ND	ND	ND
ACRYLONITRILE UG/L	ND	ND	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
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Groundwater Permit

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- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE UG/L	ND	ND	ND			
BENZENE UG/L	ND	ND	ND			
1,1 DICHLOROETHANE UG/L	ND	ND	ND			
1,2 DICHLOROETHANE UG/L	ND	ND	ND			
1,1 DICHLOROETHYLENE UG/L	ND	ND	ND			
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	ND			
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	ND			
ETHYL BENZENE UG/L	ND	ND	ND			
METHYLENECHLORIDE UG/L	ND	ND	ND			
TOLUENE UG/L	ND	ND	ND			
O-XYLENE UG/L	ND	ND	ND			
P/M XYLENE UG/L	ND	ND	ND			
CARBON TETRACHLORIDE UG/L	ND	ND	ND			
CHLOROFORM UG/L	6.35	ND	ND			
2-BUTANONE (MEK) UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
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- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK UG/L	ND	ND	ND			
TRICHLOROETHYLENE UG/L	ND	ND	ND			
TETRACHLOROETHYLENE UG/L	ND	ND	ND			
1,1,1 TRICHLOROETHANE UG/L	ND	ND	ND			
VINYLCHLORIDE UG/L	ND	ND	ND			
STYRENE UG/L	ND	ND	ND			
CHLOROBENZENE UG/L	ND	ND	ND			
METHYL TERTIARY BUTYL ETHE UG/L	ND	ND	ND			
CHLOROETHANE UG/L	ND	ND	ND			
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DIBROMOCHLOROMETHANE UG/L	ND	ND	ND			
1,1,2-TRICHLOROETHANE UG/L	ND	ND	ND			
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	ND			
BROMODICHLOROMETHANE UG/L	ND	ND	ND			
BROMOFORM UG/L	ND	ND	ND			

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Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	ND			
CHLOROMETHANE UG/L	ND	ND	ND			
BROMOMETHANE UG/L	ND	ND	ND			
CARBONDISULFIDE UG/L	ND	ND	ND			
2-HEXANONE UG/L	ND	ND	ND			
ACROLEIN UG/L	ND	ND	ND			
ACRYLONITRILE UG/L	ND	ND	ND			
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND			
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND			

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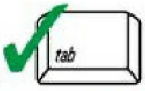
DISCHARGE MONITORING REPORT

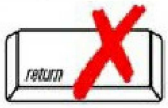
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MICROBAC LABORATORY
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Discharge Monitoring Report - 2019 Quarterly 4

☐ All forms for submittal have been completed.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 4
3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
ACETONE UG/L	177	ND	20
BENZENE UG/L	ND	ND	5
1,1 DICHLOROETHANE UG/L	ND	ND	5
1,2 DICHLOROETHANE UG/L	ND	ND	5
1,1 DICHLOROETHYLENE UG/L	ND	ND	5
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	5
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	5
ETHYL BENZENE UG/L	ND	ND	5
METHYLENECHLORIDE UG/L	ND	ND	5
TOLUENE UG/L	14.50	ND	5
O-XYLENE UG/L	ND	ND	5
P/M XYLENE UG/L	ND	ND	5
CARBON TETRACHLORIDE UG/L	ND	ND	5
CHLOROFORM UG/L	ND	ND	5
2-BUTANONE (MEK) UG/L	ND	ND	20

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

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3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
4-METHYL-2-PENTANONE (MIBK) UG/L	ND	ND	20
TRICHLOROETHYLENE UG/L	ND	ND	5
TETRACHLOROETHYLENE UG/L	ND	ND	5
1,1,1 TRICHLOROETHANE UG/L	ND	ND	5
VINYLCHLORIDE UG/L	ND	ND	5
STYRENE UG/L	ND	ND	5
CHLOROBENZENE UG/L	ND	ND	5
METHYL TERTIARY BUTYL ETHER UG/L	ND	ND	5
CHLOROETHANE UG/L	ND	ND	5
1,2-DICHLOROPROPANE UG/L	ND	ND	5
DIBROMOCHLOROMETHANE UG/L	ND	95.70	5
1,1,2-TRICHLOROETHANE UG/L	ND	ND	5
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	5
BROMODICHLOROMETHANE UG/L	ND	38.50	5
BROMOFORM UG/L	ND	83.50	5

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E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	5
CHLOROMETHANE UG/L	ND	ND	5
BROMOMETHANE UG/L	ND	ND	5
CARBONDISULFIDE UG/L	ND	ND	20
2-HEXANONE UG/L	ND	ND	20
ACROLEIN UG/L	ND	ND	20
ACRYLONITRILE UG/L	ND	ND	20
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	5
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	5

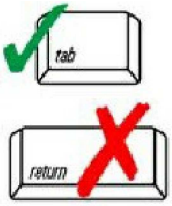
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Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	11/12/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY,WEEKLY, BIWEEKLY,MONTHLY AND QUARTERLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THERE WAS THREE (3) GROUNDWATER PERMIT EXCURSION TO REPORT FOR THE MONTH OF OCTOBER 2019. AS REQUIRED BY GROUNDWATER PERMIT NO. 1-677, A GRAB SAMPLE OF THE PLANT EFFLUENT IS TESTED FOR TDS TWICE MONTHLY. THE EFFLUENT SAMPLE COLLECTED ON OCTOBER 2 AND 16, 2019 WAS ANALYZED BY MICROBAC LABORATORY AND A MEASURED CONCENTRATION OF 2040 MG/L AND 1,370 TDS WAS REPORTED. THE TDS PERMIT LIMIT IS 1000 MG/L RESULTING IN THE PERMIT EXCURSION FOR GROUNDWATER. SEAWATER INFILTRATION INTO THE COLLECTION SYSTEM IN THE WATERFRONT AREA IS CONSIDERED TO BE THE SOURCE OF ELEVATED TDS. THERE WAS ALSO AN EXCURSION FOR TOTAL NITROGEN, THE MONTHLY AVERAGE WAS 10.45 MG/L, THE PERMIT LIMIT IS 10 MG/L..

ATTACHMENTS:
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTABLE SOLIDS
3) MONTHLY FLOW VS ANNUAL AVERAGES
3) MONTHLY OPERATING REPORTS
4) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS CONCERNING THIS REPORT, PLEASE CONTACT THE VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 830-4159

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

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Username:	**BOBBLANCHARD**
Transaction ID:	**1083986**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2913.71K**
Status of Transaction:	**Submitted**
Date and Time Created:	**2/18/2019:1:21:10 PM**

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JAN DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

1/31/2019 | IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

DAVID BIDANSET / PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Jan Daily

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
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2019 JAN DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	70,000				6.99	6.88	ND	
2	57,000				6.96	6.83	ND	
3	54,000				7.07	6.79	0.02	
4	71,000				7.13	6.91	ND	
5	88,000				7.11	6.94	0.02	
6	179,000				7.18	6.89	ND	
7	69,000				7.04	6.83	ND	
8	64,000				7.08	6.81	ND	
9	93,000				7.24	6.79	ND	
10	53,000				7.21	6.85	0.03	
11	35,000				7.10	6.83	ND	
12	28,000				7.17	6.80	ND	
13	28,000				7.09	6.81	ND	
14	24,000				6.81	6.83	0.03	
15	27,000				7.18	6.81	ND	
16	15,000				7.16	6.77	ND	
17	46,000				7.04	6.73	ND	
18	40,000				6.98	6.79	ND	
19	30,000				6.99	6.76	0.02	
20	792,000				7.07	6.70	0.02	
21	571,000				6.82	6.65	0.02	
22	61,000				7.35	6.73	ND	
23	79,000				7.34	6.53	ND	
24	203,000				7.27	6.59	0.02	
25	431,000				6.99	6.56	ND	
26	150,000				7.20	6.66	ND	
27	182,000				6.99	6.63	0.09	
28	137,000				7.02	6.62	0.02	
29	187,000				7.26	6.88	ND	
30	51,000				7.32	6.88	ND	
31	19,000				7.23	6.86	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JAN BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

1/31/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jan Bi-Monthly 1

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Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JAN BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,280	25.0
AMMONIA-N MG/L	25.5		
NITRATE-N MG/L		3.31	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	40.3	4.9	0.400
TOTAL PHOSPHORUS AS P MG/L	3.96	2.46	0.0213
ORTHO PHOSPHATE MG/L		2.34	0.0400
OIL & GREASE MG/L	32.0	7.47	1.05
SODIUM MG/L	588	413	1.00
CHLORIDE MG/L	994	617	20.0

Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 JAN BI-MONTHLY 2
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
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131 CAMELOT DRIVE
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PLYMOUTH | MA | 02360
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5088304159 | robert.blanchard@veolia.com
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3. Sampling information:

1/31/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Jan Bi-Monthly 2

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Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 JAN BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
TOTAL DISSOLVED SOLIDS		1,300	25.0
MG/L			
AMMONIA-N	26.5		
MG/L			
NITRATE-N		2.92	0.0500
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)	38.1	4.4	0.400
MG/L			
TOTAL PHOSPHORUS AS P	6.13	3.78	0.0213
MG/L			
ORTHO PHOSPHATE		3.56	0.0400
MG/L			
OIL & GREASE	33.0	8.53	1.05
MG/L			
SODIUM	174	350	1.00
MG/L			
CHLORIDE	228	563	20.0
MG/L			

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a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

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Discharge Monitoring Report - 2019 Jan Monthly

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D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
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1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.19	.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2019 JAN MONTHLY
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

1/31/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Jan Monthly

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Massachusetts Department of Environmental Protection
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Groundwater Permit

MONITORING WELL DATA REPORT

677
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2019 JAN MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	6.70	7.37	7.21	5.60	7.54	5.57
TOTAL PHOSPHORUS AS P MG/L	0.01	0.02	0.02	ND	0.01	0.02
ORTHO PHOSPHATE MG/L	ND	0.02	0.02	0.02	0.02	0.02
STATIC WATER LEVEL FEET	54.90	35.40	35.70	87.50	22.00	22.20

Massachusetts Department of Environmental Protection
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Groundwater Permit

MONITORING WELL DATA REPORT

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2019 JAN MONTHLY
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C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	6.60	6.10	7.53			
TOTAL PHOSPHORUS AS P	MG/L	4.26	0.02	0.02			
ORTHO PHOSPHATE	MG/L	4.06	0.06	0.02			
STATIC WATER LEVEL	FEET	26.40	55.20	69.00			

Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

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2019 JAN WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

1/31/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jan Weekly 1

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3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	164	7.6	2.00
MG/L			
TSS	187	4.9	2.50
MG/L			
TOTAL SOLIDS		1,210	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
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DISCHARGE MONITORING REPORT

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2019 JAN WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

1/31/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jan Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JAN WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	155	4.1	2.00
MG/L			
TSS	144	2.6	2.50
MG/L			
TOTAL SOLIDS		1,250	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		2	1
/100 ML			

Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

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1. Permit Number

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2. Tax identification Number

2019 JAN WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

1/31/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jan Weekly 3

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JAN WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	158	16.6	2.00
MG/L			
TSS	163	5.4	2.50
MG/L			
TOTAL SOLIDS		1,200	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JAN WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

1/31/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Jan Weekly 4

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 JAN WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	133	19.5	2.00
MG/L			
TSS	137	10.9	2.50
MG/L			
TOTAL SOLIDS		1,200	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

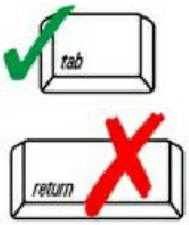
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	2/13/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY, WEEKLY, BIWEEKLY, MONTHLY AND THIRD QUARTER ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.
THERE WERE TWO (2) PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF SEPTEMBER 2018. THE TWO EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS *TDS). EFFLUENT SAMPLES COLLECTED ON 9/5/18 AND 9/19/18 AND SENT TO MICROBAC LABORATORY FOR ANALYSIS MEASURED 1170 MG/L AND 1150 MG/L RESPECTIVELY. THE PERMIT LIMIT IS 1000 MG/L RESULTING IN THE TWO PERMIT EXCURSIONS.
INFILTRATION BASIN LOADING STUDY CONCLUDED ON 9/28/18. ANNUAL AVERAGE FLOW 0.223
MGD
ATTACHMENT:
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTLEABLE SOLIDS REPORTING
3) MONTHLY FLOW VS ANNUAL AVERAGE
4) MONTHLY OPERATING REPORTS 1 AND 2
5) PLYMOUTH WWTP STAFFING
IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 8304159
X207.
GDPDLS

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1090504**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**4840.11K**
Status of Transaction:	**Submitted**
Date and Time Created:	**11/15/2019:9:40:12 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

2/28/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Feb Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	74,000				7.05	6.85	ND	
2	42,000				7.00	6.88	ND	
3	21,000				7.19	6.80	ND	
4	83,000				6.67	6.86	ND	
5	33,000				7.19	6.72	ND	
6	102,000				7.21	6.77	ND	
7	54,000				7.32	6.89	ND	
8	45,000				7.04	6.82	0.02	
9	34,000				7.02	6.76	ND	
10	17,000				7.02	6.81	ND	
11	37,000				7.20	6.93	0.02	
12	20,000				7.24	6.82	ND	
13	271,000				7.10	6.81	ND	
14	49,000				7.22	6.81	ND	
15	171,000				6.92	6.69	0.02	
16	71,000				6.91	6.81	0.02	
17	36,000				6.94	6.78	ND	
18	88,000				6.80	6.92	0.02	
19	56,000				7.01	6.71	ND	
20	87,000				7.19	6.69	ND	
21	88,000				7.24	6.70	0.02	
22	305,000				7.10	6.68	ND	
23	36,000				7.08	6.83	ND	
24	85,000				7.09	6.80	ND	
25	246,000				6.98	6.86	0.02	
26	330,000				7.27	6.91	ND	
27	31,000				7.24	6.89	ND	
28	16,000				7.20	6.89	ND	
29								
30								
31								

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB BI-MONTHLY 1
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,240	25.0
AMMONIA-N MG/L	26.8		
NITRATE-N MG/L		3.32	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	41.2	5.6	0.400
TOTAL PHOSPHORUS AS P MG/L	3.49	2.21	0.0213
ORTHO PHOSPHATE MG/L		2.11	0.0400
OIL & GREASE MG/L	40.8	6.11	1.05
SODIUM MG/L	197	404	1.00
CHLORIDE MG/L	219	606	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB BI-MONTHLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,700	25.0
AMMONIA-N MG/L	26.2		
NITRATE-N MG/L		3.86	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	38.8	5.6	0.400
TOTAL PHOSPHORUS AS P MG/L	7.15	2.45	0.0213
ORTHO PHOSPHATE MG/L		2.21	0.0400
OIL & GREASE MG/L	30.2	4.32	1.05
SODIUM MG/L	516	511	1.00
CHLORIDE MG/L	801	828	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

2/28/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Monthly

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.19	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

2/28/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Feb Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	9.85	8.75	8.74	8.21	8.30	9.73
TOTAL PHOSPHORUS AS P MG/L	ND	0.02	0.02	ND	0.02	0.01
ORTHO PHOSPHATE MG/L	0.02	0.03	0.01	0.03	0.04	0.02
STATIC WATER LEVEL FEET	54.20	34.80	35.20	67.00	21.50	21.70

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	9.09	9.09	8.42			
TOTAL PHOSPHORUS AS P	MG/L	4.02	0.02	0.04			
ORTHO PHOSPHATE	MG/L	3.89	0.02	0.03			
STATIC WATER LEVEL	FEET	26.00	54.50	69.20			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Weekly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	143	12.4	2.00
MG/L			
TSS	145	5.7	2.50
MG/L			
TOTAL SOLIDS		1280	25.0
MG/L			
CHLORINE RESIDUAL		0.09	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Weekly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	151	13.8	2.00
MG/L			
TSS	191	10.4	2.50
MG/L			
TOTAL SOLIDS		1170	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Weekly 3

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	151	13.7	2.00
MG/L			
TSS	169	14.5	2.50
MG/L			
TOTAL SOLIDS		1750	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Feb Weekly 4

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 FEB WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	174	4.2	2.00
MG/L			
TSS	216	5.6	2.50
MG/L			
TOTAL SOLIDS		1460	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

2/28/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Quarterly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	3.1	5.2	1.6	16.5	6.2	11.9
DISSOLVED OXYGEN MG/L	11.4	8.16	8.33	7.50	5.96	4.40
NITRATE-N MG/L	.011	0.75	0.51	2.89	1.68	2.01
TOTAL NITROGEN(NO3+NO2+TK MG/L	0.11	0.95	0.51	3.21	1.81	2.12
TURBIDITY NTUS	0.23	0.80	0.83	0.35	0.77	0.36
SODIUM MG/L	8.72	7.47	7.45	140	89.8	54.3
CHLORIDE MG/L	14.8	14.1	14.4	239	198	95.3
SPECIFIC CONDUCTANCE UMHOS/C	88.0	139.0	120.0	967	636	486
TEMPERATURE DEG C	11.95	10.78	10.67	13.61	13.15	14.04
COPPER MG/L	ND	ND	ND	ND	ND	0.0031
BORON MG/L	ND	0.0085	0.0090	0.0546	0.0161	0.0326

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

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2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ALKALINITY MG/L	120.0	28.7	3.1			
DISSOLVED OXYGEN MG/L	4.23	6.75	7.53			
NITRATE-N MG/L	5.00	3.57	1.82			
TOTAL NITROGEN(NO3+NO2+TK MG/L	5.41	3.57	1.82			
TURBIDITY NTUS	0.49	0.20	1.20			
SODIUM MG/L	416	251	39.2			
CHLORIDE MG/L	594	365	87.0			
SPECIFIC CONDUCTANCE UMHOS/C	2,386	1,530	437			
TEMPERATURE DEG C	21.13	13.21	10.86			
COPPER MG/L	.0033	ND	ND			
BORON MG/L	0.2140	0.1190	0.0205			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE UG/L	ND	ND	ND	ND	ND	ND
BENZENE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,2 DICHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
1,1 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	ND	ND	ND	ND
ETHYL BENZENE UG/L	ND	ND	ND	ND	ND	ND
METHYLENECHLORIDE UG/L	ND	ND	ND	ND	ND	ND
TOLUENE UG/L	ND	ND	ND	ND	ND	ND
O-XYLENE UG/L	ND	ND	ND	ND	ND	ND
P/M XYLENE UG/L	ND	ND	ND	ND	ND	ND
CARBON TETRACHLORIDE UG/L	ND	ND	ND	ND	ND	ND
CHLOROFORM UG/L	ND	ND	ND	ND	ND	ND
2-BUTANONE (MEK) UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK	ND	ND	ND	ND	ND	ND
UG/L						
TRICHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
TETRACHLOROETHYLENE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,1 TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
VINYLCHLORIDE	ND	ND	ND	ND	ND	ND
UG/L						
STYRENE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROBENZENE	ND	ND	ND	ND	ND	ND
UG/L						
METHYL TERTIARY BUTYL ETHE	ND	ND	ND	ND	ND	ND
UG/L						
CHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND	ND
UG/L						
DIBROMOCHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND
UG/L						
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND	ND
UG/L						
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND
UG/L						
BROMOFORM	ND	ND	ND	ND	ND	ND
UG/L						

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	ND	ND	ND	ND
CHLOROMETHANE UG/L	ND	ND	ND	ND	ND	ND
BROMOMETHANE UG/L	ND	ND	ND	ND	ND	ND
CARBONDISULFIDE UG/L	ND	ND	ND	ND	ND	ND
2-HEXANONE UG/L	ND	ND	ND	ND	ND	ND
ACROLEIN UG/L	ND	ND	ND	ND	ND	ND
ACRYLONITRILE UG/L	ND	ND	ND	ND	ND	ND
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	ND	ND	ND	ND

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
ACETONE	UG/L	ND	ND	ND			
BENZENE	UG/L	ND	ND	ND			
1,1 DICHLOROETHANE	UG/L	ND	ND	ND			
1,2 DICHLOROETHANE	UG/L	ND	ND	ND			
1,1 DICHLOROETHYLENE	UG/L	ND	ND	ND			
CIS-1,2-DICHLOROETHYLENE	UG/L	ND	ND	ND			
TRANS 1,2 DICHLOROETHYLENE	UG/L	ND	ND	ND			
ETHYL BENZENE	UG/L	ND	ND	ND			
METHYLENECHLORIDE	UG/L	ND	ND	ND			
TOLUENE	UG/L	ND	ND	ND			
O-XYLENE	UG/L	ND	ND	ND			
P/M XYLENE	UG/L	ND	ND	ND			
CARBON TETRACHLORIDE	UG/L	ND	ND	ND			
CHLOROFORM	UG/L	ND	ND	ND			
2-BUTANONE (MEK)	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	A8	A9	USGS475			
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
4-METHYL-2-PENTANONE (MIBK UG/L	ND	ND	ND			
TRICHLOROETHYLENE UG/L	ND	ND	ND			
TETRACHLOROETHYLENE UG/L	ND	ND	ND			
1,1,1 TRICHLOROETHANE UG/L	ND	ND	ND			
VINYLCHLORIDE UG/L	ND	ND	ND			
STYRENE UG/L	ND	ND	ND			
CHLOROBENZENE UG/L	ND	ND	ND			
METHYL TERTIARY BUTYL ETHE UG/L	ND	ND	ND			
CHLOROETHANE UG/L	ND	ND	ND			
1,2-DICHLOROPROPANE UG/L	ND	ND	ND			
DIBROMOCHLOROMETHANE UG/L	ND	ND	ND			
1,1,2-TRICHLOROETHANE UG/L	ND	ND	ND			
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	ND			
BROMODICHLOROMETHANE UG/L	ND	ND	ND			
BROMOFORM UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

D. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
1,1,2,2-TETRACHLOROETHANE	UG/L	ND	ND	ND			
CHLOROMETHANE	UG/L	ND	ND	ND			
BROMOMETHANE	UG/L	ND	ND	ND			
CARBONDISULFIDE	UG/L	ND	ND	ND			
2-HEXANONE	UG/L	ND	ND	ND			
ACROLEIN	UG/L	ND	ND	ND			
ACRYLONITRILE	UG/L	ND	ND	ND			
TRANS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			
CIS-1,3-DICHLOROPROPENE	UG/L	ND	ND	ND			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

2/28/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Quarterly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
ACETONE UG/L	175	ND	20
BENZENE UG/L	ND	ND	5.00
1,1 DICHLOROETHANE UG/L	ND	ND	5.00
1,2 DICHLOROETHANE UG/L	ND	ND	5.00
1,1 DICHLOROETHYLENE UG/L	ND	ND	5.00
CIS-1,2-DICHLOROETHYLENE UG/L	ND	ND	5.00
TRANS 1,2 DICHLOROETHYLENE UG/L	ND	ND	5.00
ETHYL BENZENE UG/L	ND	ND	5.00
METHYLENECHLORIDE UG/L	ND	ND	5.00
TOLUENE UG/L	ND	ND	5.00
O-XYLENE UG/L	ND	ND	5.00
P/M XYLENE UG/L	ND	ND	5.00
CARBON TETRACHLORIDE UG/L	ND	ND	5.00
CHLOROFORM UG/L	ND	ND	5.00
2-BUTANONE (MEK) UG/L	ND	ND	20

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 QUARTERLY 1
3. Sampling Month & Frequency

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
4-METHYL-2-PENTANONE (MIBK) UG/L	ND	ND	20
TRICHLOROETHYLENE UG/L	ND	ND	5.00
TETRACHLOROETHYLENE UG/L	ND	ND	5.00
1,1,1 TRICHLOROETHANE UG/L	ND	ND	5.00
VINYLCHLORIDE UG/L	ND	ND	5.00
STYRENE UG/L	ND	ND	5.00
CHLOROBENZENE UG/L	ND	ND	5.00
METHYL TERTIARY BUTYL ETHER UG/L	ND	ND	5.00
CHLOROETHANE UG/L	ND	ND	5.00
1,2-DICHLOROPROPANE UG/L	ND	ND	5.00
DIBROMOCHLOROMETHANE UG/L	ND	ND	5.00
1,1,2-TRICHLOROETHANE UG/L	ND	ND	5.00
2-CHLOROETHYLVINYL ETHER UG/L	ND	ND	20
BROMODICHLOROMETHANE UG/L	ND	19.00	5.00
BROMOFORM UG/L	ND	32.00	5.00

E. VOC Analysis Information

- If VOCs are present, please indicate the amounts of the individual compounds in µg/l.
- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
1,1,2,2-TETRACHLOROETHANE UG/L	ND	ND	5.00
CHLOROMETHANE UG/L	ND	ND	5.00
BROMOMETHANE UG/L	ND	ND	5.00
CARBONDISULFIDE UG/L	ND	ND	20
2-HEXANONE UG/L	ND	ND	20
ACROLEIN UG/L	ND	ND	20
ACRYLONITRILE UG/L	ND	ND	20.0
TRANS-1,3-DICHLOROPROPENE UG/L	ND	ND	5.00
CIS-1,3-DICHLOROPROPENE UG/L	ND	ND	5.00

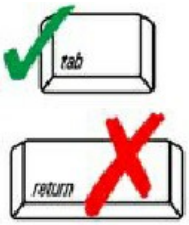
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

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2. Tax identification Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	3/11/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1098593**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2904.42K**
Status of Transaction:	**Submitted**
Date and Time Created:	**4/11/2019:2:57:06 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

3/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Mar Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	41,000				7.08	6.80	ND	
2	28,000				7.13	6.76	ND	
3	112,000				7.16	6.82	ND	
4	72,000				6.79	6.88	ND	
5	148,000				7.19	6.80	0.04	
6	57,000				7.07	6.72	ND	
7	79,000				7.22	6.77	ND	
8	39,000				6.98	6.94	ND	
9	122,000				6.93	6.82	ND	
10	572,000				6.93	6.82	ND	
11	504,000				6.95	6.90	0.02	
12	100,000				7.21	6.78	ND	
13	354,000				7.30	6.79	0.02	
14	610,000				7.24	6.77	ND	
15	484,000				7.04	6.75	ND	
16	198,000				7.00	6.80	ND	
17	144,000				6.98	6.76	ND	
18	55,000				6.84	6.81	ND	
19	131,000				7.27	6.75	0.02	
20	198,000				7.04	6.77	ND	
21	310,000				7.09	6.70	ND	
22	285,000				6.97	6.67	ND	
23	122,000				6.93	6.74	0.02	
24	195,000				7.17	6.73	0.03	
25	110,000				7.00	6.79	ND	
26	262,000				7.11	6.82	ND	
27	109,000				7.06	6.92	ND	
28	78,000				7.24	6.90	ND	
29	130,000				7.07	6.75	ND	
30	26,000				7.01	6.74	ND	
31	32,000				6.97	6.84	ND	

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,520	25.0
AMMONIA-N MG/L	26.3		
NITRATE-N MG/L		3.00	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	37.8	5.7	0.400
TOTAL PHOSPHORUS AS P MG/L	3.98	2.86	0.0213
ORTHO PHOSPHATE MG/L		2.51	0.0400
OIL & GREASE MG/L	47.0	ND	1.05
SODIUM MG/L	530	431	1.00
CHLORIDE MG/L	881	710	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR BI-MONTHLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
TOTAL DISSOLVED SOLIDS		1,350	25.0
MG/L			
AMMONIA-N	27.4		
MG/L			
NITRATE-N		4.99	0.0500
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)	38.9	7.3	0.400
MG/L			
TOTAL PHOSPHORUS AS P	5.51	2.32	0.0213
MG/L			
ORTHO PHOSPHATE		1.93	0.0400
MG/L			
OIL & GREASE	31.2	2.00	1.05
MG/L			
SODIUM	700	447	1.00
MG/L			
CHLORIDE	1,250	685	20.0
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Mar Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	7.71	9.52	9.52	7.67	9.29	8.36
TOTAL PHOSPHORUS AS P MG/L	0.01	0.02	0.01	0.01	0.01	0.01
ORTHO PHOSPHATE MG/L	0.01	0.02	0.02	0.01	0.02	0.01
STATIC WATER LEVEL FEET	54.00	34.60	34.90	66.70	21.20	21.10

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	8.55	8.44	9.28			
TOTAL PHOSPHORUS AS P	MG/L	4.75	0.02	0.02			
ORTHO PHOSPHATE	MG/L	4.57	0.05	0.02			
STATIC WATER LEVEL	FEET	25.40	54.40	26.50			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR MONTHLY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

3/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.21	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
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5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Weekly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	225	21.7	2.00
MG/L			
TSS	277	28.7	2.50
MG/L			
TOTAL SOLIDS		1,460	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

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a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Weekly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	153	10.0	2.00
MG/L			
TSS	182	16.5	2.50
MG/L			
TOTAL SOLIDS		1,550	25.0
MG/L			
CHLORINE RESIDUAL		0.04	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

3/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Weekly 3

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	185	9.3	2.00
MG/L			
TSS	200	14.8	2.50
MG/L			
TOTAL SOLIDS		1,350	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 4
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

3/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Mar Weekly 4

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 MAR WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	160	13.1	2.00
MG/L			
TSS	169	5.7	2.50
MG/L			
TOTAL SOLIDS		1,490	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		3	1
/100 ML			

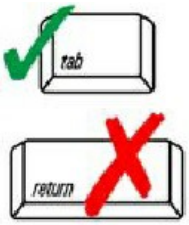
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

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Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	4/11/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

THERE WAS TWO (2) GROUNDWATER PERMIT EXCURSION TO REPORT FOR THE MONTH OF MARCH 2019. AS REQUIRED BY GROUNDWATER PERMIT NO. 1-677, A GRAB SAMPLE OF THE PLANT EFFLUENT IS TESTED FOR TDS TWICE MONTHLY. THE EFFLUENT SAMPLE COLLECTED ON MARCH 6 AND 20, 2019 WAS ANALYZED BY MICROBAC LABORATORY AND A MEASURED CONCENTRATION OF 1520 MG/L AND 1,350 TDS WAS REPORTED. THE TDS PERMIT LIMIT IS 1000 MG/L RESULTING IN THE PERMIT EXCURSION FOR GROUNDWATER.

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1106681**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2903.41K**
Status of Transaction:	**Submitted**
Date and Time Created:	**5/24/2019:10:46:09 AM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

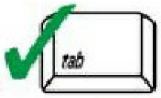
DAILY LOG SHEET

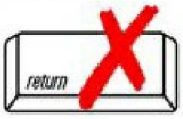
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR DAILY
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

4/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Apr Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	41,000				6.78	6.90	0.02	
2	42,000				7.08	6.89	0.03	
3	57,000				7.00	6.81	ND	
4	19,000				6.92	6.86	0.02	
5	87,000				6.88	6.88	ND	
6	312,000				6.98	6.99	ND	
7	411,000				6.92	6.81	ND	
8	80,000				6.82	6.9	ND	
9	105,000				7.09	6.91	ND	
10	280,000				7.19	6.76	ND	
11	490,000				6.96	6.83	0.03	
12	142,000				6.87	6.72	0.02	
13	52,000				6.99	6.79	ND	
14	31,000				6.88	6.76	ND	
15	131,000				6.74	6.90	ND	
16	159,000				7.11	6.76	ND	
17	65,000				6.94	6.78	ND	
18	280,000				6.99	6.75	ND	
19	77,000				6.98	6.81	ND	
20	174,000				6.97	6.79	ND	
21	66,000				7.02	6.81	ND	
22	266,000				6.95	6.82	ND	
23	194,000				7.05	6.78	ND	
24	305,000				7.34	6.74	0.02	
25	126,000				7.01	6.78	ND	
26	223,000				6.88	6.75	ND	
27	148,000				6.92	6.87	ND	
28	37,000				6.93	6.80	ND	
29	108,000				6.76	6.83	ND	
30	81,000				7.01	6.90	ND	
31								

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

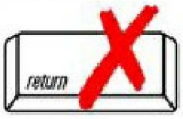
677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

4/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Apr Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,050	25.0
AMMONIA-N MG/L	27.6		
NITRATE-N MG/L		4.39	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	33.1	5.2	0.400
TOTAL PHOSPHORUS AS P MG/L	7.40	3.66	0.0213
ORTHO PHOSPHATE MG/L		3.44	0.0400
OIL & GREASE MG/L	29.6	ND	1.05
SODIUM MG/L	773	329	1.00
CHLORIDE MG/L	1,250	460	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

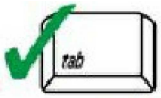
DISCHARGE MONITORING REPORT

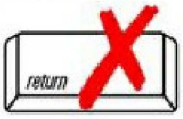
677
1. Permit Number

[redacted]
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2019 APR BI-MONTHLY 2
3. Sampling Month & Frequency

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A. Facility Information

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TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

4/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Apr Bi-Monthly 2

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,200	25.0
AMMONIA-N MG/L	18.5		
NITRATE-N MG/L		4.30	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	36.1	6.4	0.400
TOTAL PHOSPHORUS AS P MG/L	4.45	2.66	0.0213
ORTHO PHOSPHATE MG/L		2.45	0.0400
OIL & GREASE MG/L	28.7	1.05	1.05
SODIUM MG/L	689	392	1.00
CHLORIDE MG/L	1,170	565	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

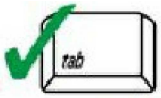
DISCHARGE MONITORING REPORT

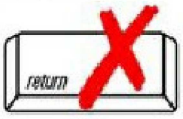
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2019 APR MONTHLY
3. Sampling Month & Frequency

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A. Facility Information

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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Apr Monthly

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 APR MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.15	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

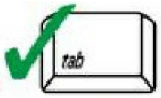
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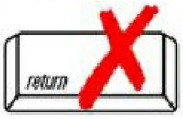
[redacted]
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2019 APR MONTHLY
3. Sampling Month & Frequency

A. Facility Information

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b. Telephone Number	c. e-mail address

3. Sampling information:

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a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Apr Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	5.47	7.53	8.49	8.43	9.29	7.44
TOTAL PHOSPHORUS AS P MG/L	0.03	0.03	0.01	0.01	0.02	0.01
ORTHO PHOSPHATE MG/L	0.02	0.02	0.02	0.05	0.02	0.02
STATIC WATER LEVEL FEET	53.90	34.30	34.60	66.60	21.20	21.00

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
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[redacted]
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2019 APR MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	Units	A8 Well #: 1	A9 Well #: 2	USGS475 Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	7.81	7.51	6.02			
TOTAL PHOSPHORUS AS P	MG/L	5.14	0.02	0.03			
ORTHO PHOSPHATE	MG/L	5.06	0.03	0.02			
STATIC WATER LEVEL	FEET	25.30	54.10	26.40			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

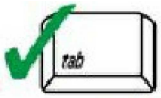
DISCHARGE MONITORING REPORT

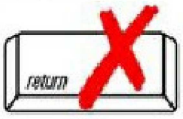
677
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2019 APR WEEKLY 1
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

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c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

4/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Apr Weekly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
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2019 APR WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	144	11.3	2.00
MG/L			
TSS	182	14.0	2.50
MG/L			
TOTAL SOLIDS		1,100	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

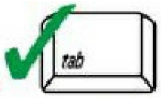
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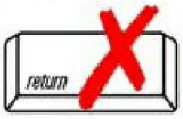
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2019 APR WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

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a. Name

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b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

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a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

4/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
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B. Form Selection

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Discharge Monitoring Report - 2019 Apr Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	158	6.9	2.00
MG/L			
TSS	172	12.0	2.5
MG/L			
TOTAL SOLIDS		1,390	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

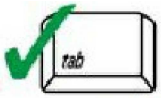
DISCHARGE MONITORING REPORT

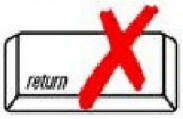
677
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2019 APR WEEKLY 3
3. Sampling Month & Frequency

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A. Facility Information

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a. Name of Facility Contact Person

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b. Telephone Number	c. e-mail address

3. Sampling information:

4/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Apr Weekly 3

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3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 APR WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	201	19.4	2.00
MG/L			
TSS	290	18.8	2.50
MG/L			
TOTAL SOLIDS		1,270	25.0
MG/L			
CHLORINE RESIDUAL		ND	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

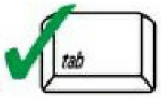
DISCHARGE MONITORING REPORT

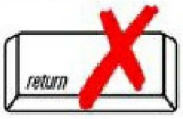
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2019 APR WEEKLY 4
3. Sampling Month & Frequency

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b. Telephone Number	c. e-mail address

3. Sampling information:

4/1/2019	MICROBAC LABORATORY
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MICROBAC LABORATORY
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Discharge Monitoring Report - 2019 Apr Weekly 4

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Massachusetts Department of Environmental Protection
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Groundwater Permit

DISCHARGE MONITORING REPORT

677
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[redacted]
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2019 APR WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	208	12.8	2.00
MG/L			
TSS	272	18.2	2.50
MG/L			
TOTAL SOLIDS		1,450	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		11	1
/100 ML			

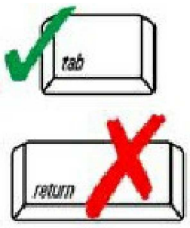
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

677
1. Permit Number

[redacted]
2. Tax identification Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.

☑

Facility Information

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	5/15/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

THERE WAS TWO (2) GROUNDWATER PERMIT EXCURSION TO REPORT FOR THE MONTH OF APRIL 2019. AS REQUIRED BY GROUNDWATER PERMIT NO. 1677, A GRAB SAMPLE OF THE PLANT EFFLUENT IS TESTED FOR TDS TWICE MONTHLY. THE EFFLUENT SAMPLE COLLECTED ON APRIL 3 AND 17, 2019 WAS ANALYZED BY MICROBAC LABORATORY AND A MEASURED CONCENTRATION OF 1,050 MG/L AND 1,200 TDS WAS REPORTED. THE TDS PERMIT LIMIT IS 1000 MG/L RESULTING IN THE PERMIT EXCURSION FOR GROUNDWATER.

Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username:	**BOBBLANCHARD**
Transaction ID:	**1158526**
Document:	**Groundwater Discharge Monitoring Report Forms**
Size of File:	**2917.95K**
Status of Transaction:	**Submitted**
Date and Time Created:	**12/9/2019:1:10:12 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to “Download a Copy” from the Current Submittals page.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV BI-MONTHLY 1
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

11/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Nov Bi-Monthly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV BI-MONTHLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,590	25.0
AMMONIA-N MG/L	29.9		
NITRATE-N MG/L		5.79	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	45.2	8.78	0.400
TOTAL PHOSPHORUS AS P MG/L	1.68	4.66	0.0213
ORTHO PHOSPHATE MG/L		3.90	0.0400
OIL & GREASE MG/L	34.6	1.05	1.05
SODIUM MG/L	437	416	1.00
CHLORIDE MG/L	778	662	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV BI-MONTHLY 2
3. Sampling Month & Frequency

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A. Facility Information

1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
c. City	d. State	e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

11/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Nov Bi-Monthly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV BI-MONTHLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant Units	2. Influent	3. Effluent	4. Effluent Method Detection limit
TOTAL DISSOLVED SOLIDS MG/L		1,590	25.0
AMMONIA-N MG/L	30.1		
NITRATE-N MG/L		3.88	0.0500
TOTAL NITROGEN(NO3+NO2+TKN) MG/L	47.1	5.96	0.400
TOTAL PHOSPHORUS AS P MG/L	11.60	4.57	0.0213
ORTHO PHOSPHATE MG/L		4.34	0.0400
OIL & GREASE MG/L	37.60	2.21	1.05
SODIUM MG/L	232	1.00	1.00
CHLORIDE MG/L	325	754	20.0

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV DAILY
3. Sampling Month & Frequency

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A. Facility Information

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TOWN OF PLYMOUTH WWTF
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

11/1/2019	IN-HOUSE LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

DAVIDBIDANSETT/PETER MURPHY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2019 Nov Daily

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DAILY LOG SHEET

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV DAILY
3. Sampling Month & Frequency

C. Daily Readings/Analysis Information

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	24,000				6.88	6.83	ND	
2	4,000				6.91	6.89	ND	
3	ND				6.88	6.81	ND	
4	1,000				6.88	6.76	ND	
5	10,000				6.96	6.82	ND	
6	2,000				7.03	6.83	ND	
7	4,000				6.89	6.96	ND	
8	5,000				6.79	7.01	0.03	
9	3,000				6.96	6.93	ND	
10	ND				6.83	6.98	0.02	
11	5,000				6.81	6.85	ND	
12	5,000				6.90	7.03	ND	
13	1,000				6.90	6.95	0.03	
14	4,000				7.16	6.95	0.02	
15	11,000				7.03	6.80	0.02	
16	ND				6.92	6.91	ND	
17	2,000				6.84	6.87	0.02	
18	46,000				6.76	6.88	ND	
19	14,000				7.15	6.88	ND	
20	4,000				6.84	6.86	ND	
21	6,000				6.88	6.81	ND	
22	9,000				6.97	6.83	0.03	
23	6,000				7.16	6.84	ND	
24	156,000				6.90	6.86	ND	
25	71,000				7.04	6.87	0.02	
26	140,000				7.06	6.83	0.02	
27	103,000				7.04	6.81	ND	
28	104,000				7.01	6.86	ND	
29	43,000				7.03	7.02	0.02	
30	48,000				6.88	6.85	ND	
31								

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV MONTHLY
3. Sampling Month & Frequency

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





1. Facility name, address:

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a. Name

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PLYMOUTH | MA | 02360
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

11/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Nov Monthly

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2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV MONTHLY
3. Sampling Month & Frequency

D. Contaminant Analysis Information

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- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BORON		0.26	0.0050
MG/L			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV MONTHLY
3. Sampling Month & Frequency

A. Facility Information

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1. Facility name, address:

TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
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PLYMOUTH | MA | 02360
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

11/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2019 Nov Monthly

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant	1S	6D	6S	A10	A11	A16
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH S.U.	7.56	7.73	6.60	7.56	5.70	7.56
TOTAL PHOSPHORUS AS P MG/L	0.01	0.03	0.02	0.01	0.03	0.01
ORTHO PHOSPHATE MG/L	0.02	0.02	0.01	0.06	0.02	0.01
STATIC WATER LEVEL FEET	55.40	36.50	36.80	68.30	23.00	23.10

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

MONITORING WELL DATA REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV MONTHLY
3. Sampling Month & Frequency

C. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND" <
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

Parameter/Contaminant		A8	A9	USGS475			
	Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	S.U.	7.60	6.43	6.93			
TOTAL PHOSPHORUS AS P	MG/L	5.90	0.02	0.02			
ORTHO PHOSPHATE	MG/L	5.67	0.02	0.02			
STATIC WATER LEVEL	FEET	27.80	56.20	28.50			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

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2019 NOV WEEKLY 1
3. Sampling Month & Frequency

A. Facility Information

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TOWN OF PLYMOUTH WWTF
a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH | MA | 02360
c. City | d. State | e. Zip Code

2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

11/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2019 Nov Weekly 1

☐ All forms for submittal have been completed.

2. ☐ This is the last selection.

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
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2019 NOV WEEKLY 1
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	184	10.1	2.00
MG/L			
TSS	219	13.7	2.50
MG/L			
TOTAL SOLIDS		2,060	25.0
MG/L			
CHLORINE RESIDUAL		0.02	0.02
MG/L			
FECAL COLIFORM		4	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
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2019 NOV WEEKLY 2
3. Sampling Month & Frequency

A. Facility Information

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TOWN OF PLYMOUTH WWTF
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131 CAMELOT DRIVE
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2. Contact information:

ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159 | robert.blanchard@veolia.com
b. Telephone Number | c. e-mail address

3. Sampling information:

11/1/2019 | MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy) | b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Nov Weekly 2

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV WEEKLY 2
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	200	7.5	2.00
MG/L			
TSS	219	7.4	2.50
MG/L			
TOTAL SOLIDS		1,510	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		5	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
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2019 NOV WEEKLY 3
3. Sampling Month & Frequency

A. Facility Information

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a. Name

131 CAMELOT DRIVE
b. Street Address

PLYMOUTH	MA	02360
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ROBERT BLANCHARD
a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

11/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Nov Weekly 3

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV WEEKLY 3
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	305	7.1	2.00
MG/L			
TSS	379	11.1	2.50
MG/L			
TOTAL SOLIDS		1,630	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV WEEKLY 4
3. Sampling Month & Frequency

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A. Facility Information

1. Facility name, address:

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a. Name of Facility Contact Person

5088304159	robert.blanchard@veolia.com
b. Telephone Number	c. e-mail address

3. Sampling information:

11/1/2019	MICROBAC LABORATORY
a. Date Sampled (mm/dd/yyyy)	b. Laboratory Name

MICROBAC LABORATORY
c. Analysis Performed By (Name)

B. Form Selection

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Discharge Monitoring Report - 2019 Nov Weekly 4

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2. ☐ This is the last selection.

3. ☐ Delete the selected form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Groundwater Discharge Program

Groundwater Permit

DISCHARGE MONITORING REPORT

677
1. Permit Number

[redacted]
2. Tax identification Number

2019 NOV WEEKLY 4
3. Sampling Month & Frequency

D. Contaminant Analysis Information

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method
Units			Detection limit
BOD	181	7.3	2.00
MG/L			
TSS	224	15.1	2.50
MG/L			
TOTAL SOLIDS		1,640	25.0
MG/L			
CHLORINE RESIDUAL		0.03	0.02
MG/L			
FECAL COLIFORM		1	1
/100 ML			

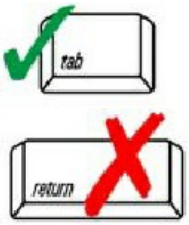
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Groundwater Permit

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If you are filing electronic-ally and want to attach additional comments, select the check box.

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a. Name

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PLYMOUTH	MA	02360
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Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that the are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ROBERT BLANCHARD	12/9/2019
a. Signature	b. Date (mm/dd/yyyy)

Reporting Package Comments

PLEASE FIND ATTACHED DMR INCLUDING DAILY, BIWEEKLY AND ,MONTHLY ANALYSIS FOR THE TREATMENT PLANT AND MONITORING WELLS.

THERE WERE TWO (2) PERMIT EXCURSIONS TO REPORT FOR THE MONTH OF NOVEMBER 2019. THE EXCURSIONS WERE FOR TOTAL DISSOLVED SOLIDS. THE EFFLUENT SAMPLE COLLECTED ON NOVEMBER 6TH AND 20TH, WERE THEN SENT TO MICROBAC LABORATORY FOR SAMLPE ANALYSIS AND MEASURED 1,590&1,590 MG/L. THE PERMIT LIMIT IS 1000 MG\L RESULTING IN THE EXCURSION.

ATTACHMENTS:
1) DMR COVER LETTER
2) ADDENDUM FOR SPECIFIC CONDUCTANCE AND SETTABLE SOLID REPORT.
3) MONTHLY FLOW VS ANNUAL AVERAGES.
4) MONTHLY OPERATING REPORTS
5) PLYMOUTH WWTP STAFFING

IF YOU HAVE ANY QUESTIONS CONCERNING THIS REPORT, PLEASE CONTACT THE VEOLIA PROJECT MANAGER ROBERT BLANCHARD AT (508) 830-4159

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9B1297

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Melisa L. Montgomery
QA Officer

Tuesday, February 19, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9B1297

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 02/14/2019
Reported: 02/19/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9B1297-01	Wastewater	Grab		02/14/19 11:05	02/14/19 16:10
Well #475 (Filtered)	D9B1297-02	Wastewater	Grab		02/14/19 11:05	02/14/19 16:10
Well #6D	D9B1297-03	Wastewater	Grab		02/14/19 11:50	02/14/19 16:10
Well #6D (Filtered)	D9B1297-04	Wastewater	Grab		02/14/19 11:50	02/14/19 16:10
Well #6S	D9B1297-05	Wastewater	Grab		02/14/19 12:20	02/14/19 16:10
Well #6S (Filtered)	D9B1297-06	Wastewater	Grab		02/14/19 12:20	02/14/19 16:10
Well #A11	D9B1297-07	Wastewater	Grab		02/14/19 13:10	02/14/19 16:10
Well #A11 (Filtered)	D9B1297-08	Wastewater	Grab		02/14/19 13:10	02/14/19 16:10

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-01
Collected By: Customer
Collection Date: 02/14/2019 11:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0414**	0.0100	mg/L		02/14/19 2032	02/15/19 1027	CLW

Client Sample ID: Well #475 (Filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-02
Collected By: Customer
Collection Date: 02/14/2019 11:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0250**	0.0100	mg/L	**M1**	02/14/19 1854	02/14/19 2218	DCH

Client Sample ID: Well #6D
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-03
Collected By: Customer
Collection Date: 02/14/2019 11:50

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0149**	0.0100	mg/L		02/14/19 2032	02/15/19 1027	CLW

Client Sample ID: Well #6D (Filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-04
Collected By: Customer
Collection Date: 02/14/2019 11:50

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0250**	0.0100	mg/L		02/14/19 1854	02/14/19 2224	DCH

Client Sample ID: Well #6S
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-05
Collected By: Customer
Collection Date: 02/14/2019 12:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0202**	0.0100	mg/L		02/14/19 2032	02/15/19 1028	CLW

Client Sample ID: Well #6S (Filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-06
Collected By: Customer
Collection Date: 02/14/2019 12:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0110**	0.0100	mg/L		02/14/19 1854	02/14/19 2225	DCH

Client Sample ID: Well #A11
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-07
Collected By: Customer
Collection Date: 02/14/2019 13:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0191**	0.0100	mg/L		02/14/19 2032	02/15/19 1028	CLW

Client Sample ID: Well #A11 (Filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1297-08
Collected By: Customer
Collection Date: 02/14/2019 13:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0410**	0.0100	mg/L		02/14/19 1854	02/14/19 2226	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DB90836 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DB90836-BLK1)			Prepared & Analyzed: 02/14/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DB90836-BS1)			Prepared & Analyzed: 02/14/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00		104	90-110			
Duplicate (DB90836-DUP1)	**Source: D9B1297-02**		Prepared & Analyzed: 02/14/2019							
Ortho-phosphate as P	0.0240	0.0100	mg/L		0.0250			4.08	20	
Matrix Spike (DB90836-MS1)	**Source: D9B1297-02**		Prepared & Analyzed: 02/14/2019							
Ortho-phosphate as P	1.68	0.0100	mg/L	1.00	0.0250	165	90-110			M1
Batch DB90856 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DB90856-BLK1)			Prepared: 02/14/2019 Analyzed: 02/15/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DB90856-BS1)			Prepared: 02/14/2019 Analyzed: 02/15/2019							
Phosphorus - Total as P	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DB90856-DUP1)	**Source: D9B1238-01**		Prepared: 02/14/2019 Analyzed: 02/15/2019							
Phosphorus - Total as P	0.913	0.0100	mg/L		0.906			0.701	20	
Matrix Spike (DB90856-MS1)	**Source: D9B1238-01**		Prepared: 02/14/2019 Analyzed: 02/15/2019							
Phosphorus - Total as P	2.12	0.0200	mg/L	1.25	0.906	97.0	90-110			
Matrix Spike (DB90856-MS2)	**Source: D9B1295-02**		Prepared: 02/14/2019 Analyzed: 02/15/2019							
Phosphorus - Total as P	2.85	0.0200	mg/L	1.25	1.56	103	90-110			

Definitions

M1: Matrix spike recovery is above acceptance limits.
RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery

QA Officer

Reported: 02/19/2019 10:59

MICROBAC

Microbac Laboratories, Inc.

D9B1297

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To		Billing Information		Project Information	
CUSTOMER:	VEOLIA WATER NORTH AMERICA	BILL TO:	VEOLIA WATER NORTH AMERICA	PROJECT:	PLYMOUTH, MA WWTP
ADDRESS:	131 CAMELOT DRIVE	ADDRESS:	125 SOUTH STREET SUITE 173	LOCATION:	ID 11773
	PLYMOUTH, MA 02360		MILWAUKEE, WI		Wells - Monthly TP & Ortho-P
DELIVERY:	ROBERT BLANCHARD	PURCHASE ORDER #		ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL	ROBERT BLANCHARD
E-MAIL:	robert.blanchard@veolia.com	ATTENTION:	ACCOUNTS PAYABLE	PHONE:	CELL - 508-328-5758
PHONE:	508-830-4159 FAX: 508-732-0238	PHONE:	866-688-0988	FAX:	508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	2/14/2019	11:45		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	2/14/2019	11:45		X	WW	1		X	X				
Well # 6D (250 mL)	2/14/2019	11:50		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	2/14/2019	11:50		X	WW	1		X	X				
Well # 6S (250 mL)	2/14/2019	12:20		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	2/14/2019	12:20		X	WW	1		X	X				
Well # A11 (250 mL)	2/14/2019	13:10		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	2/14/2019	13:10		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	2-14-19	
RECEIVED:		
RELINQUISHED:	2-14-19	13:29
RECEIVED:	2-14-19	1328
RELINQUISHED:	2-14-19	1610
RECEIVED:	2/14/19	1610

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9B1893

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Katherine Wall

Katherine A. Wall
Project Manager

Tuesday, February 26, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9B1893

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 02/21/2019
Reported: 02/26/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9B1893-01	Wastewater	Grab		02/21/19 10:35	02/21/19 15:40
Well #1S (filtered)	D9B1893-02	Wastewater	Grab		02/21/19 10:35	02/21/19 15:40
Well #A9	D9B1893-03	Wastewater	Grab		02/21/19 11:20	02/21/19 15:40
Well #A9 (filtered)	D9B1893-04	Wastewater	Grab		02/21/19 11:20	02/21/19 15:40
Well #A10	D9B1893-05	Wastewater	Grab		02/21/19 12:05	02/21/19 15:40
Well #A10 (filtered)	D9B1893-06	Wastewater	Grab		02/21/19 12:05	02/21/19 15:40
Well #A8	D9B1893-07	Wastewater	Grab		02/21/19 12:45	02/21/19 15:40
Well #A8 (filtered)	D9B1893-08	Wastewater	Grab		02/21/19 12:45	02/21/19 15:40
Well #A16	D9B1893-09	Wastewater	Grab		02/21/19 13:20	02/21/19 15:40
Well #A16 (filtered)	D9B1893-10	Wastewater	Grab		02/21/19 13:20	02/21/19 15:40

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-01
Collected By: Customer
Collection Date: 02/21/2019 10:35

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	<0.0106	0.0106	mg/L		02/22/19 1800	02/25/19 0933	CLW

Client Sample ID: Well #1S (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-02
Collected By: Customer
Collection Date: 02/21/2019 10:35

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0160**	0.0100	mg/L		02/21/19 2225	02/21/19 2346	DCH

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-03
Collected By: Customer
Collection Date: 02/21/2019 11:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0159**	0.0106	mg/L		02/22/19 1800	02/25/19 0933	CLW

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-04
Collected By: Customer
Collection Date: 02/21/2019 11:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0220**	0.0100	mg/L		02/21/19 2225	02/21/19 2349	DCH

Client Sample ID: Well #A10
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-05
Collected By: Customer
Collection Date: 02/21/2019 12:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	<0.0106	0.0106	mg/L		02/22/19 1800	02/25/19 0934	CLW

Client Sample ID: Well #A10 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-06
Collected By: Customer
Collection Date: 02/21/2019 12:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0320**	0.0100	mg/L		02/21/19 2225	02/21/19 2350	DCH

Client Sample ID: Well #A8
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-07
Collected By: Customer
Collection Date: 02/21/2019 12:45

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**4.02**	0.0425	mg/L		02/22/19 1800	02/25/19 1007	CLW

Client Sample ID: Well #A8 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-08
Collected By: Customer
Collection Date: 02/21/2019 12:45

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**3.89**	0.0400	mg/L		02/21/19 2225	02/22/19 0010	DCH

Client Sample ID: Well #A16
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-09
Collected By: Customer
Collection Date: 02/21/2019 13:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0117**	0.0106	mg/L		02/22/19 1800	02/25/19 0935	CLW

Client Sample ID: Well #A16 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9B1893-10
Collected By: Customer
Collection Date: 02/21/2019 13:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0160**	0.0100	mg/L		02/21/19 2225	02/21/19 2351	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DB91252 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DB91252-BLK1)			Prepared & Analyzed: 02/21/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DB91252-BS1)			Prepared & Analyzed: 02/21/2019							
Ortho-phosphate as P	0.991	0.0100	mg/L	1.00		98.9	90-110			
Duplicate (DB91252-DUP1)	**Source: D9B1893-02**		Prepared & Analyzed: 02/21/2019							
Ortho-phosphate as P	0.0140	0.0100	mg/L		0.0160			13.3	20	
Matrix Spike (DB91252-MS1)	**Source: D9B1893-02**		Prepared & Analyzed: 02/21/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00	0.0160	100	90-110			
Batch DB91318 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DB91318-BLK1)			Prepared: 02/22/2019 Analyzed: 02/25/2019							
Phosphorus - Total as P	ND	0.0106	mg/L							
LCS (DB91318-BS1)			Prepared: 02/22/2019 Analyzed: 02/25/2019							
Phosphorus - Total as P	1.09	0.0106	mg/L	1.00		109	90-110			
Duplicate (DB91318-DUP1)	**Source: D9B2011-03**		Prepared: 02/22/2019 Analyzed: 02/25/2019							
Phosphorus - Total as P	0.579	0.0106	mg/L		0.593			2.36	20	
Matrix Spike (DB91318-MS1)	**Source: D9B2011-03**		Prepared: 02/22/2019 Analyzed: 02/25/2019							
Phosphorus - Total as P	1.89	0.0213	mg/L	1.25	0.593	103	90-110			
Matrix Spike (DB91318-MS2)	**Source: D9B2063-01**		Prepared: 02/22/2019 Analyzed: 02/25/2019							
Phosphorus - Total as P	1.54	0.0106	mg/L	1.25	0.240	104	90-110			

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.0°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9B1893

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine A. Wall

Project Manager

Reported: 02/26/2019 12:46

MICROBAC®

Microbac Laboratories, Inc.

D 9 B 1 8 9 3

Veolia - Plymouth

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1S (250 mL)	2/21/2019	10:35		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	2/21/2019	10:35		X	WW	1		X	X				
Well # A9 (250 mL)	2/21/2019	11:20		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	2/21/2019	11:20		X	WW	1		X	X				
Well # A10 (250 mL)	2/21/2019	12:05		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	2/21/2019	12:05		X	WW	1		X	X				
Well # A8 (250 mL)	2/21/2019	12:45		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	2/21/2019	12:45		X	WW	1		X	X				
Well # A16 (250 mL)	2/21/2019	13:20		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	2/21/2019	13:20		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER: Pete Murphy	2-21-19	
RECEIVED:		
RELINQUISHED: Pete Murphy	2-21-19	13:00
CEIVED: Ryan Collins	2.21.19	1340
LINQUISHED: Ryan Collins	2.21.19	1540
CEIVED:	2-21-19	1540

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.0°C PL

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C1830

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Monday, March 25, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C1830

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 03/19/2019
Reported: 03/25/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9C1830-01	Wastewater	Grab		03/19/19 10:44	03/19/19 17:00
Well #6D	D9C1830-02	Wastewater	Grab		03/19/19 11:30	03/19/19 17:00
Well #6S	D9C1830-03	Wastewater	Grab		03/19/19 12:00	03/19/19 17:00
Well #A11	D9C1830-04	Wastewater	Grab		03/19/19 12:57	03/19/19 17:00

CERTIFICATE OF ANALYSIS

D9C1830

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Wastewater
Lab Sample ID: D9C1830-01
Collected By: Customer
Collection Date: 03/19/2019 10:44

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0220**	0.0100	mg/L		03/19/19 2014	03/19/19 2252	DCH
Phosphorus - Total as P	**0.0170**	0.0100	mg/L		03/21/19 1818	03/22/19 0909	CLW

Client Sample ID: Well #6D
Sample Matrix: Wastewater
Lab Sample ID: D9C1830-02
Collected By: Customer
Collection Date: 03/19/2019 11:30

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0200**	0.0100	mg/L		03/19/19 2014	03/19/19 2254	DCH
Phosphorus - Total as P	**0.0191**	0.0100	mg/L		03/21/19 1818	03/22/19 0910	CLW

Client Sample ID: Well #6S
Sample Matrix: Wastewater
Lab Sample ID: D9C1830-03
Collected By: Customer
Collection Date: 03/19/2019 12:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0150**	0.0100	mg/L		03/19/19 2014	03/19/19 2255	DCH
Phosphorus - Total as P	<0.0100	0.0100	mg/L		03/21/19 1818	03/22/19 0910	CLW

Client Sample ID: Well #A11
Sample Matrix: Wastewater
Lab Sample ID: D9C1830-04
Collected By: Customer
Collection Date: 03/19/2019 12:57

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0150**	0.0100	mg/L		03/19/19 2014	03/19/19 2256	DCH
Phosphorus - Total as P	**0.0106**	0.0100	mg/L		03/21/19 1818	03/22/19 0912	CLW

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DC91071 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DC91071-BLK1)			Prepared & Analyzed: 03/19/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DC91071-BS1)			Prepared & Analyzed: 03/19/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		101	90-110			
Duplicate (DC91071-DUP1)		**Source: D9C1618-06**	Prepared & Analyzed: 03/19/2019							
Ortho-phosphate as P	0.774	0.0100	mg/L		0.729			5.99	20	
Matrix Spike (DC91071-MS1)		**Source: D9C1618-06**	Prepared & Analyzed: 03/19/2019							
Ortho-phosphate as P	2.09	0.0200	mg/L	1.00	0.729	136	90-110			M1
Matrix Spike (DC91071-MS2)		**Source: D9C1680-04**	Prepared & Analyzed: 03/19/2019							
Ortho-phosphate as P	1.20	0.0100	mg/L	1.00	0.00700	119	90-110			M1
Batch DC91276 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DC91276-BLK1)			Prepared: 03/21/2019 Analyzed: 03/22/2019							
Phosphorus - Total as P	<0.0100	0.0100	mg/L							
LCS (DC91276-BS1)			Prepared: 03/21/2019 Analyzed: 03/22/2019							
Phosphorus - Total as P	1.05	0.0100	mg/L	1.00		105	90-110			
Duplicate (DC91276-DUP1)		**Source: D9C1511-01**	Prepared: 03/21/2019 Analyzed: 03/22/2019							
Phosphorus - Total as P	0.893	0.0100	mg/L		0.897			0.475	20	
Matrix Spike (DC91276-MS1)		**Source: D9C1511-01**	Prepared: 03/21/2019 Analyzed: 03/22/2019							
Phosphorus - Total as P	2.20	0.0200	mg/L	1.25	0.897	104	90-110			
Matrix Spike (DC91276-MS2)		**Source: D9C1976-01**	Prepared: 03/21/2019 Analyzed: 03/22/2019							
Phosphorus - Total as P	12.3	0.120	mg/L	1.25	11.0	104	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C1830

Definitions

M1:	Matrix spike recovery is above acceptance limits.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.5ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 03/25/2019 13:15

MICROBAC

Microbac Laboratories, Inc.

D 9 C 1 8 3 0

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	3/19/2019	10:44		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	3/19/2019	10:44		X	WW	1		X	X				
Well # 6D (250 mL)	3/19/2019	11:30		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	3/19/2019	11:30		X	WW	1		X	X				
Well # 6S (250 mL)	3/19/2019	12:00		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	3/19/2019	12:00		X	WW	1		X	X				
Well # A11 (250 mL)	3/19/2019	12:57		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	3/19/2019	12:57		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials KHW

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	3-19-19	
RECEIVED:		
RELINQUISHED:	3-19-19	13:23
RECEIVED:	3.19.19	1323
RELINQUISHED:	3.19.19	1700
RECEIVED:	3-19-19	1700

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 3.5°C

KHW

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C2141

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, March 26, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C2141

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 03/21/2019
Reported: 03/26/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9C2141-01	Wastewater	Grab		03/21/19 10:32	03/21/19 16:28
Well #A9	D9C2141-02	Wastewater	Grab		03/21/19 11:20	03/21/19 16:28
Well #A10	D9C2141-03	Wastewater	Grab		03/21/19 12:10	03/21/19 16:28
Well #A8	D9C2141-04	Wastewater	Grab		03/21/19 12:40	03/21/19 16:28
Well #A16	D9C2141-05	Wastewater	Grab		03/21/19 13:15	03/21/19 16:28

CERTIFICATE OF ANALYSIS

D9C2141

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Wastewater
Lab Sample ID: D9C2141-01
Collected By: Customer
Collection Date: 03/21/2019 10:32

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0120**	0.0100	mg/L		03/22/19 0054	03/22/19 0231	DCH
Phosphorus - Total as P	**0.0138**	0.0100	mg/L		03/22/19 1723	03/25/19 1047	CLW

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9C2141-02
Collected By: Customer
Collection Date: 03/21/2019 11:20

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0460**	0.0100	mg/L		03/22/19 0054	03/22/19 0232	DCH
Phosphorus - Total as P	**0.0202**	0.0100	mg/L		03/22/19 1723	03/25/19 1047	CLW

Client Sample ID: Well #A10
Sample Matrix: Wastewater
Lab Sample ID: D9C2141-03
Collected By: Customer
Collection Date: 03/21/2019 12:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	<0.0100	0.0100	mg/L		03/22/19 0054	03/22/19 0232	DCH
Phosphorus - Total as P	<0.0100	0.0100	mg/L		03/22/19 1723	03/25/19 1048	CLW

Client Sample ID: Well #A8
Sample Matrix: Wastewater
Lab Sample ID: D9C2141-04
Collected By: Customer
Collection Date: 03/21/2019 12:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**4.57**	0.0400	mg/L		03/22/19 0054	03/22/19 0253	DCH
Phosphorus - Total as P	**4.75**	0.0400	mg/L		03/22/19 1723	03/25/19 1122	CLW

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C2141

Client Sample ID:	Well #A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9C2141-05	**Collection Date:**	03/21/2019 13:15

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0100**	0.0100	mg/L		03/22/19 0054	03/22/19 0235	DCH
Phosphorus - Total as P	**0.0128**	0.0100	mg/L		03/22/19 1723	03/25/19 1050	CLW

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DC91292 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DC91292-BLK1)			Prepared & Analyzed: 03/22/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DC91292-BS1)			Prepared & Analyzed: 03/22/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00		105	90-110			
Duplicate (DC91292-DUP1)		**Source: D9C2091-02**	Prepared & Analyzed: 03/22/2019							
Ortho-phosphate as P	0.0320	0.0100	mg/L		0.0320			0.00	20	
Matrix Spike (DC91292-MS1)		**Source: D9C2091-02**	Prepared & Analyzed: 03/22/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00	0.0320	101	90-110			
Batch DC91346 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DC91346-BLK1)			Prepared: 03/22/2019 Analyzed: 03/25/2019							
Phosphorus - Total as P	<0.0100	0.0100	mg/L							
LCS (DC91346-BS1)			Prepared: 03/22/2019 Analyzed: 03/25/2019							
Phosphorus - Total as P	1.04	0.0100	mg/L	1.00		104	90-110			
Duplicate (DC91346-DUP1)		**Source: D9C2050-01RE1**	Prepared: 03/22/2019 Analyzed: 03/25/2019							
Phosphorus - Total as P	0.599	0.0100	mg/L		0.582			2.88	20	
Matrix Spike (DC91346-MS1)		**Source: D9C2050-01RE1**	Prepared: 03/22/2019 Analyzed: 03/25/2019							
Phosphorus - Total as P	1.81	0.0100	mg/L	1.25	0.582	98.4	90-110			
Matrix Spike (DC91346-MS2)		**Source: D9C2090-01**	Prepared: 03/22/2019 Analyzed: 03/25/2019							
Phosphorus - Total as P	2.24	0.0200	mg/L	1.25	0.923	105	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9C2141

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 03/26/2019 09:42

MICROBAC

Microbac Laboratories, Inc.

D 9 C 2 1 4 1

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1S (250 mL)	3/21/2019	10:32		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	3/21/2019	10:32		X	WW	1		X	X				
Well # A9 (250 mL)	3/21/2019	11:20		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	3/21/2019	11:20		X	WW	1		X	X				
Well # A10 (250 mL)	3/21/2019	12:10		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	3/21/2019	12:10		X	WW	1		X	X				
Well # A8 (250 mL)	3/21/2019	12:40		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	3/21/2019	~~13:15~~ 12:40		X	WW	1		X	X				
Well # A16 (250 mL)	3/21/2019	13:15		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	3/21/2019	13:15		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	3-21-19	
RECEIVED:		
RELINQUISHED:	3-21-19	13:39
RECEIVED:	3.21.19	1339
RELINQUISHED:	3.21.19	1628
RECEIVED:	3.21.19	1628

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 3.8°C R

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E2621

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Monday, June 3, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E2621

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 05/23/2019
Reported: 06/03/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9E2621-01	Wastewater	Grab		05/23/19 10:52	05/23/19 17:27
Well #1S (filtered)	D9E2621-02	Wastewater	Grab		05/23/19 10:52	05/23/19 17:27
Well #A9	D9E2621-03	Wastewater	Grab		05/23/19 11:45	05/23/19 17:27
Well #A9 (filtered)	D9E2621-04	Wastewater	Grab		05/23/19 11:45	05/23/19 17:27
Well #A10	D9E2621-05	Wastewater	Grab		05/23/19 12:00	05/23/19 17:27
Well #A10 (filtered)	D9E2621-06	Wastewater	Grab		05/23/19 12:00	05/23/19 17:27
Well #A11	D9E2621-07	Wastewater	Grab		05/23/19 13:10	05/23/19 17:27
Well #A11 (filtered)	D9E2621-08	Wastewater	Grab		05/23/19 13:10	05/23/19 17:27

CERTIFICATE OF ANALYSIS

D9E2621

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-01
Collected By: Customer
Collection Date: 05/23/2019 10:52

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		05/28/19 1920	05/30/19 1106	DCH

Client Sample ID: Well #1S (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-02
Collected By: Customer
Collection Date: 05/23/2019 10:52

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0160**	0.0100	mg/L	1	**R3**	05/23/19 1858	05/23/19 2000	BDC

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-03
Collected By: Customer
Collection Date: 05/23/2019 11:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0117**	0.0106	mg/L	1		05/28/19 1920	05/30/19 1107	DCH

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-04
Collected By: Customer
Collection Date: 05/23/2019 11:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0200**	0.0100	mg/L	1		05/23/19 1858	05/23/19 2002	BDC

Client Sample ID: Well #A10
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-05
Collected By: Customer
Collection Date: 05/23/2019 12:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		05/28/19 1920	05/30/19 1107	DCH

CERTIFICATE OF ANALYSIS

D9E2621

Client Sample ID: Well #A10 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-06
Collected By: Customer
Collection Date: 05/23/2019 12:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0110**	0.0100	mg/L	1		05/23/19 1858	05/23/19 2004	BDC

Client Sample ID: Well #A11
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-07
Collected By: Customer
Collection Date: 05/23/2019 13:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0117**	0.0106	mg/L	1		05/28/19 1920	05/30/19 1109	DCH

Client Sample ID: Well #A11 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9E2621-08
Collected By: Customer
Collection Date: 05/23/2019 13:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0200**	0.0100	mg/L	1		05/23/19 1858	05/23/19 2004	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DE91649 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DE91649-BLK1)			Prepared & Analyzed: 05/23/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DE91649-BS1)			Prepared & Analyzed: 05/23/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		101	90-110			
Duplicate (DE91649-DUP1)		**Source: D9E2621-02**	Prepared & Analyzed: 05/23/2019							
Ortho-phosphate as P	0.0130	0.0100	mg/L		0.0160			20.7	20	R3
Matrix Spike (DE91649-MS1)		**Source: D9E2621-02**	Prepared & Analyzed: 05/23/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00	0.0160	99.7	90-110			
Batch DE91864 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
LCS (DE91864-BS1)			Prepared: 05/28/2019 Analyzed: 05/30/2019							
Phosphorus - Total as P	1.03	0.0106	mg/L	1.00		103	90-110			
Duplicate (DE91864-DUP1)		**Source: D9E2725-01**	Prepared: 05/28/2019 Analyzed: 05/30/2019							
Phosphorus - Total as P	0.0446	0.0106	mg/L		0.0478			6.90	20	
Matrix Spike (DE91864-MS1)		**Source: D9E2725-01**	Prepared: 05/28/2019 Analyzed: 05/30/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0478	97.5	90-110			
Matrix Spike (DE91864-MS2)		**Source: D9E2758-04**	Prepared: 05/28/2019 Analyzed: 05/30/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0786	95.2	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E2621

Definitions

R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.7°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 06/03/2019 12:24

MICROBAC

Microbac Laboratories, Inc.

D 9 E 2 6 2 1

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

Wells - Monthly TP & Ortho-P

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1S (250 mL)	5/23/2019	10:52		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	5/23/2019	10:52		X	WW	1		X	X				
Well # A9 (250 mL)	5/23/2019	11:45		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	5/23/2019	11:45		X	WW	1		X	X				
Well # A10 (250 mL)	5/23/2019	12:00		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	5/23/2019	12:00		X	WW	1		X	X				
Well # A11 (250 mL)	5/23/2019	13:10		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	5/23/2019	13:10		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	5-23-19	
RECEIVED:		
RELINQUISHED:	5-23-19	13:40
RECEIVED:	5-23-19	13:40
RELINQUISHED:	5-23-19	17:27
RECEIVED:	5-23-19	1727

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 1.7°C DJZ

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E3036

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, June 14, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E3036

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 05/29/2019
Reported: 06/14/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9E3036-01	Groundwater	Grab		05/28/19 12:36	05/29/19 16:30
Well #475 (filtered)	D9E3036-02	Groundwater	Grab		05/28/19 12:36	05/29/19 16:30
Well #6D	D9E3036-03	Groundwater	Grab		05/28/19 13:25	05/29/19 16:30
Well #6D (filtered)	D9E3036-04	Groundwater	Grab		05/28/19 13:25	05/29/19 16:30
Well #6S	D9E3036-05	Groundwater	Grab		05/28/19 13:51	05/29/19 16:30
Well #6S (filtered)	D9E3036-06	Groundwater	Grab		05/28/19 13:51	05/29/19 16:30
Well #A8	D9E3036-07	Groundwater	Grab		05/28/19 14:35	05/29/19 16:30
Well #A8 (filtered)	D9E3036-08	Groundwater	Grab		05/28/19 14:35	05/29/19 16:30
Well #A16	D9E3036-09	Groundwater	Grab		05/28/19 15:03	05/29/19 16:30
Well #A16 (filtered)	D9E3036-10	Groundwater	Grab		05/28/19 15:03	05/29/19 16:30

CERTIFICATE OF ANALYSIS

D9E3036

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-01
Collected By: Customer
Collection Date: 05/28/2019 12:36

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0149**	0.0106	mg/L	1		05/30/19 1904	05/31/19 1754	DCH

Client Sample ID: Well #475 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-02
Collected By: Customer
Collection Date: 05/28/2019 12:36

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0610**	0.0100	mg/L	1		05/29/19 1903	05/29/19 2153	BDC

Client Sample ID: Well #6D
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-03
Collected By: Customer
Collection Date: 05/28/2019 13:25

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0138**	0.0106	mg/L	1		05/30/19 1904	05/31/19 1755	DCH

Client Sample ID: Well #6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-04
Collected By: Customer
Collection Date: 05/28/2019 13:25

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0200**	0.0100	mg/L	1		05/29/19 1903	05/29/19 2153	BDC

Client Sample ID: Well #6S
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-05
Collected By: Customer
Collection Date: 05/28/2019 13:51

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		05/30/19 1904	05/31/19 1755	DCH

CERTIFICATE OF ANALYSIS

D9E3036

Client Sample ID: Well #6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-06
Collected By: Customer
Collection Date: 05/28/2019 13:51

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0110**	0.0100	mg/L	1		05/29/19 1903	05/29/19 2154	BDC

Client Sample ID: Well #A8
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-07
Collected By: Customer
Collection Date: 05/28/2019 14:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**6.57**	0.0425	mg/L	4		05/30/19 1904	05/31/19 1831	DCH

Client Sample ID: Well #A8 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-08
Collected By: Customer
Collection Date: 05/28/2019 14:35

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**6.38**	0.0400	mg/L	4		05/29/19 1903	05/29/19 2217	BDC

Client Sample ID: Well #A16
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-09
Collected By: Customer
Collection Date: 05/28/2019 15:03

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		05/30/19 1904	05/31/19 1757	DCH

Client Sample ID: Well #A16 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9E3036-10
Collected By: Customer
Collection Date: 05/28/2019 15:03

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0170**	0.0100	mg/L	1		05/29/19 1903	06/14/19 1325	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DE91950 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DE91950-BLK1)			Prepared & Analyzed: 05/29/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DE91950-BS1)			Prepared & Analyzed: 05/29/2019							
Ortho-phosphate as P	0.951	0.0100	mg/L	1.00		94.9	90-110			
Duplicate (DE91950-DUP1)		**Source: D9E2904-01**	Prepared & Analyzed: 05/29/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L		0.00800			28.6	20	A21, R3
Matrix Spike (DE91950-MS1)		**Source: D9E2904-01**	Prepared & Analyzed: 05/29/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.00800	99.6	90-110			A21
Matrix Spike (DE91950-MS2)		**Source: D9E2904-02**	Prepared & Analyzed: 05/29/2019							
Ortho-phosphate as P	2.16	0.0200	mg/L	1.00	1.17	98.9	90-110			
Batch DE92038 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DE92038-BLK1)			Prepared: 05/30/2019 Analyzed: 05/31/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DE92038-BS1)			Prepared: 05/30/2019 Analyzed: 05/31/2019							
Phosphorus - Total as P	0.990	0.0106	mg/L	0.00500		NR	90-110			
Duplicate (DE92038-DUP1)		**Source: D9E2886-02**	Prepared: 05/30/2019 Analyzed: 05/31/2019							
Phosphorus - Total as P	0.0712	0.0106	mg/L		0.0670			6.06	20	
Matrix Spike (DE92038-MS1)		**Source: D9E2886-02**	Prepared: 05/30/2019 Analyzed: 05/31/2019							
Phosphorus - Total as P	1.19	0.0106	mg/L	1.25	0.0670	89.6	90-110			M2
Matrix Spike (DE92038-MS2)		**Source: D9E2904-01**	Prepared: 05/30/2019 Analyzed: 05/31/2019							
Phosphorus - Total as P	6.58	0.0425	mg/L	1.25	5.09	119	90-110			M6

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9E3036

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.6°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 06/14/2019 13:46

MICROBAC

C
61 Lou
Tel: (

D 9 E 3 0 3 6

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager KAT

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	5/28/2019	12:36		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	5/28/2019	12:36		X	WW	1		X	X				
Well # 6D (250 mL)	5/28/2019	13:25		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	5/28/2019	13:25		X	WW	1		X	X				
Well # 6S (250 mL)	5/28/2019	13:51		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	5/28/2019	13:51		X	WW	1		X	X				
Well # A8 (250 mL)	5/28/2019	14:35		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	5/28/2019	14:35		X	WW	1		X	X				
Well # A16 (250 mL)	5/28/2019	15:03		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	5/28/2019	15:03		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER: Kyle Tracol	5/28/19	
RECEIVED:		
RELINQUISHED:	5/29/19	12:32
EIVED:	5-29-19	12:32
INQUISHED:	5-29-19	16:30
EIVED:	5-29-19	1630

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX	☐	HARD COPY	☐	E-MAIL	☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED	☒	AMBIENT	☐	COMPLIANT	☐

4.1 0 C

Page 7 of 7

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F0751

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Monday, June 17, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F0751

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 06/06/2019
Reported: 06/17/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9F0751-01	Groundwater	Grab		06/06/19 11:05	06/06/19 16:15
Well #475 (filtered)	D9F0751-02	Groundwater	Grab		06/06/19 11:05	06/06/19 16:15
Well #6D	D9F0751-03	Groundwater	Grab		06/06/19 11:45	06/06/19 16:15
Well #6D (filtered)	D9F0751-04	Groundwater	Grab		06/06/19 11:45	06/06/19 16:15
Well #6S	D9F0751-05	Groundwater	Grab		06/06/19 12:10	06/06/19 16:15
Well #6S (filtered)	D9F0751-06	Groundwater	Grab		06/06/19 12:10	06/06/19 16:15
Well #A11	D9F0751-07	Groundwater	Grab		06/06/19 12:55	06/06/19 16:15
Well #A11 (filtered)	D9F0751-08	Groundwater	Grab		06/06/19 12:55	06/06/19 16:15

CERTIFICATE OF ANALYSIS

D9F0751

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-01
Collected By: Customer
Collection Date: 06/06/2019 11:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0170**	0.0106	mg/L	1		06/12/19 1820	06/14/19 2036	DCH

Client Sample ID: Well #475 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-02
Collected By: Customer
Collection Date: 06/06/2019 11:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0220**	0.0100	mg/L	1		06/06/19 1906	06/06/19 2022	BDC

Client Sample ID: Well #6D
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-03
Collected By: Customer
Collection Date: 06/06/2019 11:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0181**	0.0106	mg/L	1		06/12/19 1820	06/14/19 2037	DCH

Client Sample ID: Well #6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-04
Collected By: Customer
Collection Date: 06/06/2019 11:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0210**	0.0100	mg/L	1		06/06/19 1906	06/06/19 2023	BDC

Client Sample ID: Well #6S
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-05
Collected By: Customer
Collection Date: 06/06/2019 12:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		06/12/19 1820	06/14/19 2038	DCH

CERTIFICATE OF ANALYSIS

D9F0751

Client Sample ID: Well #6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-06
Collected By: Customer
Collection Date: 06/06/2019 12:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0130**	0.0100	mg/L	1		06/06/19 1906	06/06/19 2023	BDC

Client Sample ID: Well #A11
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-07
Collected By: Customer
Collection Date: 06/06/2019 12:55

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0159**	0.0106	mg/L	1		06/12/19 1820	06/14/19 2038	DCH

Client Sample ID: Well #A11 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F0751-08
Collected By: Customer
Collection Date: 06/06/2019 12:55

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0240**	0.0100	mg/L	1		06/06/19 1906	06/06/19 2024	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DF90435 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DF90435-BLK1)			Prepared & Analyzed: 06/06/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DF90435-BS1)			Prepared & Analyzed: 06/06/2019							
Ortho-phosphate as P	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DF90435-DUP1)		**Source: L9F0165-04**	Prepared & Analyzed: 06/06/2019							
Ortho-phosphate as P	4.06	0.0400	mg/L		4.10			0.907	20	
Matrix Spike (DF90435-MS1)		**Source: L9F0165-04**	Prepared & Analyzed: 06/06/2019							
Ortho-phosphate as P	5.10	0.0400	mg/L	1.00	4.10	99.8	90-110			
Batch DF90913 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DF90913-BLK1)			Prepared: 06/12/2019 Analyzed: 06/14/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DF90913-BS1)			Prepared: 06/12/2019 Analyzed: 06/14/2019							
Phosphorus - Total as P	1.02	0.0106	mg/L	1.00		102	90-110			
Duplicate (DF90913-DUP1)		**Source: D9F0684-01**	Prepared: 06/12/2019 Analyzed: 06/14/2019							
Phosphorus - Total as P	0.274	0.0106	mg/L		0.278			1.54	20	
Matrix Spike (DF90913-MS1)		**Source: D9F0684-01**	Prepared: 06/12/2019 Analyzed: 06/14/2019							
Phosphorus - Total as P	1.55	0.0106	mg/L	1.25	0.278	102	90-110			
Matrix Spike (DF90913-MS2)		**Source: D9F0690-01**	Prepared: 06/12/2019 Analyzed: 06/14/2019							
Phosphorus - Total as P	1.44	0.0106	mg/L	1.25	0.225	97.1	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F0751

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.6°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 06/17/2019 16:25

MICROBAC

Microbac Laboratories, Inc.

61
T

D 9 F 0 7 5 1
Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL:
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	6/6/2019	11:05		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	6/6/2019	11:05		X	WW	1		X	X				
Well # 6D (250 mL)	6/6/2019	11:45		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	6/6/2019	11:45		X	WW	1		X	X				
Well # 6S (250 mL)	6/6/2019	12;10		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	6/6/2019	12:10		X	WW	1		X	X				
Well # A11 (250 mL)	6/6/2019	12:55		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	6/6/2019	12:55		X	WW	1		X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	6-6-19	
RECEIVED:		
RELINQUISHED:	6-6-19	1420
RECEIVED:	6-6-19	14:20
RELINQUISHED:	6-6-19	16:15
RECEIVED:	6-6-19	1615

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 2.6°C

Page 7 of 7

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2369

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, June 27, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2369

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 06/20/2019
Reported: 06/27/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9F2369-01	Wastewater	Grab		06/20/19 10:10	06/20/19 16:30
Well #1S (filtered)	D9F2369-02	Wastewater	Grab		06/20/19 10:10	06/20/19 16:30
Well #9A	D9F2369-03	Wastewater	Grab		06/20/19 10:50	06/20/19 16:30
Well #9A (filtered)	D9F2369-04	Wastewater	Grab		06/20/19 10:50	06/20/19 16:30
Well #10A	D9F2369-05	Wastewater	Grab		06/20/19 11:40	06/20/19 16:30
Well #10A (filtered)	D9F2369-06	Wastewater	Grab		06/20/19 11:40	06/20/19 16:30

CERTIFICATE OF ANALYSIS

D9F2369

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Wastewater
Lab Sample ID: D9F2369-01
Collected By: Customer
Collection Date: 06/20/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0393**	0.0106	mg/L	1		06/25/19 1847	06/26/19 2311	DCH

Client Sample ID: Well #1S (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9F2369-02
Collected By: Customer
Collection Date: 06/20/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0190**	0.0100	mg/L	1		06/20/19 1910	06/20/19 2334	DCH

Client Sample ID: Well #9A
Sample Matrix: Wastewater
Lab Sample ID: D9F2369-03
Collected By: Customer
Collection Date: 06/20/2019 10:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0170**	0.0106	mg/L	1		06/25/19 1847	06/26/19 2312	DCH

Client Sample ID: Well #9A (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9F2369-04
Collected By: Customer
Collection Date: 06/20/2019 10:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0220**	0.0100	mg/L	1		06/20/19 1910	06/20/19 2334	DCH

Client Sample ID: Well #10A
Sample Matrix: Wastewater
Lab Sample ID: D9F2369-05
Collected By: Customer
Collection Date: 06/20/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		06/25/19 1847	06/26/19 2312	DCH

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CERTIFICATE OF ANALYSIS

D9F2369

Client Sample ID:	Well #10A (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9F2369-06	**Collection Date:**	06/20/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		06/20/19 1910	06/20/19 2335	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DF91556 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DF91556-BLK1)			Prepared & Analyzed: 06/20/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DF91556-BS1)			Prepared & Analyzed: 06/20/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		100	90-110			
Duplicate (DF91556-DUP1)		**Source: L9F0500-02**	Prepared & Analyzed: 06/20/2019							
Ortho-phosphate as P	0.0270	0.0100	mg/L		0.0250			7.69	20	
Matrix Spike (DF91556-MS1)		**Source: L9F0500-02**	Prepared & Analyzed: 06/20/2019							
Ortho-phosphate as P	0.779	0.0100	mg/L	1.00	0.0250	75.2	90-110			M2
Matrix Spike (DF91556-MS2)		**Source: L9F0500-04**	Prepared & Analyzed: 06/20/2019							
Ortho-phosphate as P	1.18	0.0100	mg/L	1.00	0.0100	117	90-110			M1
Batch DF91890 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DF91890-BLK1)			Prepared: 06/25/2019 Analyzed: 06/26/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DF91890-BS1)			Prepared: 06/25/2019 Analyzed: 06/26/2019							
Phosphorus - Total as P	1.03	0.0106	mg/L	1.00		103	90-110			
Duplicate (DF91890-DUP1)		**Source: D9F2240-01**	Prepared: 06/25/2019 Analyzed: 06/26/2019							
Phosphorus - Total as P	0.148	0.0106	mg/L		0.156			5.59	20	
Matrix Spike (DF91890-MS1)		**Source: D9F2240-01**	Prepared: 06/25/2019 Analyzed: 06/26/2019							
Phosphorus - Total as P	1.38	0.0106	mg/L	1.25	0.156	97.4	90-110			
Matrix Spike (DF91890-MS2)		**Source: D9F2372-02**	Prepared: 06/25/2019 Analyzed: 06/26/2019							
Phosphorus - Total as P	1.32	0.0106	mg/L	1.25	0.0999	97.1	90-110			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2369

Definitions

M1:	Matrix spike recovery is above acceptance limits.
M2:	Matrix spike recovery is below acceptance limits.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 06/27/2019 13:51

MICROBAC

D 9 F 2 3 6 9

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

ormation

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project ormation

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

Wells - Monthly TP & Ortho-P

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1S (250 mL)	6/20/2019	10:10		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	6/20/2019	10:10		X	WW	1		X	X				
Well # 9A (250 mL)	6/20/2019	10:50		X	WW	1	X			X			
Well # 9A (250 mL) (filtered)	6/20/2019	10:50		X	WW	1		X	X				
Well # 10A (250 mL)	6/20/2019	11:40		X	WW	1	X			X			
Well # 10A (250 mL) (filtered)	6/20/2019	11:40		X	WW	1		X	X				

Preserved Upon Receipt at Lab 16:54

Initials NZ

Date: 6/20/19

~~NH3 EFF~~ NZ 6/20/19

well A9 Total Phos

well 15 Total Phos

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	6-20-19	
RECEIVED:		
LINQUISHED:	6-20-19	13:38
CEIVED:	6-20-19	13:38
LINQUISHED:	6-20-19	16:30
CEIVED:	6/20/19	1630

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 2.5°C DZ

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2809

Project Description

Wells - Monthly TP & OP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Wednesday, July 10, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2809

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & OP

Project / PO Number: 346346
Received: 06/25/2019
Reported: 07/10/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A8	D9F2809-01	Groundwater	Grab		06/25/19 09:45	06/25/19 16:15
Well # A8 (filtered)	D9F2809-02	Groundwater	Grab		06/25/19 09:45	06/25/19 16:15
Well #A16	D9F2809-03	Groundwater	Grab		06/25/19 10:05	06/25/19 16:15
Well #A16 (filtered)	D9F2809-04	Groundwater	Grab		06/25/19 10:05	06/25/19 16:15

CERTIFICATE OF ANALYSIS

D9F2809

Analytical Testing Parameters

Client Sample ID: Well #A8
Sample Matrix: Groundwater
Lab Sample ID: D9F2809-01
Collected By: Customer
Collection Date: 06/25/2019 9:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**7.93**	0.0425	mg/L	4		06/28/19 1637	07/03/19 2154	DCH

Client Sample ID: Well # A8 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F2809-02
Collected By: Customer
Collection Date: 06/25/2019 9:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**7.12**	0.0400	mg/L	4		06/25/19 1900	06/25/19 2044	BDC

Client Sample ID: Well #A16
Sample Matrix: Groundwater
Lab Sample ID: D9F2809-03
Collected By: Customer
Collection Date: 06/25/2019 10:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0181**	0.0106	mg/L	1		06/28/19 1637	07/03/19 2008	DCH

Client Sample ID: Well #A16 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9F2809-04
Collected By: Customer
Collection Date: 06/25/2019 10:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0960**	0.0100	mg/L	1		06/25/19 1900	06/25/19 2023	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DF91892 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DF91892-BLK1)			Prepared & Analyzed: 06/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DF91892-BS1)			Prepared & Analyzed: 06/25/2019							
Ortho-phosphate as P	0.998	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DF91892-DUP1)		**Source: D9F2743-01**	Prepared & Analyzed: 06/25/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0260			3.92	20	
Matrix Spike (DF91892-MS1)		**Source: D9F2743-01**	Prepared & Analyzed: 06/25/2019							
Ortho-phosphate as P	1.03	0.0100	mg/L	1.00	0.0260	100	90-110			
Batch DF92195 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DF92195-BLK1)			Prepared: 06/28/2019 Analyzed: 07/03/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DF92195-BS1)			Prepared: 06/28/2019 Analyzed: 07/03/2019							
Phosphorus - Total as P	1.06	0.0106	mg/L	1.00		106	90-110			
Duplicate (DF92195-DUP1)		**Source: D9F2661-02**	Prepared: 06/28/2019 Analyzed: 07/03/2019							
Phosphorus - Total as P	0.0765	0.0106	mg/L		0.0765			0.00	20	
Matrix Spike (DF92195-MS1)		**Source: D9F2661-02**	Prepared: 06/28/2019 Analyzed: 07/03/2019							
Phosphorus - Total as P	1.40	0.0106	mg/L	1.25	0.0765	106	90-110			
Matrix Spike (DF92195-MS2)		**Source: D9F2809-03**	Prepared: 06/28/2019 Analyzed: 07/03/2019							
Phosphorus - Total as P	1.32	0.0106	mg/L	1.25	0.0181	104	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9F2809

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.5ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

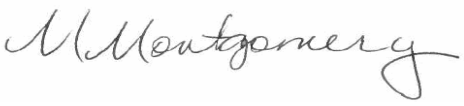
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 07/10/2019 11:57

MICROBAC

Microbac Laboratories, Inc.

D 9 F 2 8 0 9

Veolia - Plymouth

FOR LAB USE ONLY	
Lab WO#	
Project Manager	TMB

Copy of Report To		Billing Information		Project Information	
CUSTOMER:	VEOLIA WATER NORTH AMERICA	BILL TO:	VEOLIA WATER NORTH AMERICA	PROJECT:	PLYMOUTH, MA WWTP
ADDRESS:	131 CAMELOT DRIVE	ADDRESS:	125 SOUTH STREET SUITE 173	LOCATION:	ID 11773
	PLYMOUTH, MA 02360		MILWAUKEE, WI		Wells - Monthly TP & Ortho-P
DELIVERY:	ROBERT BLANCHARD	PURCHASE ORDER #		ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL	ROBERT BLANCHARD
E-MAIL:	robert.blanchard@veolia.com	ATTENTION:	ACCOUNTS PAYABLE	PHONE:	CELL - 508-328-5758
PHONE:	508-830-4159 FAX: 508-732-0238	PHONE:	866-688-0988	FAX:	508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # A8 (250 mL)	6/25/2019	9:45		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	6/25/2019	9:45		X	WW	1		X	X				
Well # A16 (250 mL)	6/25/2019	10:25		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	6/25/2019	10:25		X	WW	1		X	X				

PRESERVATIVE VERIFIED

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	6/25/19	
RECEIVED:		
RELINQUISHED:	6/25/19	1349
CEIVED:	6-25-19	13:49
LINQUISHED:	6-25-19	16:15
CEIVED:	6-25-19	1615

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 2.5°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I1920

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Monday, September 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I1920

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 09/19/2019
Reported: 09/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A11	D9I1920-01	Groundwater	Grab		09/19/19 09:42	09/19/19 15:45
Well #A11 (filtered)	D9I1920-02	Groundwater	Grab		09/19/19 09:42	09/19/19 15:45
Well #A8	D9I1920-03	Groundwater	Grab		09/19/19 10:24	09/19/19 15:45
Well #A8 (filtered)	D9I1920-04	Groundwater	Grab		09/19/19 10:24	09/19/19 15:45
Well #A16	D9I1920-05	Groundwater	Grab		09/19/19 10:58	09/19/19 15:45
Well #A16 (filtered)	D9I1920-06	Groundwater	Grab		09/19/19 10:58	09/19/19 15:45

CERTIFICATE OF ANALYSIS

D9I1920

Analytical Testing Parameters

Client Sample ID: Well #A11
Sample Matrix: Groundwater
Lab Sample ID: D9I1920-01
Collected By: Customer
Collection Date: 09/19/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**6.17**	0.0425	mg/L	4		09/19/19 2059	09/20/19 1619	DJM

Client Sample ID: Well #A11 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I1920-02
Collected By: Customer
Collection Date: 09/19/2019 9:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0180**	0.0100	mg/L	1		09/19/19 1810	09/19/19 1949	DJM

Client Sample ID: Well #A8
Sample Matrix: Groundwater
Lab Sample ID: D9I1920-03
Collected By: Customer
Collection Date: 09/19/2019 10:24

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**6.15**	0.0425	mg/L	4		09/19/19 2059	09/20/19 1620	DJM

Client Sample ID: Well #A8 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I1920-04
Collected By: Customer
Collection Date: 09/19/2019 10:24

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**6.04**	0.0400	mg/L	4		09/19/19 1810	09/19/19 2015	DJM

Client Sample ID: Well #A16
Sample Matrix: Groundwater
Lab Sample ID: D9I1920-05
Collected By: Customer
Collection Date: 09/19/2019 10:58

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		09/19/19 2059	09/20/19 1547	DJM

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I1920

Client Sample ID:	Well #A16 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9I1920-06	**Collection Date:**	09/19/2019 10:58

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0130**	0.0100	mg/L	1		09/19/19 1810	09/19/19 1950	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DI91276 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DI91276-BLK1)			Prepared & Analyzed: 09/19/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DI91276-BS1)			Prepared & Analyzed: 09/19/2019							
Ortho-phosphate as P	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DI91276-DUP1)		**Source: D9I1850-01**	Prepared & Analyzed: 09/19/2019							
Ortho-phosphate as P	2.91	0.0200	mg/L		2.90			0.241	20	
Matrix Spike (DI91276-MS1)		**Source: D9I1850-01**	Prepared & Analyzed: 09/19/2019							
Ortho-phosphate as P	3.99	0.0400	mg/L	1.00	2.90	109	90-110			
Matrix Spike (DI91276-MS2)		**Source: D9I1850-02**	Prepared & Analyzed: 09/19/2019							
Ortho-phosphate as P	1.05	0.0100	mg/L	1.00	0.0810	97.1	90-110			
Batch DI91292 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DI91292-BLK1)			Prepared: 09/19/2019 Analyzed: 09/20/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DI91292-BS1)			Prepared: 09/19/2019 Analyzed: 09/20/2019							
Phosphorus - Total as P	1.06	0.0106	mg/L	1.00		106	90-110			
Duplicate (DI91292-DUP1)		**Source: D9I1850-01**	Prepared: 09/19/2019 Analyzed: 09/20/2019							
Phosphorus - Total as P	2.90	0.0213	mg/L		2.92			0.402	20	
Matrix Spike (DI91292-MS1)		**Source: D9I1850-01**	Prepared: 09/19/2019 Analyzed: 09/20/2019							
Phosphorus - Total as P	4.23	0.0425	mg/L	1.25	2.92	105	90-110			
Matrix Spike (DI91292-MS2)		**Source: D9I1858-01**	Prepared: 09/19/2019 Analyzed: 09/20/2019							
Phosphorus - Total as P	1.54	0.0106	mg/L	1.25	0.307	98.3	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I1920

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.2ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 09/23/2019 13:29

MICROBAC

Microbac Laboratories, Inc.

61 Lc
Tel:

D 9 I 1 9 2 0
Veolia - Plymouth

FOR LAB USE ONLY
Lab WO#
Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # A11 (250 mL)	9/19/2019	9:42		X	WW	1	X			X			
Well # A11 (250 mL) (filtered)	9/19/2019	9:42		X	WW	1		X	X				
Well # A8 (250 mL)	9/19/2019	10:24		X	WW	1	X			X			
Well # A8 (250 mL) (filtered)	9/19/2019	10:24		X	WW	1		X	X				
Well # A16 (250 mL)	9/19/2019	10:58		X	WW	1	X			X			
Well # A16 (250 mL) (filtered)	9/19/2019	10:58		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	9-19-19	
RECEIVED:		
RELINQUISHED:	9-19-19	1255
CEIVED:	9.19.19	1255
LINQUISHED:	9.19.19	15:45
CEIVED:	9.19.19	1545

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATION VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 3.2°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2798

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, October 4, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2798

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 09/27/2019
Reported: 10/04/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A10	D9I2798-01	Groundwater	Grab		09/26/19 13:10	09/27/19 15:30
Well #A10 (filtered)	D9I2798-02	Groundwater	Grab		09/26/19 13:10	09/27/19 15:30

CERTIFICATE OF ANALYSIS

D9I2798

Analytical Testing Parameters

Client Sample ID: Well #A10
Sample Matrix: Groundwater
Lab Sample ID: D9I2798-01
Collected By: Customer
Collection Date: 09/26/2019 13:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0191**	0.0106	mg/L	1		10/01/19 1936	10/03/19 1219	CLW

Client Sample ID: Well #A10 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2798-02
Collected By: Customer
Collection Date: 09/26/2019 13:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		09/27/19 1743	09/27/19 1911	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DI91852 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DI91852-BLK1)			Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DI91852-BS1)			Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	0.989	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DI91852-DUP1)		**Source: D9I2675-02**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	7.13	0.0400	mg/L		7.07			0.887	20	
Matrix Spike (DI91852-MS1)		**Source: D9I2675-02**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	8.02	0.120	mg/L	1.00	7.07	94.8	90-110			
Matrix Spike (DI91852-MS2)		**Source: D9I2772-01**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	3.44	0.0200	mg/L	1.00	2.43	101	90-110			
Batch DJ90095 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ90095-BLK1)			Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ90095-BS1)			Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.02	0.0106	mg/L	1.00		102	90-110			
Duplicate (DJ90095-DUP1)		**Source: D9I2743-10**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	0.115	0.0106	mg/L		0.113			1.87	20	
Matrix Spike (DJ90095-MS1)		**Source: D9I2743-10**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.41	0.0106	mg/L	1.25	0.113	104	90-110			
Matrix Spike (DJ90095-MS2)		**Source: D9I2843-03**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0478	98.0	90-110			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2798

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/04/2019 14:07

MICROBAC

Microbac Laboratories, Inc.

61 L
Tel:

D 9 I 2 7 9 8

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.bianchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
Wells - Monthly TP & Ortho-P
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # A10 (250 mL)	9/26/19	1310		X	WW	1	X			X			
Well # A10 (250 mL) (filtered)	9/26/19	1310		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	9-26-19	
RECEIVED:		
RELINQUISHED:	9/27/19	1150
RECEIVED:	9-27-19	1150
RELINQUISHED:	9-27-19	1630
RECEIVED:	9.27.19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.0

Page 6 of 6

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2799

Project Description

Wells - Monthly TP & Ortho-P

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Friday, October 4, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2799

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Monthly TP & Ortho-P

Project / PO Number: 346346
Received: 09/27/2019
Reported: 10/04/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9I2799-01	Groundwater	Grab		09/26/19 09:39	09/27/19 15:30
Well #475 (filtered)	D9I2799-02	Groundwater	Grab		09/26/19 09:39	09/27/19 15:30
Well #6D	D9I2799-03	Groundwater	Grab		09/26/19 10:30	09/27/19 15:30
Well #6D (filtered)	D9I2799-04	Groundwater	Grab		09/26/19 10:30	09/27/19 15:30
Well #6S	D9I2799-05	Groundwater	Grab		09/26/19 10:53	09/27/19 15:30
Well #6S (filtered)	D9I2799-06	Groundwater	Grab		09/26/19 10:53	09/27/19 15:30
Well #1S	D9I2799-07	Groundwater	Grab		09/26/19 11:42	09/27/19 15:30
Well #1S (filtered)	D9I2799-08	Groundwater	Grab		09/26/19 11:42	09/27/19 15:30
Well #A9	D9I2799-09	Groundwater	Grab		09/26/19 12:25	09/27/19 15:30
Well #A9 (filtered)	D9I2799-10	Groundwater	Grab		09/26/19 12:25	09/27/19 15:30

CERTIFICATE OF ANALYSIS

D9I2799

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-01
Collected By: Customer
Collection Date: 09/26/2019 9:39

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0170**	0.0106	mg/L	1		10/01/19 1936	10/03/19 1219	CLW

Client Sample ID: Well #475 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-02
Collected By: Customer
Collection Date: 09/26/2019 9:39

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0240**	0.0100	mg/L	1		09/27/19 1743	09/27/19 1911	DJM

Client Sample ID: Well #6D
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-03
Collected By: Customer
Collection Date: 09/26/2019 10:30

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0170**	0.0106	mg/L	1		10/01/19 1936	10/03/19 1220	CLW

Client Sample ID: Well #6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-04
Collected By: Customer
Collection Date: 09/26/2019 10:30

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0200**	0.0100	mg/L	1		09/27/19 1743	09/27/19 1912	DJM

Client Sample ID: Well #6S
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-05
Collected By: Customer
Collection Date: 09/26/2019 10:53

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		10/01/19 1936	10/03/19 1221	CLW

CERTIFICATE OF ANALYSIS

D9I2799

Client Sample ID: Well #6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-06
Collected By: Customer
Collection Date: 09/26/2019 10:53

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0110**	0.0100	mg/L	1		09/27/19 1743	09/27/19 1912	DJM

Client Sample ID: Well #1S
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-07
Collected By: Customer
Collection Date: 09/26/2019 11:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0223**	0.0106	mg/L	1		10/01/19 1936	10/03/19 1221	CLW

Client Sample ID: Well #1S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-08
Collected By: Customer
Collection Date: 09/26/2019 11:42

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0160**	0.0100	mg/L	1		09/27/19 1743	09/27/19 1913	DJM

Client Sample ID: Well #A9
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-09
Collected By: Customer
Collection Date: 09/26/2019 12:25

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0181**	0.0106	mg/L	1		10/01/19 1936	10/03/19 1223	CLW

Client Sample ID: Well #A9 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9I2799-10
Collected By: Customer
Collection Date: 09/26/2019 12:25

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0210**	0.0100	mg/L	1		09/27/19 1743	09/27/19 1913	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DI91852 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DI91852-BLK1)			Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DI91852-BS1)			Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	0.989	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DI91852-DUP1)		**Source: D9I2675-02**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	7.13	0.0400	mg/L		7.07			0.887	20	
Matrix Spike (DI91852-MS1)		**Source: D9I2675-02**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	8.02	0.120	mg/L	1.00	7.07	94.8	90-110			
Matrix Spike (DI91852-MS2)		**Source: D9I2772-01**	Prepared & Analyzed: 09/27/2019							
Ortho-phosphate as P	3.44	0.0200	mg/L	1.00	2.43	101	90-110			
Batch DJ90095 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ90095-BLK1)			Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ90095-BS1)			Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.02	0.0106	mg/L	1.00		102	90-110			
Duplicate (DJ90095-DUP1)		**Source: D9I2743-10**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	0.115	0.0106	mg/L		0.113			1.87	20	
Matrix Spike (DJ90095-MS1)		**Source: D9I2743-10**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.41	0.0106	mg/L	1.25	0.113	104	90-110			
Matrix Spike (DJ90095-MS2)		**Source: D9I2843-03**	Prepared: 10/01/2019 Analyzed: 10/03/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0478	98.0	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9I2799

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/04/2019 14:07

MICROBAC

D 9 I 2 7 9 9

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

Wells - Monthly TP & Ortho-P

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TOTAL PHOS.	Analysis: ORTHO-PHOS	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 475 (250 mL)	9/26/2019	0939		X	WW	1	X			X			
Well # 475 (250 mL) (filtered)	9/26/2019	0939		X	WW	1		X	X				
Well # 6D (250 mL)	9/26/2019	1030		X	WW	1	X			X			
Well # 6D (250 mL) (filtered)	9/26/2019	1030		X	WW	1		X	X				
Well # 6S (250 mL)	9/26/2019	10:53		X	WW	1	X			X			
Well # 6S (250 mL) (filtered)	9/26/2019	10:53		X	WW	1		X	X				
Well # 1S (250 mL)	9/26/2019	11:42		X	WW	1	X			X			
Well # 1S (250 mL) (filtered)	9/26/2019	11:42		X	WW	1		X	X				
Well # A9 (250 mL)	9/26/2019	12:25		X	WW	1	X			X			
Well # A9 (250 mL) (filtered)	9/26/2019	12:25		X	WW	1		X	X				

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	9-26-19	
RECEIVED:		
RELINQUISHED:	9/27/19	11:50
ECEIVED:	9-27-19	11:50
ELINQUISHED:	9-27-19	1530
ECEIVED:	9.27.19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATION VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.9 °C no

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0895

Project Description

Plymouth WWTP

For:

Michael Emond

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Ronald L. Warila
Director

Thursday, January 17, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0895

Veolia - Plymouth

Michael Emond
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/10/2019
Reported: 01/17/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 6S	D9A0895-01	Groundwater	Grab		01/10/19 11:40	01/10/19 17:25
Well # 6S (filtered)	D9A0895-02	Groundwater	Grab		01/10/19 11:40	01/10/19 17:25

Analytical Testing Parameters

Client Sample ID: Well # 6S
Sample Matrix: Groundwater
Lab Sample ID: D9A0895-01
Collected By: Customer
Collection Date: 01/10/2019 11:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.100	0.100	mg/L		01/15/19 1514	01/16/19 1234	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0170**	0.0100	mg/L		01/11/19 2108	01/14/19 0923	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**1.55**	1.00	mg/L			01/15/19 2055	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**14.4**	2.00	mg/L			01/11/19 1709	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.508**	0.0500	mg/L			01/10/19 2053	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/10/19 2053	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0090**	0.0050	mg/L	**Y1**	01/14/19 1531	01/16/19 2006	NJP
Copper	<0.0020	0.0020	mg/L		01/14/19 1531	01/16/19 2006	NJP
Sodium	**7.45**	1.00	mg/L		01/14/19 1531	01/16/19 2006	NJP

Analyses Subcontracted to: New England Testing Laboratory

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Volatile Organics by GC/MS	**Attached**		ug/L			01/16/19 0000	SUB

Client Sample ID: Well # 6S (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9A0895-02
Collected By: Customer
Collection Date: 01/10/2019 11:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0200**	0.0100	mg/L		01/10/19 1902	01/10/19 2313	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90524 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90524-BLK1)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90524-BS1)			Prepared & Analyzed: 01/10/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DA90524-BS2)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DA90524-DUP1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L		0.00170				20	
Nitrate as N	1.21	0.0500	mg/L		1.21			0.116	20	
Matrix Spike (DA90524-MS1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L	1.00	0.00170	NR	75-125			M2
Nitrate as N	3.21	0.0500	mg/L	4.00	1.21	50.1	75-125			M2
Matrix Spike Dup (DA90524-MSD1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	0.00340	0.0100	mg/L	1.00	0.00170	0.170	75-125		20	M2
Nitrate as N	3.22	0.0500	mg/L	4.00	1.21	50.4	75-125	0.351	20	M2
Batch DA90537 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90537-BLK1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90537-BS1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	0.990	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DA90537-DUP1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.02	0.0400	mg/L		4.97			0.921	20	
Matrix Spike (DA90537-MS1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.99	0.0400	mg/L	1.00	4.97	102	90-110			
Matrix Spike (DA90537-MS2)	**Source: D9A0798-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0110	99.8	90-110			
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90567-BLK1)			Prepared & Analyzed: 01/11/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90567-BS1)			Prepared & Analyzed: 01/11/2019							
Chloride	19.5	2.00	mg/L	20.0		97.3	90-110			
Duplicate (DA90567-DUP1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	7.48	2.00	mg/L		7.77			3.79	20	
Matrix Spike (DA90567-MS1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.3	2.00	mg/L	20.0	7.77	103	75-125			
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.4	2.00	mg/L	20.0	7.77	103	75-125	0.327	20	
Batch DA90610 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90610-BLK1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90610-BS1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	0.997	0.0100	mg/L	1.00		99.7	90-110			
Duplicate (DA90610-DUP1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.25	0.0200	mg/L		2.26			0.141	20	
Matrix Spike (DA90610-MS1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	3.55	0.0200	mg/L	1.25	2.26	104	90-110			
Matrix Spike (DA90610-MS2)	**Source: D9A0900-02**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.66	0.0200	mg/L	1.25	1.34	105	90-110			
Batch DA90736 - Wet-Digestion-W - EPA 351.1										
Blank (DA90736-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90736-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	5.15	0.100	mg/L	5.00		103	90-110			
Duplicate (DA90736-DUP1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	0.798	0.100	mg/L		0.751			6.12	20	
Matrix Spike (DA90736-MS1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	11.2	0.100	mg/L	10.0	0.751	104	90-110			
Matrix Spike (DA90736-MS2)	**Source: D9A0956-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	22.5	0.200	mg/L	10.0	11.9	106	90-110			
Batch DA90774 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA90774-DUP1)	**Source: D9A0700-05**		Prepared & Analyzed: 01/15/2019							
Alkalinity to pH 4.5	86.0	1.00	mg/L		86.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DA90670-BLK1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90670-BS1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.536	0.0050	mg/L	0.500		107	85-115			
Copper	0.527	0.0020	mg/L	0.500		105	85-115			
Sodium	10.6	1.00	mg/L	10.5		101	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Duplicate (DA90670-DUP1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.0056	0.0050	mg/L		0.0081			36.0	20	R3
Copper	0.0032	0.0020	mg/L		0.0026			19.8	20	
Sodium	4.53	1.00	mg/L		4.55			0.465	20	
Matrix Spike (DA90670-MS1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.542	0.0050	mg/L	0.500	0.0081	107	70-130			
Copper	0.529	0.0020	mg/L	0.500	0.0026	105	70-130			
Sodium	15.3	1.00	mg/L	10.5	4.55	103	70-130			
Matrix Spike (DA90670-MS2)	**Source: D9A0895-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.557	0.0050	mg/L	0.500	0.0090	110	70-130			
Copper	0.541	0.0020	mg/L	0.500	ND	108	70-130			
Sodium	18.8	1.00	mg/L	10.5	7.45	108	70-130			

Definitions

M2: Matrix spike recovery is below acceptance limits.

R3: Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.

RL: Reporting Limit

RPD: Relative Percent Difference

Y1: Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.2°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Ronald L. Warila

Director

Reported: 01/17/2019 17:00

MICROBAC

611
Te

D 9 A 0 8 9 5

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: MICHAEL EMOND
E-MAIL: mich el emond @veolia.c m
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 6S (250 mL)	1/10/2019	11:40		X	WW	1	X	X											X			
Well # 6S (250 mL)	1/10/2019	11:40		X	WW	1			X	X								X				
Well # 6S (250 mL)(filtered)	1/10/2019	11:40		X	WW	1					X							X				
Well # 6S (500 mL)	1/10/2019	11:40		X	WW	1						X						X				
Well # 6S (500 mL)	1/10/2019	11:40		X	WW	1							X					X				
Well # 6S (250 mL)	1/10/2019	11:40		X	WW	1								X	X	X					X	
Well # 6S (40 mL vial)	1/10/2019	11:40		X	WW	2											X	X				
Well # 6S (40 mL vial)	1/10/2019	11:40		X	WW	2					PRESERVATIVE VERIFIED Initials						X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-10-19	
RECEIVED:		
RELINQUISHED:	1/10/19	1348
RECEIVED:	1/10/19	1348
RELINQUISHED:	1/10/19	1728
RECEIVED:	1-10-19	1729

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.2°c

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9A11024
Client Project: Organics

Report Date: 17-January-2019

Prepared for:

Katherine A. Wall
Microbac Laboratories, Inc.
61 Louisa Viens Drive
Dayville, CT 02467



Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 01/11/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9A11024. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9A11024-01	D9A0895-01	Water	01/10/2019	01/11/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

D9A0895-01 (Lab Number: 9A11024-01)

Analysis	Method
Acrolein, Acrylonitrile & 2-CEVE	EPA 624.1
Volatile Organic Compounds	EPA 624.1

Method References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Office of Federal Register National Archives and Records Administration

Case Narrative

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies.

Results: Volatile Organic Compounds

Sample: D9A0895-01

Lab Number: 9A11024-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Benzene	ND		1	ug/l	01/16/19	01/16/19
Bromodichloromethane	ND		1	ug/l	01/16/19	01/16/19
Bromoform	ND		1	ug/l	01/16/19	01/16/19
Bromomethane	ND		1	ug/l	01/16/19	01/16/19
Carbon tetrachloride	ND		1	ug/l	01/16/19	01/16/19
Chlorobenzene	ND		1	ug/l	01/16/19	01/16/19
Chloroethane	ND		1	ug/l	01/16/19	01/16/19
Chloroform	**1**		1	ug/l	01/16/19	01/16/19
Chloromethane	ND		1	ug/l	01/16/19	01/16/19
Dibromochloromethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,3-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,4-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
trans-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloropropane	ND		1	ug/l	01/16/19	01/16/19
cis-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
trans-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
Methylene chloride	ND		5	ug/l	01/16/19	01/16/19
Tetrachloroethene	ND		1	ug/l	01/16/19	01/16/19
Toluene	ND		1	ug/l	01/16/19	01/16/19
1,1,2-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,1,1-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichloroethene	ND		1	ug/l	01/16/19	01/16/19
Vinyl chloride	ND		1	ug/l	01/16/19	01/16/19
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichlorofluoromethane	ND		1	ug/l	01/16/19	01/16/19
cis-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
Acetone	ND		5	ug/l	01/16/19	01/16/19
2-Butanone	ND		5	ug/l	01/16/19	01/16/19
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/16/19	01/16/19
Carbon Disulfide	ND		1	ug/l	01/16/19	01/16/19
Dibromomethane	ND		1	ug/l	01/16/19	01/16/19
2-Hexanone	ND		5	ug/l	01/16/19	01/16/19
4-Methyl-2-pentanone	ND		5	ug/l	01/16/19	01/16/19
Styrene	ND		1	ug/l	01/16/19	01/16/19
o-Xylene	ND		1	ug/l	01/16/19	01/16/19
m&p-Xylene	ND		2	ug/l	01/16/19	01/16/19
Dichlorodifluoromethane	ND		1	ug/l	01/16/19	01/16/19
Ethylbenzene	ND		1	ug/l	01/16/19	01/16/19
Vinyl acetate	ND		1	ug/l	01/16/19	01/16/19

Sample: D9A0895-01 (Continued)

Lab Number: 9A11024-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Surrogate(s)	Recovery%		Limits			
4-Bromofluorobenzene	*93.1%*		*70-130*		01/16/19	01/16/19
1,2-Dichloroethane-d4	*110%*		*70-130*		01/16/19	01/16/19
Toluene-d8	*105%*		*70-130*		01/16/19	01/16/19

Results: Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Sample: D9A0895-01

Lab Number: 9A11024-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acrolein	ND		5	ug/l	01/11/19 12:47	01/12/19 4:11
Acrylonitrile	ND		5	ug/l	01/11/19 12:47	01/12/19 4:11
2-Chloroethylvinyl ether	ND		1	ug/l	01/11/19 12:47	01/12/19 4:11

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*91.4%*	*70-130*	01/11/19 12:47	01/12/19 4:11
1,2-Dichloroethane-d4	*96.5%*	*70-130*	01/11/19 12:47	01/12/19 4:11
Toluene-d8	*95.8%*	*70-130*	01/11/19 12:47	01/12/19 4:11

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0672 - Purge-Trap										
Blank (B9A0672-BLK1)					Prepared & Analyzed: 01/16/19					
Benzene	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
Carbon tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
Methylene chloride	ND		5	ug/l						
Tetrachloroethene	ND		1	ug/l						
Toluene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
Vinyl chloride	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
Acetone	ND		5	ug/l						
2-Butanone	ND		5	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Styrene	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethylbenzene	ND		1	ug/l						
Vinyl acetate	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*47.3*	ug/l	*50.0*		*94.5*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.8*	ug/l	*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8			*49.8*	ug/l	*50.0*		*99.7*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0672 - Purge-Trap (Continued)										
LCS (B9A0672-BS1)					Prepared & Analyzed: 01/16/19					
Benzene	19			ug/l	20.0		95.0	65-135		
Bromodichloromethane	21			ug/l	20.0		105	65-135		
Bromoform	18			ug/l	20.0		92.5	70-130		
Bromomethane	10			ug/l	20.0		50.7	15-185		
Carbon tetrachloride	19			ug/l	20.0		95.0	70-130		
Chlorobenzene	19			ug/l	20.0		93.1	65-135		
Chloroethane	18			ug/l	20.0		88.3	40-160		
Chloroform	19			ug/l	20.0		96.6	70-135		
Chloromethane	16			ug/l	20.0		79.8	1-205		
Dibromochloromethane	21			ug/l	20.0		106	70-135		
1,2-Dichlorobenzene	19			ug/l	20.0		97.2	65-135		
1,3-Dichlorobenzene	19			ug/l	20.0		97.2	70-130		
1,4-Dichlorobenzene	19			ug/l	20.0		95.6	65-135		
1,1-Dichloroethane	18			ug/l	20.0		92.4	70-130		
1,2-Dichloroethane	19			ug/l	20.0		96.8	70-130		
trans-1,2-Dichloroethene	18			ug/l	20.0		89.9	70-130		
1,1-Dichloroethene	16			ug/l	20.0		77.6	50-150		
1,2-Dichloropropane	21			ug/l	20.0		104	35-165		
cis-1,3-Dichloropropene	18			ug/l	20.0		90.8	25-175		
trans-1,3-Dichloropropene	20			ug/l	20.0		99.4	50-150		
Methylene chloride	24			ug/l	20.0		120	60-140		
Tetrachloroethene	21			ug/l	20.0		103	70-130		
Toluene	21			ug/l	20.0		104	70-130		
1,1,2-Trichloroethane	21			ug/l	20.0		103	70-130		
1,1,1-Trichloroethane	19			ug/l	20.0		95.3	70-130		
Trichloroethene	20			ug/l	20.0		100	65-135		
Vinyl chloride	16			ug/l	20.0		80.0	5-195		
1,1,2,2-Tetrachloroethane	19			ug/l	20.0		96.6	60-140		
Trichlorofluoromethane	18			ug/l	20.0		88.2	50-150		
cis-1,2-Dichloroethene	20			ug/l	20.0		97.8	70-130		
Acetone	14			ug/l	20.0		70.1	70-130		
2-Butanone	15			ug/l	20.0		76.0	70-130		
Methyl t-butyl ether (MTBE)	18			ug/l	20.0		92.0	70-130		
Carbon Disulfide	14			ug/l	20.0		70.8	70-130		
Dibromomethane	20			ug/l	20.0		99.7	70-130		
2-Hexanone	17			ug/l	20.0		82.8	70-130		
4-Methyl-2-pentanone	19			ug/l	20.0		94.5	70-130		
Styrene	19			ug/l	20.0		94.4	70-130		
o-Xylene	20			ug/l	20.0		98.8	70-130		
m&p-Xylene	40			ug/l	40.0		99.1	70-130		
Dichlorodifluoromethane	17			ug/l	20.0		86.2	70-130		
Ethylbenzene	19			ug/l	20.0		95.7	60-140		
Surrogate: 4-Bromofluorobenzene			*49.7*	ug/l	*50.0*		*99.5*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*52.7*	ug/l	*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8			*52.9*	ug/l	*50.0*		*106*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0502 - Purge-Trap										
Blank (B9A0502-BLK1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
2-Chloroethylvinyl ether	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*45.6*	ug/l	*50.0*		*91.2*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.0*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8			*46.1*	ug/l	*50.0*		*92.1*	*70-130*		
LCS (B9A0502-BS1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	20			ug/l	20.0		98.2	60-140		
Acrylonitrile	22			ug/l	20.0		108	60-140		
2-Chloroethylvinyl ether	19			ug/l	40.0		46.4	1-225		
Surrogate: 4-Bromofluorobenzene			*50.0*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.6*	ug/l	*50.0*		*99.1*	*70-130*		
Surrogate: Toluene-d8			*48.9*	ug/l	*50.0*		*97.8*	*70-130*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

Microbac Laboratories, Inc. - Dayville

MICROBAC®

SUBCONTRACT ORDER

D9A0895

SENDING LABORATORY:

Microbac Laboratories, Inc. - Dayville
61 Louisa Viens Drive
Dayville, CT 06241
Phone: 860.774.6814
Project Manager: Katherine A. Wall

RECEIVING LABORATORY:

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
Phone: 888-863-8522

Project Info:

Project Type: ENV-WasteWater
Project Location: Massachusetts
Report TAT: [redacted]
Due: [redacted]

Sample ID: D9A0895-01 **Matrix: Groundwater** **Sampled: 01/10/2019 11:40**

Analysis	Method	Analysis Due	Expires
624.1 VOC	EPA 624.1	[redacted]	01/24/2019 11:40
MWRA list			

D9A1 1024

Released By	Date	Received By	Date
			1/11/19 0830
	1/11/19 1038		1/11/19 10:38

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0896

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Ronald L. Warila
Director

Thursday, January 17, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0896

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/10/2019
Reported: 01/17/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9A0896-01	Wastewater	Grab		01/10/19 10:15	01/10/19 17:25
Well #475 (filtered)	D9A0896-02	Wastewater	Grab		01/10/19 10:15	01/10/19 17:25

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Wastewater
Lab Sample ID: D9A0896-01
Collected By: Customer
Collection Date: 01/10/2019 10:15

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.100	0.100	mg/L		01/15/19 1514	01/16/19 1234	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0159**	0.0100	mg/L		01/11/19 2108	01/14/19 0924	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**3.09**	1.00	mg/L			01/15/19 2055	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**87.0**	2.00	mg/L			01/11/19 1649	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**1.82**	0.0500	mg/L			01/10/19 2055	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/10/19 2055	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0205**	0.0050	mg/L	**Y1**	01/14/19 1531	01/16/19 2003	NJP
Copper	<0.0020	0.0020	mg/L		01/14/19 1531	01/16/19 2003	NJP
Sodium	**39.2**	1.00	mg/L		01/14/19 1531	01/16/19 2003	NJP

Analyses Subcontracted to: New England Testing Laboratory

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Volatile Organics by GC/MS	**Attached**		ug/L			01/16/19 0000	SUB

Client Sample ID: Well #475 (filtered)
Sample Matrix: Wastewater
Lab Sample ID: D9A0896-02
Collected By: Customer
Collection Date: 01/10/2019 10:15

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0220**	0.0100	mg/L		01/10/19 1902	01/10/19 2314	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90524 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90524-BLK1)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90524-BS1)			Prepared & Analyzed: 01/10/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DA90524-BS2)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DA90524-DUP1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L		0.00170				20	
Nitrate as N	1.21	0.0500	mg/L		1.21			0.116	20	
Matrix Spike (DA90524-MS1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L	1.00	0.00170	NR	75-125			M2
Nitrate as N	3.21	0.0500	mg/L	4.00	1.21	50.1	75-125			M2
Matrix Spike Dup (DA90524-MSD1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	0.00340	0.0100	mg/L	1.00	0.00170	0.170	75-125		20	M2
Nitrate as N	3.22	0.0500	mg/L	4.00	1.21	50.4	75-125	0.351	20	M2
Batch DA90537 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90537-BLK1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90537-BS1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	0.990	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DA90537-DUP1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.02	0.0400	mg/L		4.97			0.921	20	
Matrix Spike (DA90537-MS1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.99	0.0400	mg/L	1.00	4.97	102	90-110			
Matrix Spike (DA90537-MS2)	**Source: D9A0798-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0110	99.8	90-110			
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90567-BLK1)			Prepared & Analyzed: 01/11/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90567-BS1)			Prepared & Analyzed: 01/11/2019							
Chloride	19.5	2.00	mg/L	20.0		97.3	90-110			
Duplicate (DA90567-DUP1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	7.48	2.00	mg/L		7.77			3.79	20	
Matrix Spike (DA90567-MS1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.3	2.00	mg/L	20.0	7.77	103	75-125			
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.4	2.00	mg/L	20.0	7.77	103	75-125	0.327	20	
Batch DA90610 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90610-BLK1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90610-BS1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	0.997	0.0100	mg/L	1.00		99.7	90-110			
Duplicate (DA90610-DUP1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.25	0.0200	mg/L		2.26			0.141	20	
Matrix Spike (DA90610-MS1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	3.55	0.0200	mg/L	1.25	2.26	104	90-110			
Matrix Spike (DA90610-MS2)	**Source: D9A0900-02**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.66	0.0200	mg/L	1.25	1.34	105	90-110			
Batch DA90736 - Wet-Digestion-W - EPA 351.1										
Blank (DA90736-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90736-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	5.15	0.100	mg/L	5.00		103	90-110			
Duplicate (DA90736-DUP1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	0.798	0.100	mg/L		0.751			6.12	20	
Matrix Spike (DA90736-MS1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	11.2	0.100	mg/L	10.0	0.751	104	90-110			
Matrix Spike (DA90736-MS2)	**Source: D9A0956-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	22.5	0.200	mg/L	10.0	11.9	106	90-110			
Batch DA90774 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA90774-DUP1)	**Source: D9A0700-05**		Prepared & Analyzed: 01/15/2019							
Alkalinity to pH 4.5	86.0	1.00	mg/L		86.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DA90670-BLK1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90670-BS1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.536	0.0050	mg/L	0.500		107	85-115			
Copper	0.527	0.0020	mg/L	0.500		105	85-115			
Sodium	10.6	1.00	mg/L	10.5		101	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Duplicate (DA90670-DUP1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.0056	0.0050	mg/L		0.0081			36.0	20	R3
Copper	0.0032	0.0020	mg/L		0.0026			19.8	20	
Sodium	4.53	1.00	mg/L		4.55			0.465	20	
Matrix Spike (DA90670-MS1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.542	0.0050	mg/L	0.500	0.0081	107	70-130			
Copper	0.529	0.0020	mg/L	0.500	0.0026	105	70-130			
Sodium	15.3	1.00	mg/L	10.5	4.55	103	70-130			
Matrix Spike (DA90670-MS2)	**Source: D9A0895-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.557	0.0050	mg/L	0.500	0.0090	110	70-130			
Copper	0.541	0.0020	mg/L	0.500	ND	108	70-130			
Sodium	18.8	1.00	mg/L	10.5	7.45	108	70-130			

Definitions

M2: Matrix spike recovery is below acceptance limits.
R3: Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL: Reporting Limit
RPD: Relative Percent Difference
Y1: Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.2°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Ronald L. Warila

Director

Reported: 01/17/2019 16:18

MICROBAC

Microbac Laboratories, Inc.

C
61 Lou
Tel: (8

D 9 A 0 8 9 6
Veolia - Plymouth

FOR LAB USE ONLY
Lab WO#
Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: MICHAEL EMOND
E-MAIL: michael.emond@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-023

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 475 (250 mL)	1/10/2019	10:15		X	WW	1	X	X											X			
Well # 475 (250 mL)	1/10/2019	10:15		X	WW	1			X	X								X				
Well # 475 (250 mL)(filtered)	1/10/2019	10:15		X	WW	1					X							X				
Well # 475 (500 mL)	1/10/2019	10:15		X	WW	1						X						X				
Well # 475 (500 mL)	1/10/2019	10:15		X	WW	1							X					X				
Well # 475 (250 mL)	1/10/2019	10:15		X	WW	1								X	X	X					X	
Well # 475 (40 mL vial)	1/10/2019	10:15		X	WW	2											X	X				
Well # 475 (40 mL vial)	1/10/2019	10:15		X	WW	2				PRESERVATIVE VERIFIED Initials MPV							X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-10-19	
RECEIVED:		
RELINQUISHED:	1/10/19	1348
EIVED:	1/10/19	1348
NQUISHED:	1/10/19	1725
EIVED:	1-10-19	1725

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX	☐	HARD COPY	☐	E-MAIL	☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED	☐	AMBIENT	☐	2.2°C

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9A11019
Client Project: Organics

Report Date: 17-January-2019

Prepared for:

Katherine A. Wall
Microbac Laboratories, Inc.
61 Louisa Viens Drive
Dayville, CT 02467



Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 01/11/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9A11019. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9A11019-01	D9A0896-01	Water	01/10/2019	01/11/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

D9A0896-01 (Lab Number: 9A11019-01)

Analysis	**Method**
Acrolein, Acrylonitrile & 2-CEVE	EPA 624.1
Volatile Organic Compounds	EPA 624.1

Method References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Office of Federal Register National Archives and Records Administration

Case Narrative

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies.

Results: Volatile Organic Compounds

Sample: D9A0896-01

Lab Number: 9A11019-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Benzene	ND		1	ug/l	01/16/19	01/16/19
Bromodichloromethane	ND		1	ug/l	01/16/19	01/16/19
Bromoform	ND		1	ug/l	01/16/19	01/16/19
Bromomethane	ND		1	ug/l	01/16/19	01/16/19
Carbon tetrachloride	ND		1	ug/l	01/16/19	01/16/19
Chlorobenzene	ND		1	ug/l	01/16/19	01/16/19
Chloroethane	ND		1	ug/l	01/16/19	01/16/19
Chloroform	**1**		1	ug/l	01/16/19	01/16/19
Chloromethane	ND		1	ug/l	01/16/19	01/16/19
Dibromochloromethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,3-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,4-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
trans-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloropropane	ND		1	ug/l	01/16/19	01/16/19
cis-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
trans-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
Methylene chloride	ND		5	ug/l	01/16/19	01/16/19
Tetrachloroethene	ND		1	ug/l	01/16/19	01/16/19
Toluene	ND		1	ug/l	01/16/19	01/16/19
1,1,2-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,1,1-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichloroethene	ND		1	ug/l	01/16/19	01/16/19
Vinyl chloride	ND		1	ug/l	01/16/19	01/16/19
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichlorofluoromethane	ND		1	ug/l	01/16/19	01/16/19
cis-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
Acetone	ND		5	ug/l	01/16/19	01/16/19
2-Butanone	ND		5	ug/l	01/16/19	01/16/19
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/16/19	01/16/19
Carbon Disulfide	ND		1	ug/l	01/16/19	01/16/19
Dibromomethane	ND		1	ug/l	01/16/19	01/16/19
2-Hexanone	ND		5	ug/l	01/16/19	01/16/19
4-Methyl-2-pentanone	ND		5	ug/l	01/16/19	01/16/19
Styrene	ND		1	ug/l	01/16/19	01/16/19
o-Xylene	ND		1	ug/l	01/16/19	01/16/19
m&p-Xylene	ND		2	ug/l	01/16/19	01/16/19
Dichlorodifluoromethane	ND		1	ug/l	01/16/19	01/16/19
Ethylbenzene	ND		1	ug/l	01/16/19	01/16/19
Vinyl acetate	ND		1	ug/l	01/16/19	01/16/19

Sample: D9A0896-01 (Continued)

Lab Number: 9A11019-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Surrogate(s)	Recovery%		Limits			
4-Bromofluorobenzene	*93.9%*		*70-130*		01/16/19	01/16/19
1,2-Dichloroethane-d4	*97.7%*		*70-130*		01/16/19	01/16/19
Toluene-d8	*100%*		*70-130*		01/16/19	01/16/19

Results: Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Sample: D9A0896-01

Lab Number: 9A11019-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acrolein	ND		5	ug/l	01/11/19 12:47	01/12/19 3:19
Acrylonitrile	ND		5	ug/l	01/11/19 12:47	01/12/19 3:19
2-Chloroethylvinyl ether	ND		1	ug/l	01/11/19 12:47	01/12/19 3:19

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*98.2%*	*70-130*	01/11/19 12:47	01/12/19 3:19
1,2-Dichloroethane-d4	*94.4%*	*70-130*	01/11/19 12:47	01/12/19 3:19
Toluene-d8	*92.9%*	*70-130*	01/11/19 12:47	01/12/19 3:19

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0671 - Purge-Trap										
Blank (B9A0671-BLK1)					Prepared & Analyzed: 01/16/19					
Benzene	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
Carbon tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
Methylene chloride	ND		5	ug/l						
Tetrachloroethene	ND		1	ug/l						
Toluene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
Vinyl chloride	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
Acetone	ND		5	ug/l						
2-Butanone	ND		5	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Styrene	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethylbenzene	ND		1	ug/l						
Vinyl acetate	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*54.6*	ug/l	*50.0*		*109*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*50.1*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8			*49.2*	ug/l	*50.0*		*98.3*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0671 - Purge-Trap (Continued)										
LCS (B9A0671-BS1)					Prepared & Analyzed: 01/16/19					
Benzene	23			ug/l	20.0		117	65-135		
Bromodichloromethane	22			ug/l	20.0		110	65-135		
Bromoform	23			ug/l	20.0		116	70-130		
Bromomethane	16			ug/l	20.0		80.4	15-185		
Carbon tetrachloride	24			ug/l	20.0		119	70-130		
Chlorobenzene	24			ug/l	20.0		119	65-135		
Chloroethane	19			ug/l	20.0		94.8	40-160		
Chloroform	25			ug/l	20.0		125	70-135		
Chloromethane	20			ug/l	20.0		102	1-205		
Dibromochloromethane	24			ug/l	20.0		121	70-135		
1,2-Dichlorobenzene	25			ug/l	20.0		124	65-135		
1,3-Dichlorobenzene	24			ug/l	20.0		121	70-130		
1,4-Dichlorobenzene	24			ug/l	20.0		120	65-135		
1,1-Dichloroethane	24			ug/l	20.0		120	70-130		
1,2-Dichloroethane	25			ug/l	20.0		124	70-130		
trans-1,2-Dichloroethene	22			ug/l	20.0		112	70-130		
1,1-Dichloroethene	22			ug/l	20.0		112	50-150		
1,2-Dichloropropane	23			ug/l	20.0		116	35-165		
cis-1,3-Dichloropropene	22			ug/l	20.0		112	25-175		
trans-1,3-Dichloropropene	25			ug/l	20.0		123	50-150		
Methylene chloride	21			ug/l	20.0		107	60-140		
Tetrachloroethene	22			ug/l	20.0		110	70-130		
Toluene	23			ug/l	20.0		113	70-130		
1,1,2-Trichloroethane	22			ug/l	20.0		111	70-130		
1,1,1-Trichloroethane	24			ug/l	20.0		119	70-130		
Trichloroethene	20			ug/l	20.0		99.1	65-135		
Vinyl chloride	18			ug/l	20.0		90.7	5-195		
1,1,2,2-Tetrachloroethane	26			ug/l	20.0		128	60-140		
Trichlorofluoromethane	19			ug/l	20.0		94.2	50-150		
cis-1,2-Dichloroethene	24			ug/l	20.0		119	70-130		
Acetone	20			ug/l	20.0		101	70-130		
2-Butanone	19			ug/l	20.0		97.3	70-130		
Methyl t-butyl ether (MTBE)	23			ug/l	20.0		115	70-130		
Carbon Disulfide	22			ug/l	20.0		110	70-130		
Dibromomethane	24			ug/l	20.0		120	70-130		
2-Hexanone	21			ug/l	20.0		104	70-130		
4-Methyl-2-pentanone	22			ug/l	20.0		110	70-130		
Styrene	22			ug/l	20.0		111	70-130		
o-Xylene	25			ug/l	20.0		124	70-130		
m&p-Xylene	46			ug/l	40.0		115	70-130		
Dichlorodifluoromethane	19			ug/l	20.0		97.4	70-130		
Ethylbenzene	24			ug/l	20.0		120	60-140		
Surrogate: 4-Bromofluorobenzene			*50.3*	ug/l	*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*50.2*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8			*50.5*	ug/l	*50.0*		*101*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0502 - Purge-Trap										
Blank (B9A0502-BLK1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
2-Chloroethylvinyl ether	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*45.6*	ug/l	*50.0*		*91.2*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.0*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8			*46.1*	ug/l	*50.0*		*92.1*	*70-130*		
LCS (B9A0502-BS1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	20			ug/l	20.0		98.2	60-140		
Acrylonitrile	22			ug/l	20.0		108	60-140		
2-Chloroethylvinyl ether	19			ug/l	40.0		46.4	1-225		
Surrogate: 4-Bromofluorobenzene			*50.0*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.6*	ug/l	*50.0*		*99.1*	*70-130*		
Surrogate: Toluene-d8			*48.9*	ug/l	*50.0*		*97.8*	*70-130*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

Microbac Laboratories, Inc. - Dayville

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SUBCONTRACT ORDER

D9A0896

SENDING LABORATORY:

Microbac Laboratories, Inc. - Dayville
61 Louisa Viens Drive
Dayville, CT 06241
Phone: 860.774.6814
Project Manager: Katherine A. Wall

RECEIVING LABORATORY:

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
Phone: 888-863-8522

Project Info:

Project Type: ENV-WasteWater
Project Location: Massachusetts
Report TAT: 5
Due: [redacted]

Sample ID: D9A0896-01 **Matrix: Wastewater** **Sampled: 01/10/2019 10:15**

Analysis	Method	Analysis Due	Expires
624.1 VOC [redacted]	EPA 624.1	[redacted]	01/24/2019 10:15
MWRA list			

D9A0896 1019

3C

Released By	Date	Received By	Date
			1/11/19 0830
	1/11/19 1038		1/11/19 10:38
Released By	Date	Received By	Date

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0897

Project Description

Plymouth WWTP

For:

Michael Emond

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Ronald L. Warila
Director

Thursday, January 17, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9A0897

Veolia - Plymouth

Michael Emond
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/10/2019
Reported: 01/17/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 6D	D9A0897-01	Groundwater	Grab		01/10/19 11:05	01/10/19 17:25
Well # 6D (filtered)	D9A0897-02	Groundwater	Grab		01/10/19 11:05	01/10/19 17:25

Analytical Testing Parameters

Client Sample ID: Well # 6D
Sample Matrix: Groundwater
Lab Sample ID: D9A0897-01
Collected By: Customer
Collection Date: 01/10/2019 11:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.203**	0.100	mg/L		01/15/19 1514	01/16/19 1235	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0159**	0.0100	mg/L		01/11/19 2108	01/14/19 0926	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**5.15**	1.00	mg/L			01/15/19 2055	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**14.1**	2.00	mg/L			01/11/19 1650	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.750**	0.0500	mg/L			01/10/19 2056	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/10/19 2056	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0085**	0.0050	mg/L	**Y1**	01/14/19 1531	01/16/19 2012	NJP
Copper	<0.0020	0.0020	mg/L		01/14/19 1531	01/16/19 2012	NJP
Sodium	**7.47**	1.00	mg/L		01/14/19 1531	01/16/19 2012	NJP

Analyses Subcontracted to: New England Testing Laboratory

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Volatile Organics by GC/MS	**Attached**		ug/L			01/16/19 0000	SUB

Client Sample ID: Well # 6D (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9A0897-02
Collected By: Customer
Collection Date: 01/10/2019 11:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0220**	0.0100	mg/L		01/10/19 1902	01/10/19 2315	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90524 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90524-BLK1)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90524-BS1)			Prepared & Analyzed: 01/10/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DA90524-BS2)			Prepared & Analyzed: 01/10/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DA90524-DUP1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L		0.00170				20	
Nitrate as N	1.21	0.0500	mg/L		1.21			0.116	20	
Matrix Spike (DA90524-MS1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	ND	0.0100	mg/L	1.00	0.00170	NR	75-125			M2
Nitrate as N	3.21	0.0500	mg/L	4.00	1.21	50.1	75-125			M2
Matrix Spike Dup (DA90524-MSD1)	**Source: D9A0796-01**		Prepared & Analyzed: 01/10/2019							
Nitrite as N	0.00340	0.0100	mg/L	1.00	0.00170	0.170	75-125		20	M2
Nitrate as N	3.22	0.0500	mg/L	4.00	1.21	50.4	75-125	0.351	20	M2
Batch DA90537 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90537-BLK1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90537-BS1)			Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	0.990	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DA90537-DUP1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.02	0.0400	mg/L		4.97			0.921	20	
Matrix Spike (DA90537-MS1)	**Source: L9A0159-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	5.99	0.0400	mg/L	1.00	4.97	102	90-110			
Matrix Spike (DA90537-MS2)	**Source: D9A0798-04**		Prepared & Analyzed: 01/10/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0110	99.8	90-110			
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90567-BLK1)			Prepared & Analyzed: 01/11/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90567-BS1)			Prepared & Analyzed: 01/11/2019							
Chloride	19.5	2.00	mg/L	20.0		97.3	90-110			
Duplicate (DA90567-DUP1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	7.48	2.00	mg/L		7.77			3.79	20	
Matrix Spike (DA90567-MS1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.3	2.00	mg/L	20.0	7.77	103	75-125			
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.4	2.00	mg/L	20.0	7.77	103	75-125	0.327	20	
Batch DA90610 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90610-BLK1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90610-BS1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	0.997	0.0100	mg/L	1.00		99.7	90-110			
Duplicate (DA90610-DUP1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.25	0.0200	mg/L		2.26			0.141	20	
Matrix Spike (DA90610-MS1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	3.55	0.0200	mg/L	1.25	2.26	104	90-110			
Matrix Spike (DA90610-MS2)	**Source: D9A0900-02**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.66	0.0200	mg/L	1.25	1.34	105	90-110			
Batch DA90736 - Wet-Digestion-W - EPA 351.1										
Blank (DA90736-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90736-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	5.15	0.100	mg/L	5.00		103	90-110			
Duplicate (DA90736-DUP1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	0.798	0.100	mg/L		0.751			6.12	20	
Matrix Spike (DA90736-MS1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	11.2	0.100	mg/L	10.0	0.751	104	90-110			
Matrix Spike (DA90736-MS2)	**Source: D9A0956-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	22.5	0.200	mg/L	10.0	11.9	106	90-110			
Batch DA90774 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA90774-DUP1)	**Source: D9A0700-05**		Prepared & Analyzed: 01/15/2019							
Alkalinity to pH 4.5	86.0	1.00	mg/L		86.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DA90670-BLK1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90670-BS1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.536	0.0050	mg/L	0.500		107	85-115			
Copper	0.527	0.0020	mg/L	0.500		105	85-115			
Sodium	10.6	1.00	mg/L	10.5		101	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Duplicate (DA90670-DUP1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.0056	0.0050	mg/L		0.0081			36.0	20	R3
Copper	0.0032	0.0020	mg/L		0.0026			19.8	20	
Sodium	4.53	1.00	mg/L		4.55			0.465	20	
Matrix Spike (DA90670-MS1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.542	0.0050	mg/L	0.500	0.0081	107	70-130			
Copper	0.529	0.0020	mg/L	0.500	0.0026	105	70-130			
Sodium	15.3	1.00	mg/L	10.5	4.55	103	70-130			
Matrix Spike (DA90670-MS2)	**Source: D9A0895-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.557	0.0050	mg/L	0.500	0.0090	110	70-130			
Copper	0.541	0.0020	mg/L	0.500	ND	108	70-130			
Sodium	18.8	1.00	mg/L	10.5	7.45	108	70-130			

Definitions

M2: Matrix spike recovery is below acceptance limits.
R3: Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL: Reporting Limit
RPD: Relative Percent Difference
Y1: Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.2°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Ronald L. Warila

Director

Reported: 01/17/2019 16:23

MICROBAC

Microbac Laboratories, Inc.

61
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D 9 A 0 8 9 7
Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: MICHAEL EMOND
E-MAIL: michael.emond@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 6D (250 mL)	1/10/2019	11:05		X	WW	1	X	X											X			
Well # 6D (250 mL)	1/10/2019	11:05		X	WW	1			X	X								X				
Well # 6D (250 mL)(filtered)	1/10/2019	11:05		X	WW	1					X							X				
Well # 6D (500 mL)	1/10/2019	11:05		X	WW	1						X						X				
Well # 6D (500 mL)	1/10/2019	11:05		X	WW	1							X					X				
Well # 6D (250 mL)	1/10/2019	11:05		X	WW	1								X	X	X					X	
Well # 6D (40 mL vial)	1/10/2019	11:05		X	WW	2											X	X				
Well # 6D (40 mL vial)	1/10/2019	11:05		X	WW	2					PRESERVATIVE VERIFIED Initials MV						X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-10-19	
RECEIVED:		
RELINQUISHED:	1/10/19	1348
RECEIVED:	1/10/19	1348
RELINQUISHED:	1/10/19	1725
RECEIVED:	1-10-19	1725

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.2°c

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9A11025
Client Project: Organics

Report Date: 17-January-2019

Prepared for:

Katherine A. Wall
Microbac Laboratories, Inc.
61 Louisa Viens Drive
Dayville, CT 02467

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 01/11/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9A11025. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9A11025-01	D9A0897-01	Water	01/10/2019	01/11/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

D9A0897-01 (Lab Number: 9A11025-01)

Analysis	**Method**
Acrolein, Acrylonitrile & 2-CEVE	EPA 624.1
Volatile Organic Compounds	EPA 624.1

Method References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Office of Federal Register National Archives and Records Administration

Case Narrative

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies.

Results: Volatile Organic Compounds

Sample: D9A0897-01

Lab Number: 9A11025-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Benzene	ND		1	ug/l	01/16/19	01/16/19
Bromodichloromethane	ND		1	ug/l	01/16/19	01/16/19
Bromoform	ND		1	ug/l	01/16/19	01/16/19
Bromomethane	ND		1	ug/l	01/16/19	01/16/19
Carbon tetrachloride	ND		1	ug/l	01/16/19	01/16/19
Chlorobenzene	ND		1	ug/l	01/16/19	01/16/19
Chloroethane	ND		1	ug/l	01/16/19	01/16/19
Chloroform	ND		1	ug/l	01/16/19	01/16/19
Chloromethane	ND		1	ug/l	01/16/19	01/16/19
Dibromochloromethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,3-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,4-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
trans-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloropropane	ND		1	ug/l	01/16/19	01/16/19
cis-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
trans-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
Methylene chloride	ND		5	ug/l	01/16/19	01/16/19
Tetrachloroethene	ND		1	ug/l	01/16/19	01/16/19
Toluene	ND		1	ug/l	01/16/19	01/16/19
1,1,2-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,1,1-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichloroethene	ND		1	ug/l	01/16/19	01/16/19
Vinyl chloride	ND		1	ug/l	01/16/19	01/16/19
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichlorofluoromethane	ND		1	ug/l	01/16/19	01/16/19
cis-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
Acetone	ND		5	ug/l	01/16/19	01/16/19
2-Butanone	ND		5	ug/l	01/16/19	01/16/19
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/16/19	01/16/19
Carbon Disulfide	ND		1	ug/l	01/16/19	01/16/19
Dibromomethane	ND		1	ug/l	01/16/19	01/16/19
2-Hexanone	ND		5	ug/l	01/16/19	01/16/19
4-Methyl-2-pentanone	ND		5	ug/l	01/16/19	01/16/19
Styrene	ND		1	ug/l	01/16/19	01/16/19
o-Xylene	ND		1	ug/l	01/16/19	01/16/19
m&p-Xylene	ND		2	ug/l	01/16/19	01/16/19
Dichlorodifluoromethane	ND		1	ug/l	01/16/19	01/16/19
Ethylbenzene	ND		1	ug/l	01/16/19	01/16/19
Vinyl acetate	ND		1	ug/l	01/16/19	01/16/19

Sample: D9A0897-01 (Continued)

Lab Number: 9A11025-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Surrogate(s)	Recovery%		Limits			
4-Bromofluorobenzene	*91.3%*		*70-130*		01/16/19	01/16/19
1,2-Dichloroethane-d4	*103%*		*70-130*		01/16/19	01/16/19
Toluene-d8	*101%*		*70-130*		01/16/19	01/16/19

Results: Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Sample: D9A0897-01

Lab Number: 9A11025-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acrolein	ND		5	ug/l	01/11/19 12:47	01/12/19 4:37
Acrylonitrile	ND		5	ug/l	01/11/19 12:47	01/12/19 4:37
2-Chloroethylvinyl ether	ND		1	ug/l	01/11/19 12:47	01/12/19 4:37

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*92.0%*	*70-130*	01/11/19 12:47	01/12/19 4:37
1,2-Dichloroethane-d4	*98.0%*	*70-130*	01/11/19 12:47	01/12/19 4:37
Toluene-d8	*94.0%*	*70-130*	01/11/19 12:47	01/12/19 4:37

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0672 - Purge-Trap										
Blank (B9A0672-BLK1)					Prepared & Analyzed: 01/16/19					
Benzene	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
Carbon tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
Methylene chloride	ND		5	ug/l						
Tetrachloroethene	ND		1	ug/l						
Toluene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
Vinyl chloride	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
Acetone	ND		5	ug/l						
2-Butanone	ND		5	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Styrene	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethylbenzene	ND		1	ug/l						
Vinyl acetate	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*47.3*	ug/l	*50.0*		*94.5*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.8*	ug/l	*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8			*49.8*	ug/l	*50.0*		*99.7*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0672 - Purge-Trap (Continued)										
LCS (B9A0672-BS1)					Prepared & Analyzed: 01/16/19					
Benzene	19			ug/l	20.0		95.0	65-135		
Bromodichloromethane	21			ug/l	20.0		105	65-135		
Bromoform	18			ug/l	20.0		92.5	70-130		
Bromomethane	10			ug/l	20.0		50.7	15-185		
Carbon tetrachloride	19			ug/l	20.0		95.0	70-130		
Chlorobenzene	19			ug/l	20.0		93.1	65-135		
Chloroethane	18			ug/l	20.0		88.3	40-160		
Chloroform	19			ug/l	20.0		96.6	70-135		
Chloromethane	16			ug/l	20.0		79.8	1-205		
Dibromochloromethane	21			ug/l	20.0		106	70-135		
1,2-Dichlorobenzene	19			ug/l	20.0		97.2	65-135		
1,3-Dichlorobenzene	19			ug/l	20.0		97.2	70-130		
1,4-Dichlorobenzene	19			ug/l	20.0		95.6	65-135		
1,1-Dichloroethane	18			ug/l	20.0		92.4	70-130		
1,2-Dichloroethane	19			ug/l	20.0		96.8	70-130		
trans-1,2-Dichloroethene	18			ug/l	20.0		89.9	70-130		
1,1-Dichloroethene	16			ug/l	20.0		77.6	50-150		
1,2-Dichloropropane	21			ug/l	20.0		104	35-165		
cis-1,3-Dichloropropene	18			ug/l	20.0		90.8	25-175		
trans-1,3-Dichloropropene	20			ug/l	20.0		99.4	50-150		
Methylene chloride	24			ug/l	20.0		120	60-140		
Tetrachloroethene	21			ug/l	20.0		103	70-130		
Toluene	21			ug/l	20.0		104	70-130		
1,1,2-Trichloroethane	21			ug/l	20.0		103	70-130		
1,1,1-Trichloroethane	19			ug/l	20.0		95.3	70-130		
Trichloroethene	20			ug/l	20.0		100	65-135		
Vinyl chloride	16			ug/l	20.0		80.0	5-195		
1,1,2,2-Tetrachloroethane	19			ug/l	20.0		96.6	60-140		
Trichlorofluoromethane	18			ug/l	20.0		88.2	50-150		
cis-1,2-Dichloroethene	20			ug/l	20.0		97.8	70-130		
Acetone	14			ug/l	20.0		70.1	70-130		
2-Butanone	15			ug/l	20.0		76.0	70-130		
Methyl t-butyl ether (MTBE)	18			ug/l	20.0		92.0	70-130		
Carbon Disulfide	14			ug/l	20.0		70.8	70-130		
Dibromomethane	20			ug/l	20.0		99.7	70-130		
2-Hexanone	17			ug/l	20.0		82.8	70-130		
4-Methyl-2-pentanone	19			ug/l	20.0		94.5	70-130		
Styrene	19			ug/l	20.0		94.4	70-130		
o-Xylene	20			ug/l	20.0		98.8	70-130		
m&p-Xylene	40			ug/l	40.0		99.1	70-130		
Dichlorodifluoromethane	17			ug/l	20.0		86.2	70-130		
Ethylbenzene	19			ug/l	20.0		95.7	60-140		
Surrogate: 4-Bromofluorobenzene			*49.7*	ug/l	*50.0*		*99.5*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*52.7*	ug/l	*50.0*		*105*	*70-130*		
Surrogate: Toluene-d8			*52.9*	ug/l	*50.0*		*106*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0502 - Purge-Trap										
Blank (B9A0502-BLK1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
2-Chloroethylvinyl ether	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*45.6*	ug/l	*50.0*		*91.2*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.0*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8			*46.1*	ug/l	*50.0*		*92.1*	*70-130*		
LCS (B9A0502-BS1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	20			ug/l	20.0		98.2	60-140		
Acrylonitrile	22			ug/l	20.0		108	60-140		
2-Chloroethylvinyl ether	19			ug/l	40.0		46.4	1-225		
Surrogate: 4-Bromofluorobenzene			*50.0*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.6*	ug/l	*50.0*		*99.1*	*70-130*		
Surrogate: Toluene-d8			*48.9*	ug/l	*50.0*		*97.8*	*70-130*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

Microbac Laboratories, Inc. - Dayville

MICROBAC®

SUBCONTRACT ORDER

D9A0897

SENDING LABORATORY:

Microbac Laboratories, Inc. - Dayville
61 Louisa Viens Drive
Dayville, CT 06241
Phone: 860.774.6814
Project Manager: Katherine A. Wall

RECEIVING LABORATORY:

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
Phone: 888-863-8522

Project Info:

Project Type: ENV-WasteWater
Project Location: Massachusetts

Report TAT: [redacted]
Due: ~~01/21/2019 17:00~~

Sample ID: D9A0897-01 **Matrix: Groundwater** **Sampled: 01/10/2019 11:05**

Analysis	Method	Analysis Due	Expires
624.1 VOC	EPA 624.1	~~01/17/2019 10:00~~	01/24/2019 11:05
MWRA list			

D9A1 10252

Released By	Date	Received By	Date
			1/11/19 0830
Released By	Date	Received By	Date
	1/11/19 1038		1/11/19 10:38

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0898

Project Description

Plymouth WWTP

For:

Michael Emond

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Ronald L. Warila
Director

Thursday, January 17, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A0898

Veolia - Plymouth

Michael Emond
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/10/2019
Reported: 01/17/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A11	D9A0898-01	Groundwater	Grab		01/10/19 12:57	01/10/19 17:25
Well # A11 (filtered)	D9A0898-02	Groundwater	Grab		01/10/19 12:57	01/10/19 17:25

Analytical Testing Parameters

Client Sample ID: Well # A11
Sample Matrix: Groundwater
Lab Sample ID: D9A0898-01
Collected By: Customer
Collection Date: 01/10/2019 12:57

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.125**	0.100	mg/L		01/15/19 1514	01/16/19 1236	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0117**	0.0100	mg/L		01/11/19 2108	01/14/19 0926	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**6.18**	1.00	mg/L			01/15/19 2055	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**198**	8.00	mg/L			01/11/19 1710	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**1.68**	0.0500	mg/L			01/10/19 2057	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/10/19 2057	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0161**	0.0050	mg/L	**Y1**	01/14/19 1531	01/16/19 2016	NJP
Copper	<0.0020	0.0020	mg/L		01/14/19 1531	01/16/19 2016	NJP
Sodium	**89.8**	1.00	mg/L		01/14/19 1531	01/16/19 2016	NJP

Analyses Subcontracted to: New England Testing Laboratory

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Volatile Organic Compounds - GC/MS	**Attached**		ug/L			01/16/19 0000	SUB

Client Sample ID: Well # A11 (filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9A0898-02
Collected By: Customer
Collection Date: 01/10/2019 12:57

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0160**	0.0100	mg/L		01/10/19 1902	01/10/19 2315	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90524 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90524-BLK1)				Prepared & Analyzed: 01/10/2019						
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90524-BS1)				Prepared & Analyzed: 01/10/2019						
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DA90524-BS2)				Prepared & Analyzed: 01/10/2019						
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DA90524-DUP1)	**Source: D9A0796-01**			Prepared & Analyzed: 01/10/2019						
Nitrite as N	ND	0.0100	mg/L		0.00170				20	
Nitrate as N	1.21	0.0500	mg/L		1.21			0.116	20	
Matrix Spike (DA90524-MS1)	**Source: D9A0796-01**			Prepared & Analyzed: 01/10/2019						
Nitrite as N	ND	0.0100	mg/L	1.00	0.00170	NR	75-125			M2
Nitrate as N	3.21	0.0500	mg/L	4.00	1.21	50.1	75-125			M2
Matrix Spike Dup (DA90524-MSD1)	**Source: D9A0796-01**			Prepared & Analyzed: 01/10/2019						
Nitrite as N	0.00340	0.0100	mg/L	1.00	0.00170	0.170	75-125		20	M2
Nitrate as N	3.22	0.0500	mg/L	4.00	1.21	50.4	75-125	0.351	20	M2
Batch DA90537 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90537-BLK1)				Prepared & Analyzed: 01/10/2019						
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90537-BS1)				Prepared & Analyzed: 01/10/2019						
Ortho-phosphate as P	0.990	0.0100	mg/L	1.00		98.8	90-110			
Duplicate (DA90537-DUP1)	**Source: L9A0159-04**			Prepared & Analyzed: 01/10/2019						
Ortho-phosphate as P	5.02	0.0400	mg/L		4.97			0.921	20	
Matrix Spike (DA90537-MS1)	**Source: L9A0159-04**			Prepared & Analyzed: 01/10/2019						
Ortho-phosphate as P	5.99	0.0400	mg/L	1.00	4.97	102	90-110			
Matrix Spike (DA90537-MS2)	**Source: D9A0798-04**			Prepared & Analyzed: 01/10/2019						
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0110	99.8	90-110			
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90567-BLK1)				Prepared & Analyzed: 01/11/2019						
Chloride	ND	2.00	mg/L							
LCS (DA90567-BS1)				Prepared & Analyzed: 01/11/2019						
Chloride	19.5	2.00	mg/L	20.0		97.3	90-110			
Duplicate (DA90567-DUP1)	**Source: D9A0552-06**			Prepared & Analyzed: 01/11/2019						
Chloride	7.48	2.00	mg/L		7.77			3.79	20	
Matrix Spike (DA90567-MS1)	**Source: D9A0552-06**			Prepared & Analyzed: 01/11/2019						
Chloride	28.3	2.00	mg/L	20.0	7.77	103	75-125			
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**			Prepared & Analyzed: 01/11/2019						

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90567 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90567-MSD1)	**Source: D9A0552-06**		Prepared & Analyzed: 01/11/2019							
Chloride	28.4	2.00	mg/L	20.0	7.77	103	75-125	0.327	20	
Batch DA90610 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90610-BLK1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90610-BS1)			Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	0.997	0.0100	mg/L	1.00		99.7	90-110			
Duplicate (DA90610-DUP1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.25	0.0200	mg/L		2.26			0.141	20	
Matrix Spike (DA90610-MS1)	**Source: D9A0886-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	3.55	0.0200	mg/L	1.25	2.26	104	90-110			
Matrix Spike (DA90610-MS2)	**Source: D9A0900-02**		Prepared: 01/11/2019 Analyzed: 01/14/2019							
Phosphorus - Total as P	2.66	0.0200	mg/L	1.25	1.34	105	90-110			
Batch DA90736 - Wet-Digestion-W - EPA 351.1										
Blank (DA90736-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90736-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	5.15	0.100	mg/L	5.00		103	90-110			
Duplicate (DA90736-DUP1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	0.798	0.100	mg/L		0.751			6.12	20	
Matrix Spike (DA90736-MS1)	**Source: D9A0886-01**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	11.2	0.100	mg/L	10.0	0.751	104	90-110			
Matrix Spike (DA90736-MS2)	**Source: D9A0956-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Total Kjeldahl Nitrogen (TKN)	22.5	0.200	mg/L	10.0	11.9	106	90-110			
Batch DA90774 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA90774-DUP1)	**Source: D9A0700-05**		Prepared & Analyzed: 01/15/2019							
Alkalinity to pH 4.5	86.0	1.00	mg/L		86.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DA90670-BLK1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90670-BS1)			Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.536	0.0050	mg/L	0.500		107	85-115			
Copper	0.527	0.0020	mg/L	0.500		105	85-115			
Sodium	10.6	1.00	mg/L	10.5		101	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90670 - 200.7 - W - EPA 200.7, Rv. 4.4										
Duplicate (DA90670-DUP1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.0056	0.0050	mg/L		0.0081			36.0	20	R3
Copper	0.0032	0.0020	mg/L		0.0026			19.8	20	
Sodium	4.53	1.00	mg/L		4.55			0.465	20	
Matrix Spike (DA90670-MS1)	**Source: D9A0819-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.542	0.0050	mg/L	0.500	0.0081	107	70-130			
Copper	0.529	0.0020	mg/L	0.500	0.0026	105	70-130			
Sodium	15.3	1.00	mg/L	10.5	4.55	103	70-130			
Matrix Spike (DA90670-MS2)	**Source: D9A0895-01**		Prepared: 01/14/2019 Analyzed: 01/16/2019							
Boron	0.557	0.0050	mg/L	0.500	0.0090	110	70-130			
Copper	0.541	0.0020	mg/L	0.500	ND	108	70-130			
Sodium	18.8	1.00	mg/L	10.5	7.45	108	70-130			

Definitions

M2: Matrix spike recovery is below acceptance limits.
R3: Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL: Reporting Limit
RPD: Relative Percent Difference
Y1: Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.2°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Ronald L. Warila

Director

Reported: 01/17/2019 16:25

MICROBAC

CH

61 Louis
Tel: (86

D 9 A 0 8 9 8

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Microbac Laboratories, Inc.

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: MICHAEL EMOND

E-MAIL: michael.emond@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

WELLS - QUARTERLY

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

MICHAEL EMOND

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A11 (250 mL)	1/10/2019	12:57		X	WW	1	X	X											X			
Well # A11 (250 mL)	1/10/2019	12:57		X	WW	1			X	X								X				
Well # A11 (250 mL)(filtered)	1/10/2019	12:57		X	WW	1					X							X				
Well # A11 (500 mL)	1/10/2019	12:57		X	WW	1						X						X				
Well # A11 (500 mL)	1/10/2019	12:57		X	WW	1							X					X				
Well # A11 (250 mL)	1/10/2019	12:57		X	WW	1								X	X	X					X	
Well # A11 (40 mL vial)	1/10/2019	12:57		X	WW	2											X	X				
Well # A11 (40 mL vial)	1/10/2019	12:57		X	WW	2					PRESERVATIVE VERIFIED Initials						X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-10-19	
RECEIVED:		
RELINQUISHED:	1/10/19	1348
RECEIVED:	1/10/19	1348
RELINQUISHED:	1/10/19	1725
RECEIVED:	1-10-19	1725

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 22°C

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 9A11018
Client Project: Organics

Report Date: 17-January-2019

Prepared for:

Katherine A. Wall
Microbac Laboratories, Inc.
61 Louisa Viens Drive
Dayville, CT 02467

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 01/11/19. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 9A11018. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
9A11018-01	D9A0898-01	Water	01/10/2019	01/11/2019

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

D9A0898-01 (Lab Number: 9A11018-01)

Analysis	Method
Acrolein, Acrylonitrile & 2-CEVE	EPA 624.1
Volatile Organic Compounds	EPA 624.1

Method References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Office of Federal Register National Archives and Records Administration

Case Narrative

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies.

Results: Volatile Organic Compounds

Sample: D9A0898-01

Lab Number: 9A11018-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Benzene	ND		1	ug/l	01/16/19	01/16/19
Bromodichloromethane	ND		1	ug/l	01/16/19	01/16/19
Bromoform	ND		1	ug/l	01/16/19	01/16/19
Bromomethane	ND		1	ug/l	01/16/19	01/16/19
Carbon tetrachloride	ND		1	ug/l	01/16/19	01/16/19
Chlorobenzene	ND		1	ug/l	01/16/19	01/16/19
Chloroethane	ND		1	ug/l	01/16/19	01/16/19
Chloroform	ND		1	ug/l	01/16/19	01/16/19
Chloromethane	ND		1	ug/l	01/16/19	01/16/19
Dibromochloromethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,3-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,4-Dichlorobenzene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloroethane	ND		1	ug/l	01/16/19	01/16/19
trans-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,1-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
1,2-Dichloropropane	ND		1	ug/l	01/16/19	01/16/19
cis-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
trans-1,3-Dichloropropene	ND		1	ug/l	01/16/19	01/16/19
Methylene chloride	ND		5	ug/l	01/16/19	01/16/19
Tetrachloroethene	ND		1	ug/l	01/16/19	01/16/19
Toluene	ND		1	ug/l	01/16/19	01/16/19
1,1,2-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
1,1,1-Trichloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichloroethene	ND		1	ug/l	01/16/19	01/16/19
Vinyl chloride	ND		1	ug/l	01/16/19	01/16/19
1,1,2,2-Tetrachloroethane	ND		1	ug/l	01/16/19	01/16/19
Trichlorofluoromethane	ND		1	ug/l	01/16/19	01/16/19
cis-1,2-Dichloroethene	ND		1	ug/l	01/16/19	01/16/19
Acetone	ND		5	ug/l	01/16/19	01/16/19
2-Butanone	ND		5	ug/l	01/16/19	01/16/19
Methyl t-butyl ether (MTBE)	ND		1	ug/l	01/16/19	01/16/19
Carbon Disulfide	ND		1	ug/l	01/16/19	01/16/19
Dibromomethane	ND		1	ug/l	01/16/19	01/16/19
2-Hexanone	ND		5	ug/l	01/16/19	01/16/19
4-Methyl-2-pentanone	ND		5	ug/l	01/16/19	01/16/19
Styrene	ND		1	ug/l	01/16/19	01/16/19
o-Xylene	ND		1	ug/l	01/16/19	01/16/19
m&p-Xylene	ND		2	ug/l	01/16/19	01/16/19
Dichlorodifluoromethane	ND		1	ug/l	01/16/19	01/16/19
Ethylbenzene	ND		1	ug/l	01/16/19	01/16/19
Vinyl acetate	ND		1	ug/l	01/16/19	01/16/19

Sample: D9A0898-01 (Continued)

Lab Number: 9A11018-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Surrogate(s)	Recovery%		Limits			
4-Bromofluorobenzene	*102%*		*70-130*		01/16/19	01/16/19
1,2-Dichloroethane-d4	*100%*		*70-130*		01/16/19	01/16/19
Toluene-d8	*99.2%*		*70-130*		01/16/19	01/16/19

Results: Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Sample: D9A0898-01

Lab Number: 9A11018-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acrolein	ND		5	ug/l	01/11/19 12:47	01/12/19 2:53
Acrylonitrile	ND		5	ug/l	01/11/19 12:47	01/12/19 2:53
2-Chloroethylvinyl ether	ND		1	ug/l	01/11/19 12:47	01/12/19 2:53

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*91.9%*	*70-130*	01/11/19 12:47	01/12/19 2:53
1,2-Dichloroethane-d4	*91.9%*	*70-130*	01/11/19 12:47	01/12/19 2:53
Toluene-d8	*92.9%*	*70-130*	01/11/19 12:47	01/12/19 2:53

Quality Control

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0671 - Purge-Trap										
Blank (B9A0671-BLK1)					Prepared & Analyzed: 01/16/19					
Benzene	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Bromomethane	ND		1	ug/l						
Carbon tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
Methylene chloride	ND		5	ug/l						
Tetrachloroethene	ND		1	ug/l						
Toluene	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
Trichloroethene	ND		1	ug/l						
Vinyl chloride	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
Acetone	ND		5	ug/l						
2-Butanone	ND		5	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Dibromomethane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Styrene	ND		1	ug/l						
o-Xylene	ND		1	ug/l						
m&p-Xylene	ND		2	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethylbenzene	ND		1	ug/l						
Vinyl acetate	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*54.6*	ug/l	*50.0*		*109*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*50.1*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8			*49.2*	ug/l	*50.0*		*98.3*	*70-130*		

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0671 - Purge-Trap (Continued)										
LCS (B9A0671-BS1)					Prepared & Analyzed: 01/16/19					
Benzene	23			ug/l	20.0		117	65-135		
Bromodichloromethane	22			ug/l	20.0		110	65-135		
Bromoform	23			ug/l	20.0		116	70-130		
Bromomethane	16			ug/l	20.0		80.4	15-185		
Carbon tetrachloride	24			ug/l	20.0		119	70-130		
Chlorobenzene	24			ug/l	20.0		119	65-135		
Chloroethane	19			ug/l	20.0		94.8	40-160		
Chloroform	25			ug/l	20.0		125	70-135		
Chloromethane	20			ug/l	20.0		102	1-205		
Dibromochloromethane	24			ug/l	20.0		121	70-135		
1,2-Dichlorobenzene	25			ug/l	20.0		124	65-135		
1,3-Dichlorobenzene	24			ug/l	20.0		121	70-130		
1,4-Dichlorobenzene	24			ug/l	20.0		120	65-135		
1,1-Dichloroethane	24			ug/l	20.0		120	70-130		
1,2-Dichloroethane	25			ug/l	20.0		124	70-130		
trans-1,2-Dichloroethene	22			ug/l	20.0		112	70-130		
1,1-Dichloroethene	22			ug/l	20.0		112	50-150		
1,2-Dichloropropane	23			ug/l	20.0		116	35-165		
cis-1,3-Dichloropropene	22			ug/l	20.0		112	25-175		
trans-1,3-Dichloropropene	25			ug/l	20.0		123	50-150		
Methylene chloride	21			ug/l	20.0		107	60-140		
Tetrachloroethene	22			ug/l	20.0		110	70-130		
Toluene	23			ug/l	20.0		113	70-130		
1,1,2-Trichloroethane	22			ug/l	20.0		111	70-130		
1,1,1-Trichloroethane	24			ug/l	20.0		119	70-130		
Trichloroethene	20			ug/l	20.0		99.1	65-135		
Vinyl chloride	18			ug/l	20.0		90.7	5-195		
1,1,2,2-Tetrachloroethane	26			ug/l	20.0		128	60-140		
Trichlorofluoromethane	19			ug/l	20.0		94.2	50-150		
cis-1,2-Dichloroethene	24			ug/l	20.0		119	70-130		
Acetone	20			ug/l	20.0		101	70-130		
2-Butanone	19			ug/l	20.0		97.3	70-130		
Methyl t-butyl ether (MTBE)	23			ug/l	20.0		115	70-130		
Carbon Disulfide	22			ug/l	20.0		110	70-130		
Dibromomethane	24			ug/l	20.0		120	70-130		
2-Hexanone	21			ug/l	20.0		104	70-130		
4-Methyl-2-pentanone	22			ug/l	20.0		110	70-130		
Styrene	22			ug/l	20.0		111	70-130		
o-Xylene	25			ug/l	20.0		124	70-130		
m&p-Xylene	46			ug/l	40.0		115	70-130		
Dichlorodifluoromethane	19			ug/l	20.0		97.4	70-130		
Ethylbenzene	24			ug/l	20.0		120	60-140		
Surrogate: 4-Bromofluorobenzene			*50.3*	ug/l	*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*50.2*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8			*50.5*	ug/l	*50.0*		*101*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B9A0502 - Purge-Trap										
Blank (B9A0502-BLK1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
2-Chloroethylvinyl ether	ND		1	ug/l						
Surrogate: 4-Bromofluorobenzene			*45.6*	ug/l	*50.0*		*91.2*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*51.0*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: Toluene-d8			*46.1*	ug/l	*50.0*		*92.1*	*70-130*		
LCS (B9A0502-BS1)					Prepared: 01/11/19 Analyzed: 01/12/19					
Acrolein	20			ug/l	20.0		98.2	60-140		
Acrylonitrile	22			ug/l	20.0		108	60-140		
2-Chloroethylvinyl ether	19			ug/l	40.0		46.4	1-225		
Surrogate: 4-Bromofluorobenzene			*50.0*	ug/l	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.6*	ug/l	*50.0*		*99.1*	*70-130*		
Surrogate: Toluene-d8			*48.9*	ug/l	*50.0*		*97.8*	*70-130*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

Microbac Laboratories, Inc. - Dayville

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SUBCONTRACT ORDER

D9A0898

SENDING LABORATORY:

Microbac Laboratories, Inc. - Dayville
61 Louisa Viens Drive
Dayville, CT 06241
Phone: 860.774.6814
Project Manager: Katherine A. Wall

RECEIVING LABORATORY:

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
Phone: 888-863-8522

Project Info:

Project Type: ENV-WasteWater
Project Location: Massachusetts
Report TAT: [redacted]
Due: ~~01/24/2019 17:00~~

Sample ID: D9A0898-01 **Matrix: Groundwater** **Sampled: 01/10/2019 12:57**

Analysis	Method	Analysis Due	Expires
624.1 VOC [redacted]	EPA 624.1	~~01/17/2019 12:00~~	01/24/2019 12:57
MWRA list			

9A1 1018o

Released By	Date	Received By	Date
			1/11/19 0830
	1/11/19 1038		1/11/19 10:38

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1212

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Melisa L. Montgomery
QA Officer

Wednesday, January 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9A1212

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/15/2019
Reported: 01/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A16	D9A1212-01	Wastewater	Grab		01/15/19 13:25	01/15/19 15:55
Well #16 (Filtered)	D9A1212-02	Wastewater	Grab		01/15/19 13:25	01/15/19 15:55

Analytical Testing Parameters

Client Sample ID:	Well # A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1212-01	**Collection Date:**	01/15/2019 13:25

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.105**	0.100	mg/L		01/17/19 1443	01/18/19 1524	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0159**	0.0106	mg/L		01/21/19 0904	01/21/19 1113	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**11.9**	1.00	mg/L			01/22/19 1944	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**95.3**	4.00	mg/L			01/17/19 1046	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**2.01**	0.0500	mg/L			01/16/19 1942	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/16/19 1942	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 3010A/EPA 200.7, Rv. 4.4							
Boron	**0.0326**	0.0050	mg/L	**Y1**	01/17/19 1444	01/21/19 1814	BRC
Copper	**0.0031**	0.0020	mg/L	**R3**	01/17/19 1444	01/18/19 1229	BRC
Sodium	**54.3**	1.00	mg/L		01/17/19 1444	01/18/19 1229	BRC

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		01/18/19 1229	MRB
Acrolein	<20.0	20.0	ug/L			01/18/19 1138	MRB
Acrylonitrile	<20.0	20.0	ug/L			01/18/19 1229	MRB
Benzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Bromodichloromethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
Bromoform	<5.00	5.00	ug/L			01/18/19 1229	MRB
Bromomethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1229	MRB
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
Carbon tetrachloride	<5.00	5.00	ug/L			01/18/19 1229	MRB
Chlorobenzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			01/18/19 1229	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/18/19 1138	MRB
Chloroform	<4.00	4.00	ug/L			01/18/19 1229	MRB
Chloromethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
Dibromochloromethane	<5.00	5.00	ug/L			01/18/19 1229	MRB

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CERTIFICATE OF ANALYSIS

D9A1212

Client Sample ID:	Well # A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1212-01	**Collection Date:**	01/15/2019 13:25

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
1,2-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
1,3-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
1,4-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
1,2-Dichloroethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
1,1-Dichloroethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
1,1-Dichloroethene	<5.00	5.00	ug/L			01/18/19 1229	MRB
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			01/18/19 1229	MRB
1,2-Dichloropropane	<5.00	5.00	ug/L			01/18/19 1229	MRB
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			01/18/19 1229	MRB
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Ethylbenzene	<5.00	5.00	ug/L			01/18/19 1229	MRB
2-Hexanone (MBK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1229	MRB
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			01/18/19 1229	MRB
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1229	MRB
Styrene	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
Tetrachloroethene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Toluene	<5.00	5.00	ug/L			01/18/19 1229	MRB
1,1,2-Trichloroethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
1,1,1-Trichloroethane	<5.00	5.00	ug/L			01/18/19 1229	MRB
Trichloroethene	<5.00	5.00	ug/L			01/18/19 1229	MRB
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			01/18/19 1229	MRB
Vinyl chloride	<5.00	5.00	ug/L			01/18/19 1229	MRB
m,p-Xylene	<10.0	10.0	ug/L	**Y1**		01/18/19 1229	MRB
o-Xylene	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
Vinyl acetate	<5.00	5.00	ug/L	**Y1**		01/18/19 1229	MRB
Surrogate: 4-Bromofluorobenzene	100	Limit: 70-130	% Rec			01/18/19 1229	MRB
Surrogate: 4-Bromofluorobenzene	99.1	Limit: 70-130	% Rec			01/18/19 1138	MRB
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 70-130	% Rec			01/18/19 1229	MRB
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 70-130	% Rec			01/18/19 1138	MRB
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			01/18/19 1138	MRB
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			01/18/19 1229	MRB

CERTIFICATE OF ANALYSIS

D9A1212

Client Sample ID:	Well #16 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1212-02	**Collection Date:**	01/15/2019 13:25

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0180**	0.0100	mg/L		01/15/19 1741	01/16/19 2123	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90752-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90752-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.940	0.0100	mg/L	1.00		93.8	90-110			
Duplicate (DA90752-DUP1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.495	0.0100	mg/L		0.527			6.26	20	A21
Matrix Spike (DA90752-MS1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.47	0.0100	mg/L	1.00	0.527	94.4	90-110			A21
Matrix Spike (DA90752-MS2)	**Source: D9A1228-08**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.41	0.0100	mg/L	1.00	0.452	95.1	90-110			A21
Batch DA90853 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90853-BLK1)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90853-BS1)			Prepared & Analyzed: 01/16/2019							
Nitrate as N	5.15	0.0500	mg/L	5.00		103	90-110			
LCS (DA90853-BS2)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DA90853-DUP1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	0.0488	0.0100	mg/L		0.0451			7.88	20	
Nitrate as N	11.0	0.100	mg/L		10.9			1.11	20	
Matrix Spike (DA90853-MS1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.0451	101	75-125			
Nitrate as N	15.0	0.200	mg/L	5.00	10.9	82.9	75-125			
Matrix Spike Dup (DA90853-MSD1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0451	101	75-125	0.606	20	
Nitrate as N	15.2	0.200	mg/L	5.00	10.9	86.2	75-125	1.10	20	
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90893-BLK1)			Prepared & Analyzed: 01/17/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90893-BS1)			Prepared & Analyzed: 01/17/2019							
Chloride	19.5	2.00	mg/L	20.0		97.7	90-110			
Duplicate (DA90893-DUP1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	14.7	2.00	mg/L		14.8			0.815	20	
Matrix Spike (DA90893-MS1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.1	2.00	mg/L	20.0	14.8	101	75-125			
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.4	2.00	mg/L	20.0	14.8	103	75-125	0.674	20	
Batch DA90943 - Wet-Digestion-W - EPA 351.1										
Blank (DA90943-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90943-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	4.85	0.100	mg/L	5.00		97.0	90-110			
Duplicate (DA90943-DUP1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	0.510	0.100	mg/L		0.375			30.6	20	R3
Matrix Spike (DA90943-MS1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	9.94	0.100	mg/L	10.0	0.375	95.6	90-110			
Matrix Spike (DA90943-MS2)	**Source: D9A1276-05**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	27.8	0.200	mg/L	10.0	19.1	87.4	90-110			M2
Batch DA91051 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA91051-BLK1)			Prepared & Analyzed: 01/21/2019							
Phosphorus - Total as P	ND	0.0106	mg/L							
LCS (DA91051-BS1)			Prepared & Analyzed: 01/21/2019							
Phosphorus - Total as P	0.980	0.0106	mg/L	1.00		98.0	90-110			
Duplicate (DA91051-DUP1)	**Source: L9A0256-01**		Prepared & Analyzed: 01/21/2019							
Phosphorus - Total as P	0.537	0.0106	mg/L		0.530			1.20	20	
Matrix Spike (DA91051-MS1)	**Source: L9A0256-01**		Prepared & Analyzed: 01/21/2019							
Phosphorus - Total as P	1.37	0.0106	mg/L	0.783	0.530	107	90-110			
Matrix Spike (DA91051-MS2)	**Source: L9A0257-01**		Prepared & Analyzed: 01/21/2019							
Phosphorus - Total as P	0.934	0.0106	mg/L	0.783	0.0978	107	90-110			
Batch DA91199 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA91199-DUP1)	**Source: D9A1215-01**		Prepared & Analyzed: 01/22/2019							
Alkalinity to pH 4.5	28.7	1.00	mg/L		28.7			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Blank (DA90917-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90917-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.461	0.0050	mg/L	0.500		92.2	85-115			
Copper	0.472	0.0020	mg/L	0.500		94.5	85-115			
Sodium	9.74	1.00	mg/L	10.5		92.8	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Duplicate (DA90917-DUP1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.0012	0.0020	mg/L		0.0031			90.2	20	R3
Sodium	56.8	1.00	mg/L		54.3			4.62	20	
Duplicate (DA90917-DUP2)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.0267	0.0050	mg/L		0.0326			19.9	20	
Matrix Spike (DA90917-MS1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.512	0.0020	mg/L	0.500	0.0031	102	70-130			
Sodium	66.2	1.00	mg/L	10.5	54.3	114	70-130			
Matrix Spike (DA90917-MS2)	**Source: D9A1213-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.708	0.0050	mg/L	0.500	0.214	98.7	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0033	103	70-130			
Sodium	416	1.00	mg/L	10.5	416	NR	70-130			M6
Matrix Spike (DA90917-MS3)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0326	103	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Blank (DA91088-BLK1)			Prepared & Analyzed: 01/18/2019							
Acrolein	ND	20.0	ug/L							
Acrylonitrile	ND	20.0	ug/L							
Benzene	ND	5.00	ug/L							
Bromodichloromethane	ND	5.00	ug/L							
Bromoform	ND	5.00	ug/L							
Bromomethane	ND	5.00	ug/L							
Carbon tetrachloride	ND	5.00	ug/L							
Chlorobenzene	ND	5.00	ug/L							
Chloroethane (Ethyl chloride)	ND	5.00	ug/L							
2-Chloroethyl vinyl ether	ND	5.00	ug/L							
Chloroform	ND	4.00	ug/L							
Dibromochloromethane	ND	5.00	ug/L							
1,2-Dichlorobenzene	ND	5.00	ug/L							
1,3-Dichlorobenzene	ND	5.00	ug/L							
1,4-Dichlorobenzene	ND	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L							
1,2-Dichloroethane	ND	5.00	ug/L							
1,1-Dichloroethane	ND	5.00	ug/L							
cis-1,2-Dichloroethene	ND	5.00	ug/L							
1,1-Dichloroethene	ND	5.00	ug/L							
trans-1,2-Dichloroethene	ND	4.00	ug/L							
1,2-Dichloropropane	ND	5.00	ug/L							
cis-1,3-Dichloropropene	ND	5.00	ug/L							
trans-1,3-Dichloropropene	ND	5.00	ug/L							
Ethylbenzene	ND	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Blank (DA91088-BLK1)			Prepared & Analyzed: 01/18/2019							
Methyl tert-butyl ether (MTBE)	ND	5.00	ug/L							
Methylene chloride (Dichloromethane)	ND	5.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	5.00	ug/L							
Tetrachloroethene	ND	5.00	ug/L							
Toluene	ND	5.00	ug/L							
1,1,2-Trichloroethane	ND	5.00	ug/L							
1,1,1-Trichloroethane	ND	5.00	ug/L							
Trichloroethene	ND	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	ND	5.00	ug/L							
Vinyl chloride	ND	5.00	ug/L							
m,p-Xylene	ND	10.0	ug/L							
o-Xylene	ND	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*70-130*			
LCS (DA91088-BS1)			Prepared & Analyzed: 01/18/2019							
Acetone	54.3	10.0	ug/L	50.0		109	65-133			
Acrolein	49.6	20.0	ug/L	50.0		99.3	60-140			
Acrylonitrile	54.3	20.0	ug/L	50.0		109	60-140			
Benzene	50.1	5.00	ug/L	50.0		100	65-135			
Bromodichloromethane	49.5	5.00	ug/L	50.0		99.0	65-135			
Bromoform	50.6	5.00	ug/L	50.0		101	70-130			
Bromomethane	54.7	5.00	ug/L	50.0		109	15-185			
2-Butanone (MEK)	60.5	10.0	ug/L	50.0		121	77-140			
Carbon disulfide	53.5	5.00	ug/L	50.0		107	77-141			
Carbon tetrachloride	50.0	5.00	ug/L	50.0		100	70-130			
Chlorobenzene	52.2	5.00	ug/L	50.0		104	65-135			
Chloroethane (Ethyl chloride)	57.1	5.00	ug/L	50.0		114	40-160			
2-Chloroethyl vinyl ether	22.1	5.00	ug/L	50.0		44.2	1-225			
Chloroform	46.0	4.00	ug/L	50.0		92.1	70-135			
Chloromethane	47.9	5.00	ug/L	50.0		95.7	1-205			
Dibromochloromethane	49.8	5.00	ug/L	50.0		99.7	70-135			
Dibromomethane (Methylene bromide)	47.2	5.00	ug/L	50.0		94.4	76-126			
1,2-Dichlorobenzene	53.2	5.00	ug/L	50.0		106	65-135			
1,3-Dichlorobenzene	52.2	5.00	ug/L	50.0		104	70-130			
1,4-Dichlorobenzene	50.7	5.00	ug/L	50.0		101	65-135			
Dichlorodifluoromethane (Freon-12)	39.7	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	51.0	5.00	ug/L	50.0		102	70-130			
1,1-Dichloroethane	45.7	5.00	ug/L	50.0		91.5	70-130			
cis-1,2-Dichloroethene	49.1	5.00	ug/L	50.0		98.2	82-137			
1,1-Dichloroethene	47.2	5.00	ug/L	50.0		94.4	50-150			
trans-1,2-Dichloroethene	47.8	4.00	ug/L	50.0		95.6	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	46.8	5.00	ug/L	50.0		93.6	50-150			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
LCS (DA91088-BS1)			Prepared & Analyzed: 01/18/2019							
Ethylbenzene	52.3	5.00	ug/L	50.0		105	60-140			
2-Hexanone (MBK)	59.7	10.0	ug/L	50.0		119	74-134			
Methyl tert-butyl ether (MTBE)	53.8	5.00	ug/L	50.0		108	81-140			
Methylene chloride (Dichloromethane)	48.6	5.00	ug/L	50.0		97.1	60-140			
4-Methyl-2-pentanone (MIBK)	58.5	10.0	ug/L	50.0		117	73-142			
Styrene	54.2	5.00	ug/L	50.0		108	82-125			
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0		102	60-140			
Tetrachloroethene	48.5	5.00	ug/L	50.0		96.9	70-130			
Toluene	51.9	5.00	ug/L	50.0		104	70-130			
1,1,2-Trichloroethane	48.6	5.00	ug/L	50.0		97.1	70-130			
1,1,1-Trichloroethane	50.7	5.00	ug/L	50.0		101	70-130			
Trichloroethene	48.2	5.00	ug/L	50.0		96.3	65-135			
Trichlorofluoromethane (Freon 11)	57.4	5.00	ug/L	50.0		115	50-150			
Vinyl chloride	48.4	5.00	ug/L	50.0		96.7	5-195			
m,p-Xylene	107	10.0	ug/L	100		107	80-122			
o-Xylene	56.1	5.00	ug/L	50.0		112	81-125			
Vinyl acetate	52.4	5.00	ug/L	50.0		105	60-140			
Surrogate: 4-Bromofluorobenzene	*51.4*		ug/L	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DA91088-MS1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
Acetone	46.0	10.0	ug/L	50.0	2.96	86.2	0-200			
Acrylonitrile	47.3	20.0	ug/L	50.0	ND	94.5	40-160			
Benzene	46.1	5.00	ug/L	50.0	ND	92.2	37-151			
Bromodichloromethane	46.2	5.00	ug/L	50.0	2.06	88.3	35-155			
Bromoform	44.5	5.00	ug/L	50.0	1.56	86.0	45-169			
Bromomethane	44.0	5.00	ug/L	50.0	ND	88.0	1-242			
2-Butanone (MEK)	46.0	10.0	ug/L	50.0	ND	92.0	0-200			
Carbon disulfide	46.3	5.00	ug/L	50.0	ND	92.6	0-200			
Carbon tetrachloride	47.3	5.00	ug/L	50.0	ND	94.6	70-140			
Chlorobenzene	46.5	5.00	ug/L	50.0	ND	93.1	37-160			
Chloroethane (Ethyl chloride)	39.5	5.00	ug/L	50.0	ND	78.9	14-230			
Chloroform	43.1	4.00	ug/L	50.0	2.62	81.0	51-138			
Chloromethane	41.4	5.00	ug/L	50.0	ND	82.8	1-273			
Dibromochloromethane	46.5	5.00	ug/L	50.0	2.41	88.2	53-149			
Dibromomethane (Methylene bromide)	41.8	5.00	ug/L	50.0	ND	83.6	0-200			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0	ND	95.7	18-190			
1,3-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	59-156			
1,4-Dichlorobenzene	44.9	5.00	ug/L	50.0	ND	89.7	18-190			
Dichlorodifluoromethane (Freon-12)	32.9	5.00	ug/L	50.0	ND	65.7	0-200			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0	ND	91.7	49-155			
1,1-Dichloroethane	41.4	5.00	ug/L	50.0	ND	82.7	59-155			
cis-1,2-Dichloroethene	44.3	5.00	ug/L	50.0	ND	88.6	0-200			
1,1-Dichloroethene	43.7	5.00	ug/L	50.0	ND	87.5	1-234			
trans-1,2-Dichloroethene	43.9	4.00	ug/L	50.0	ND	87.8	54-156			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Matrix Spike (DA91088-MS1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
1,2-Dichloropropane	44.4	5.00	ug/L	50.0	ND	88.9	1-210			
cis-1,3-Dichloropropene	45.0	5.00	ug/L	50.0	ND	90.0	1-227			
trans-1,3-Dichloropropene	41.1	5.00	ug/L	50.0	ND	82.2	17-183			
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.3	37-162			
2-Hexanone (MBK)	45.6	10.0	ug/L	50.0	ND	91.2	0-200			
Methyl tert-butyl ether (MTBE)	47.6	5.00	ug/L	50.0	ND	95.1	0-200			
Methylene chloride (Dichloromethane)	44.1	5.00	ug/L	50.0	ND	88.3	1-221			
4-Methyl-2-pentanone (MIBK)	45.4	10.0	ug/L	50.0	ND	90.9	0-200			
Styrene	47.3	5.00	ug/L	50.0	ND	94.5	0-200			
1,1,2,2-Tetrachloroethane	44.6	5.00	ug/L	50.0	ND	89.2	46-157			
Tetrachloroethene	45.0	5.00	ug/L	50.0	ND	90.0	64-148			
Toluene	47.6	5.00	ug/L	50.0	ND	95.3	47-150			
1,1,2-Trichloroethane	41.9	5.00	ug/L	50.0	ND	83.8	52-150			
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.4	52-162			
Trichloroethene	45.8	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	45.6	5.00	ug/L	50.0	ND	91.1	17-181			
Vinyl chloride	40.1	5.00	ug/L	50.0	ND	80.2	1-251			
m,p-Xylene	95.8	10.0	ug/L	100	ND	95.8	0-200			
o-Xylene	48.7	5.00	ug/L	50.0	ND	97.4	0-200			
Vinyl acetate	39.2	5.00	ug/L	50.0	ND	78.4	60-140			
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.1*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
Matrix Spike (DA91088-MS2)	**Source: D9A1306-06RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	42.1	20.0	ug/L	50.0	0.640	82.8	40-160			
2-Chloroethyl vinyl ether	28.7	5.00	ug/L	50.0	ND	57.3	1-305			
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DA91088-MSD1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
Acetone	48.0	10.0	ug/L	50.0	2.96	90.0	0-200	4.06	200	
Acrylonitrile	49.8	20.0	ug/L	50.0	ND	99.6	40-160	5.27	60	
Benzene	47.0	5.00	ug/L	50.0	ND	94.0	37-151	2.02	61	
Bromodichloromethane	48.1	5.00	ug/L	50.0	2.06	92.0	35-155	3.97	56	
Bromoform	47.0	5.00	ug/L	50.0	1.56	90.9	45-169	5.35	42	
Bromomethane	44.4	5.00	ug/L	50.0	ND	88.8	1-242	0.995	61	
2-Butanone (MEK)	49.1	10.0	ug/L	50.0	ND	98.1	0-200	6.41	200	
Carbon disulfide	46.8	5.00	ug/L	50.0	ND	93.5	0-200	1.03	200	
Carbon tetrachloride	48.9	5.00	ug/L	50.0	ND	97.7	70-140	3.18	41	
Chlorobenzene	47.5	5.00	ug/L	50.0	ND	94.9	37-160	1.98	53	
Chloroethane (Ethyl chloride)	41.6	5.00	ug/L	50.0	ND	83.1	14-230	5.18	78	
Chloroform	44.3	4.00	ug/L	50.0	2.62	83.3	51-138	2.63	54	
Chloromethane	42.7	5.00	ug/L	50.0	ND	85.3	1-273	2.93	60	
Dibromochloromethane	47.1	5.00	ug/L	50.0	2.41	89.4	53-149	1.30	50	
Dibromomethane (Methylene bromide)	43.3	5.00	ug/L	50.0	ND	86.6	0-200	3.50	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Matrix Spike Dup (DA91088-MSD1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
1,2-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.1	18-190	1.73	57	
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0	ND	92.7	59-156	0.129	43	
1,4-Dichlorobenzene	45.0	5.00	ug/L	50.0	ND	90.0	18-190	0.312	57	
Dichlorodifluoromethane (Freon-12)	34.5	5.00	ug/L	50.0	ND	68.9	0-200	4.75	200	
1,2-Dichloroethane	47.4	5.00	ug/L	50.0	ND	94.9	49-155	3.37	49	
1,1-Dichloroethane	43.4	5.00	ug/L	50.0	ND	86.7	59-155	4.75	40	
cis-1,2-Dichloroethene	46.3	5.00	ug/L	50.0	ND	92.7	0-200	4.46	200	
1,1-Dichloroethene	45.3	5.00	ug/L	50.0	ND	90.6	1-234	3.50	32	
trans-1,2-Dichloroethene	44.1	4.00	ug/L	50.0	ND	88.3	54-156	0.523	45	
1,2-Dichloropropane	46.5	5.00	ug/L	50.0	ND	93.0	1-210	4.51	55	
cis-1,3-Dichloropropene	45.7	5.00	ug/L	50.0	ND	91.4	1-227	1.48	58	
trans-1,3-Dichloropropene	41.8	5.00	ug/L	50.0	ND	83.6	17-183	1.71	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	94.9	37-162	1.76	63	
2-Hexanone (MBK)	48.3	10.0	ug/L	50.0	ND	96.7	0-200	5.88	200	
Methyl tert-butyl ether (MTBE)	50.1	5.00	ug/L	50.0	ND	100	0-200	5.16	200	
Methylene chloride (Dichloromethane)	44.7	5.00	ug/L	50.0	ND	89.5	1-221	1.35	28	
4-Methyl-2-pentanone (MIBK)	47.7	10.0	ug/L	50.0	ND	95.3	0-200	4.79	200	
Styrene	47.1	5.00	ug/L	50.0	ND	94.2	0-200	0.339	200	
1,1,2,2-Tetrachloroethane	45.5	5.00	ug/L	50.0	ND	91.0	46-157	1.93	61	
Tetrachloroethene	44.7	5.00	ug/L	50.0	ND	89.5	64-148	0.602	39	
Toluene	47.0	5.00	ug/L	50.0	ND	93.9	47-150	1.40	41	
1,1,2-Trichloroethane	44.0	5.00	ug/L	50.0	ND	88.0	52-150	4.93	45	
1,1,1-Trichloroethane	48.6	5.00	ug/L	50.0	ND	97.2	52-162	1.89	36	
Trichloroethene	45.1	5.00	ug/L	50.0	ND	90.2	70-157	1.39	48	
Trichlorofluoromethane (Freon 11)	46.0	5.00	ug/L	50.0	ND	91.9	17-181	0.874	84	
Vinyl chloride	40.7	5.00	ug/L	50.0	ND	81.4	1-251	1.39	66	
m,p-Xylene	97.8	10.0	ug/L	100	ND	97.8	0-200	2.02	200	
o-Xylene	49.4	5.00	ug/L	50.0	ND	98.8	0-200	1.43	200	
Vinyl acetate	41.3	5.00	ug/L	50.0	ND	82.6	60-140	5.27	25	
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.4*	*70-130*			
Matrix Spike Dup (DA91088-MSD2)	**Source: D9A1306-06RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	37.8	20.0	ug/L	50.0	0.640	74.3	40-160	10.6	60	
2-Chloroethyl vinyl ether	26.8	5.00	ug/L	50.0	ND	53.5	1-305	6.89	71	
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.6*		ug/L	*50.0*		*99.2*	*70-130*			
Surrogate: Toluene-d8	*49.0*		ug/L	*50.0*		*98.1*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 01/23/2019 15:16

MICROBAC

D 9 A 1 2 1 2

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY
Lab WO#
Project Manager

Copy of Report To

CUSTOMER: **VEOLIA WATER NORTH AMERICA**
ADDRESS: **131 CAMELOT DRIVE**
PLYMOUTH, MA 02360
DELIVERY: **MICHAEL EMOND**
E-MAIL:
PHONE: 508-830-4159 FAX: 508-732-0238

Invoice Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: **PLYMOUTH, MA WWTP**
LOCATION: **ID 11773**
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A16 (250 mL)	**1/15/2019**	13:25		X	WW	1	X	X											X			
Well # A16 (250 mL)	**1/15/2019**	13:25		X	WW	1			X	X								X				
Well # A16 (250 mL)(filtered)	**1/15/2019**	13:25		X	WW	1					X							X				
Well # A16 (500 mL)	**1/15/2019**	13:25		X	WW	1						X						X				
Well # A16 (500 mL)	**1/15/2019**	13:25		X	WW	1							X					X				
Well # A16 (250 mL)	**1/15/2019**	13:25		X	WW	1			PRESERVATIVE VERIFIED Initials PL					X	X	X					X	
Well # A16 (40 mL vial)	**1/15/2019**	13:25		X	WW	2											X	X				
Well # A16 (40 mL vial)	**1/15/2019**	13:25		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-15-19	
RECEIVED:		
RELINQUISHED:	1-15-19	1354
RECEIVED:	1-15-19	1354
RELINQUISHED:	1-15-19	1555
RECEIVED:	1-15-19	1555

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1213

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Melisa L. Montgomery
QA Officer

Wednesday, January 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9A1213

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/15/2019
Reported: 01/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A8	D9A1213-01	Wastewater	Grab		01/15/19 13:00	01/15/19 15:55
Well #A8 (Filtered)	D9A1213-02	Wastewater	Grab		01/15/19 13:00	01/15/19 15:55

Analytical Testing Parameters

Client Sample ID: Well #A8
Sample Matrix: Wastewater
Lab Sample ID: D9A1213-01
Collected By: Customer
Collection Date: 01/15/2019 13:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.407**	0.400	mg/L		01/17/19 1443	01/18/19 1525	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**4.26**	0.0400	mg/L		01/17/19 1946	01/18/19 1038	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**120**	1.00	mg/L			01/22/19 1944	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**594**	40.0	mg/L			01/17/19 1046	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**5.00**	0.0500	mg/L			01/16/19 1944	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/16/19 1944	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 3010A/EPA 200.7, Rv. 4.4							
Boron	**0.214**	0.0050	mg/L	**Y1**	01/17/19 1444	01/18/19 1331	BRC
Copper	**0.0033**	0.0020	mg/L		01/17/19 1444	01/18/19 1331	BRC
Sodium	**416**	1.00	mg/L	**M6**	01/17/19 1444	01/18/19 1331	BRC

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		01/18/19 1254	MRB
Acrolein	<20.0	20.0	ug/L			01/18/19 1203	MRB
Acrylonitrile	<20.0	20.0	ug/L			01/18/19 1254	MRB
Benzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Bromodichloromethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
Bromoform	<5.00	5.00	ug/L			01/18/19 1254	MRB
Bromomethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1254	MRB
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
Carbon tetrachloride	<5.00	5.00	ug/L			01/18/19 1254	MRB
Chlorobenzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			01/18/19 1254	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/18/19 1203	MRB
Chloroform	**12.6**	4.00	ug/L			01/18/19 1254	MRB
Chloromethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
Dibromochloromethane	<5.00	5.00	ug/L			01/18/19 1254	MRB

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CERTIFICATE OF ANALYSIS

D9A1213

Client Sample ID:	Well #A8		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1213-01	**Collection Date:**	01/15/2019 13:00

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
1,2-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
1,3-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
1,4-Dichlorobenzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
1,2-Dichloroethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
1,1-Dichloroethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
1,1-Dichloroethene	<5.00	5.00	ug/L			01/18/19 1254	MRB
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			01/18/19 1254	MRB
1,2-Dichloropropane	<5.00	5.00	ug/L			01/18/19 1254	MRB
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			01/18/19 1254	MRB
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Ethylbenzene	<5.00	5.00	ug/L			01/18/19 1254	MRB
2-Hexanone (MBK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1254	MRB
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			01/18/19 1254	MRB
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	**Y1**		01/18/19 1254	MRB
Styrene	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
Tetrachloroethene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Toluene	<5.00	5.00	ug/L			01/18/19 1254	MRB
1,1,2-Trichloroethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
1,1,1-Trichloroethane	<5.00	5.00	ug/L			01/18/19 1254	MRB
Trichloroethene	<5.00	5.00	ug/L			01/18/19 1254	MRB
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			01/18/19 1254	MRB
Vinyl chloride	<5.00	5.00	ug/L			01/18/19 1254	MRB
m,p-Xylene	<10.0	10.0	ug/L	**Y1**		01/18/19 1254	MRB
o-Xylene	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
Vinyl acetate	<5.00	5.00	ug/L	**Y1**		01/18/19 1254	MRB
Surrogate: 4-Bromofluorobenzene	100	Limit: 70-130	% Rec			01/18/19 1254	MRB
Surrogate: 4-Bromofluorobenzene	98.1	Limit: 70-130	% Rec			01/18/19 1203	MRB
Surrogate: 1,2-Dichloroethane-d4	105	Limit: 70-130	% Rec			01/18/19 1254	MRB
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 70-130	% Rec			01/18/19 1203	MRB
Surrogate: Toluene-d8	99.5	Limit: 70-130	% Rec			01/18/19 1203	MRB
Surrogate: Toluene-d8	103	Limit: 70-130	% Rec			01/18/19 1254	MRB

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1213

Client Sample ID:	Well #A8 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1213-02	**Collection Date:**	01/15/2019 13:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**4.06**	0.0400	mg/L		01/15/19 1741	01/16/19 2215	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90752-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90752-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.940	0.0100	mg/L	1.00		93.8	90-110			
Duplicate (DA90752-DUP1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.495	0.0100	mg/L		0.527			6.26	20	A21
Matrix Spike (DA90752-MS1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.47	0.0100	mg/L	1.00	0.527	94.4	90-110			A21
Matrix Spike (DA90752-MS2)	**Source: D9A1228-08**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.41	0.0100	mg/L	1.00	0.452	95.1	90-110			A21
Batch DA90853 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90853-BLK1)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90853-BS1)			Prepared & Analyzed: 01/16/2019							
Nitrate as N	5.15	0.0500	mg/L	5.00		103	90-110			
LCS (DA90853-BS2)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DA90853-DUP1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	0.0488	0.0100	mg/L		0.0451			7.88	20	
Nitrate as N	11.0	0.100	mg/L		10.9			1.11	20	
Matrix Spike (DA90853-MS1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.0451	101	75-125			
Nitrate as N	15.0	0.200	mg/L	5.00	10.9	82.9	75-125			
Matrix Spike Dup (DA90853-MSD1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0451	101	75-125	0.606	20	
Nitrate as N	15.2	0.200	mg/L	5.00	10.9	86.2	75-125	1.10	20	
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90893-BLK1)			Prepared & Analyzed: 01/17/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90893-BS1)			Prepared & Analyzed: 01/17/2019							
Chloride	19.5	2.00	mg/L	20.0		97.7	90-110			
Duplicate (DA90893-DUP1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	14.7	2.00	mg/L		14.8			0.815	20	
Matrix Spike (DA90893-MS1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.1	2.00	mg/L	20.0	14.8	101	75-125			
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.4	2.00	mg/L	20.0	14.8	103	75-125	0.674	20	
Batch DA90943 - Wet-Digestion-W - EPA 351.1										
Blank (DA90943-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90943-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	4.85	0.100	mg/L	5.00		97.0	90-110			
Duplicate (DA90943-DUP1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	0.510	0.100	mg/L		0.375			30.6	20	R3
Matrix Spike (DA90943-MS1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	9.94	0.100	mg/L	10.0	0.375	95.6	90-110			
Matrix Spike (DA90943-MS2)	**Source: D9A1276-05**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	27.8	0.200	mg/L	10.0	19.1	87.4	90-110			M2
Batch DA90975 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90975-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90975-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	0.972	0.0100	mg/L	1.00		97.2	90-110			
Duplicate (DA90975-DUP1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	1.88	0.0100	mg/L		1.88			0.113	20	
Matrix Spike (DA90975-MS1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.16	0.0200	mg/L	1.25	1.88	102	90-110			
Matrix Spike (DA90975-MS2)	**Source: D9A1155-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.75	0.0400	mg/L	1.25	2.84	72.2	90-110			M2
Batch DA91199 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA91199-DUP1)	**Source: D9A1215-01**		Prepared & Analyzed: 01/22/2019							
Alkalinity to pH 4.5	28.7	1.00	mg/L		28.7			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Blank (DA90917-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90917-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.461	0.0050	mg/L	0.500		92.2	85-115			
Copper	0.472	0.0020	mg/L	0.500		94.5	85-115			
Sodium	9.74	1.00	mg/L	10.5		92.8	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Duplicate (DA90917-DUP1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.0012	0.0020	mg/L		0.0031			90.2	20	R3
Sodium	56.8	1.00	mg/L		54.3			4.62	20	
Duplicate (DA90917-DUP2)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.0267	0.0050	mg/L		0.0326			19.9	20	
Matrix Spike (DA90917-MS1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.512	0.0020	mg/L	0.500	0.0031	102	70-130			
Sodium	66.2	1.00	mg/L	10.5	54.3	114	70-130			
Matrix Spike (DA90917-MS2)	**Source: D9A1213-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.708	0.0050	mg/L	0.500	0.214	98.7	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0033	103	70-130			
Sodium	416	1.00	mg/L	10.5	416	NR	70-130			M6
Matrix Spike (DA90917-MS3)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0326	103	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Blank (DA91088-BLK1)			Prepared & Analyzed: 01/18/2019							
Acrolein	ND	20.0	ug/L							
Acrylonitrile	ND	20.0	ug/L							
Benzene	ND	5.00	ug/L							
Bromodichloromethane	ND	5.00	ug/L							
Bromoform	ND	5.00	ug/L							
Bromomethane	ND	5.00	ug/L							
Carbon tetrachloride	ND	5.00	ug/L							
Chlorobenzene	ND	5.00	ug/L							
Chloroethane (Ethyl chloride)	ND	5.00	ug/L							
2-Chloroethyl vinyl ether	ND	5.00	ug/L							
Chloroform	ND	4.00	ug/L							
Dibromochloromethane	ND	5.00	ug/L							
1,2-Dichlorobenzene	ND	5.00	ug/L							
1,3-Dichlorobenzene	ND	5.00	ug/L							
1,4-Dichlorobenzene	ND	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L							
1,2-Dichloroethane	ND	5.00	ug/L							
1,1-Dichloroethane	ND	5.00	ug/L							
cis-1,2-Dichloroethene	ND	5.00	ug/L							
1,1-Dichloroethene	ND	5.00	ug/L							
trans-1,2-Dichloroethene	ND	4.00	ug/L							
1,2-Dichloropropane	ND	5.00	ug/L							
cis-1,3-Dichloropropene	ND	5.00	ug/L							
trans-1,3-Dichloropropene	ND	5.00	ug/L							
Ethylbenzene	ND	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Blank (DA91088-BLK1)			Prepared & Analyzed: 01/18/2019							
Methyl tert-butyl ether (MTBE)	ND	5.00	ug/L							
Methylene chloride (Dichloromethane)	ND	5.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	5.00	ug/L							
Tetrachloroethene	ND	5.00	ug/L							
Toluene	ND	5.00	ug/L							
1,1,2-Trichloroethane	ND	5.00	ug/L							
1,1,1-Trichloroethane	ND	5.00	ug/L							
Trichloroethene	ND	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	ND	5.00	ug/L							
Vinyl chloride	ND	5.00	ug/L							
m,p-Xylene	ND	10.0	ug/L							
o-Xylene	ND	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*70-130*			
LCS (DA91088-BS1)			Prepared & Analyzed: 01/18/2019							
Acetone	54.3	10.0	ug/L	50.0		109	65-133			
Acrolein	49.6	20.0	ug/L	50.0		99.3	60-140			
Acrylonitrile	54.3	20.0	ug/L	50.0		109	60-140			
Benzene	50.1	5.00	ug/L	50.0		100	65-135			
Bromodichloromethane	49.5	5.00	ug/L	50.0		99.0	65-135			
Bromoform	50.6	5.00	ug/L	50.0		101	70-130			
Bromomethane	54.7	5.00	ug/L	50.0		109	15-185			
2-Butanone (MEK)	60.5	10.0	ug/L	50.0		121	77-140			
Carbon disulfide	53.5	5.00	ug/L	50.0		107	77-141			
Carbon tetrachloride	50.0	5.00	ug/L	50.0		100	70-130			
Chlorobenzene	52.2	5.00	ug/L	50.0		104	65-135			
Chloroethane (Ethyl chloride)	57.1	5.00	ug/L	50.0		114	40-160			
2-Chloroethyl vinyl ether	22.1	5.00	ug/L	50.0		44.2	1-225			
Chloroform	46.0	4.00	ug/L	50.0		92.1	70-135			
Chloromethane	47.9	5.00	ug/L	50.0		95.7	1-205			
Dibromochloromethane	49.8	5.00	ug/L	50.0		99.7	70-135			
Dibromomethane (Methylene bromide)	47.2	5.00	ug/L	50.0		94.4	76-126			
1,2-Dichlorobenzene	53.2	5.00	ug/L	50.0		106	65-135			
1,3-Dichlorobenzene	52.2	5.00	ug/L	50.0		104	70-130			
1,4-Dichlorobenzene	50.7	5.00	ug/L	50.0		101	65-135			
Dichlorodifluoromethane (Freon-12)	39.7	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	51.0	5.00	ug/L	50.0		102	70-130			
1,1-Dichloroethane	45.7	5.00	ug/L	50.0		91.5	70-130			
cis-1,2-Dichloroethene	49.1	5.00	ug/L	50.0		98.2	82-137			
1,1-Dichloroethene	47.2	5.00	ug/L	50.0		94.4	50-150			
trans-1,2-Dichloroethene	47.8	4.00	ug/L	50.0		95.6	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	46.8	5.00	ug/L	50.0		93.6	50-150			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
LCS (DA91088-BS1)			Prepared & Analyzed: 01/18/2019							
Ethylbenzene	52.3	5.00	ug/L	50.0		105	60-140			
2-Hexanone (MBK)	59.7	10.0	ug/L	50.0		119	74-134			
Methyl tert-butyl ether (MTBE)	53.8	5.00	ug/L	50.0		108	81-140			
Methylene chloride (Dichloromethane)	48.6	5.00	ug/L	50.0		97.1	60-140			
4-Methyl-2-pentanone (MIBK)	58.5	10.0	ug/L	50.0		117	73-142			
Styrene	54.2	5.00	ug/L	50.0		108	82-125			
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0		102	60-140			
Tetrachloroethene	48.5	5.00	ug/L	50.0		96.9	70-130			
Toluene	51.9	5.00	ug/L	50.0		104	70-130			
1,1,2-Trichloroethane	48.6	5.00	ug/L	50.0		97.1	70-130			
1,1,1-Trichloroethane	50.7	5.00	ug/L	50.0		101	70-130			
Trichloroethene	48.2	5.00	ug/L	50.0		96.3	65-135			
Trichlorofluoromethane (Freon 11)	57.4	5.00	ug/L	50.0		115	50-150			
Vinyl chloride	48.4	5.00	ug/L	50.0		96.7	5-195			
m,p-Xylene	107	10.0	ug/L	100		107	80-122			
o-Xylene	56.1	5.00	ug/L	50.0		112	81-125			
Vinyl acetate	52.4	5.00	ug/L	50.0		105	60-140			
Surrogate: 4-Bromofluorobenzene	*51.4*		ug/L	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DA91088-MS1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
Acetone	46.0	10.0	ug/L	50.0	2.96	86.2	0-200			
Acrylonitrile	47.3	20.0	ug/L	50.0	ND	94.5	40-160			
Benzene	46.1	5.00	ug/L	50.0	ND	92.2	37-151			
Bromodichloromethane	46.2	5.00	ug/L	50.0	2.06	88.3	35-155			
Bromoform	44.5	5.00	ug/L	50.0	1.56	86.0	45-169			
Bromomethane	44.0	5.00	ug/L	50.0	ND	88.0	1-242			
2-Butanone (MEK)	46.0	10.0	ug/L	50.0	ND	92.0	0-200			
Carbon disulfide	46.3	5.00	ug/L	50.0	ND	92.6	0-200			
Carbon tetrachloride	47.3	5.00	ug/L	50.0	ND	94.6	70-140			
Chlorobenzene	46.5	5.00	ug/L	50.0	ND	93.1	37-160			
Chloroethane (Ethyl chloride)	39.5	5.00	ug/L	50.0	ND	78.9	14-230			
Chloroform	43.1	4.00	ug/L	50.0	2.62	81.0	51-138			
Chloromethane	41.4	5.00	ug/L	50.0	ND	82.8	1-273			
Dibromochloromethane	46.5	5.00	ug/L	50.0	2.41	88.2	53-149			
Dibromomethane (Methylene bromide)	41.8	5.00	ug/L	50.0	ND	83.6	0-200			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0	ND	95.7	18-190			
1,3-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	59-156			
1,4-Dichlorobenzene	44.9	5.00	ug/L	50.0	ND	89.7	18-190			
Dichlorodifluoromethane (Freon-12)	32.9	5.00	ug/L	50.0	ND	65.7	0-200			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0	ND	91.7	49-155			
1,1-Dichloroethane	41.4	5.00	ug/L	50.0	ND	82.7	59-155			
cis-1,2-Dichloroethene	44.3	5.00	ug/L	50.0	ND	88.6	0-200			
1,1-Dichloroethene	43.7	5.00	ug/L	50.0	ND	87.5	1-234			
trans-1,2-Dichloroethene	43.9	4.00	ug/L	50.0	ND	87.8	54-156			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Matrix Spike (DA91088-MS1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
1,2-Dichloropropane	44.4	5.00	ug/L	50.0	ND	88.9	1-210			
cis-1,3-Dichloropropene	45.0	5.00	ug/L	50.0	ND	90.0	1-227			
trans-1,3-Dichloropropene	41.1	5.00	ug/L	50.0	ND	82.2	17-183			
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.3	37-162			
2-Hexanone (MBK)	45.6	10.0	ug/L	50.0	ND	91.2	0-200			
Methyl tert-butyl ether (MTBE)	47.6	5.00	ug/L	50.0	ND	95.1	0-200			
Methylene chloride (Dichloromethane)	44.1	5.00	ug/L	50.0	ND	88.3	1-221			
4-Methyl-2-pentanone (MIBK)	45.4	10.0	ug/L	50.0	ND	90.9	0-200			
Styrene	47.3	5.00	ug/L	50.0	ND	94.5	0-200			
1,1,2,2-Tetrachloroethane	44.6	5.00	ug/L	50.0	ND	89.2	46-157			
Tetrachloroethene	45.0	5.00	ug/L	50.0	ND	90.0	64-148			
Toluene	47.6	5.00	ug/L	50.0	ND	95.3	47-150			
1,1,2-Trichloroethane	41.9	5.00	ug/L	50.0	ND	83.8	52-150			
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.4	52-162			
Trichloroethene	45.8	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	45.6	5.00	ug/L	50.0	ND	91.1	17-181			
Vinyl chloride	40.1	5.00	ug/L	50.0	ND	80.2	1-251			
m,p-Xylene	95.8	10.0	ug/L	100	ND	95.8	0-200			
o-Xylene	48.7	5.00	ug/L	50.0	ND	97.4	0-200			
Vinyl acetate	39.2	5.00	ug/L	50.0	ND	78.4	60-140			
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.1*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
Matrix Spike (DA91088-MS2)	**Source: D9A1306-06RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	42.1	20.0	ug/L	50.0	0.640	82.8	40-160			
2-Chloroethyl vinyl ether	28.7	5.00	ug/L	50.0	ND	57.3	1-305			
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DA91088-MSD1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
Acetone	48.0	10.0	ug/L	50.0	2.96	90.0	0-200	4.06	200	
Acrylonitrile	49.8	20.0	ug/L	50.0	ND	99.6	40-160	5.27	60	
Benzene	47.0	5.00	ug/L	50.0	ND	94.0	37-151	2.02	61	
Bromodichloromethane	48.1	5.00	ug/L	50.0	2.06	92.0	35-155	3.97	56	
Bromoform	47.0	5.00	ug/L	50.0	1.56	90.9	45-169	5.35	42	
Bromomethane	44.4	5.00	ug/L	50.0	ND	88.8	1-242	0.995	61	
2-Butanone (MEK)	49.1	10.0	ug/L	50.0	ND	98.1	0-200	6.41	200	
Carbon disulfide	46.8	5.00	ug/L	50.0	ND	93.5	0-200	1.03	200	
Carbon tetrachloride	48.9	5.00	ug/L	50.0	ND	97.7	70-140	3.18	41	
Chlorobenzene	47.5	5.00	ug/L	50.0	ND	94.9	37-160	1.98	53	
Chloroethane (Ethyl chloride)	41.6	5.00	ug/L	50.0	ND	83.1	14-230	5.18	78	
Chloroform	44.3	4.00	ug/L	50.0	2.62	83.3	51-138	2.63	54	
Chloromethane	42.7	5.00	ug/L	50.0	ND	85.3	1-273	2.93	60	
Dibromochloromethane	47.1	5.00	ug/L	50.0	2.41	89.4	53-149	1.30	50	
Dibromomethane (Methylene bromide)	43.3	5.00	ug/L	50.0	ND	86.6	0-200	3.50	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA91088 - 624 - EPA 624.1										
Matrix Spike Dup (DA91088-MSD1)	**Source: D9A1306-06**		Prepared & Analyzed: 01/18/2019							
1,2-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.1	18-190	1.73	57	
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0	ND	92.7	59-156	0.129	43	
1,4-Dichlorobenzene	45.0	5.00	ug/L	50.0	ND	90.0	18-190	0.312	57	
Dichlorodifluoromethane (Freon-12)	34.5	5.00	ug/L	50.0	ND	68.9	0-200	4.75	200	
1,2-Dichloroethane	47.4	5.00	ug/L	50.0	ND	94.9	49-155	3.37	49	
1,1-Dichloroethane	43.4	5.00	ug/L	50.0	ND	86.7	59-155	4.75	40	
cis-1,2-Dichloroethene	46.3	5.00	ug/L	50.0	ND	92.7	0-200	4.46	200	
1,1-Dichloroethene	45.3	5.00	ug/L	50.0	ND	90.6	1-234	3.50	32	
trans-1,2-Dichloroethene	44.1	4.00	ug/L	50.0	ND	88.3	54-156	0.523	45	
1,2-Dichloropropane	46.5	5.00	ug/L	50.0	ND	93.0	1-210	4.51	55	
cis-1,3-Dichloropropene	45.7	5.00	ug/L	50.0	ND	91.4	1-227	1.48	58	
trans-1,3-Dichloropropene	41.8	5.00	ug/L	50.0	ND	83.6	17-183	1.71	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	94.9	37-162	1.76	63	
2-Hexanone (MBK)	48.3	10.0	ug/L	50.0	ND	96.7	0-200	5.88	200	
Methyl tert-butyl ether (MTBE)	50.1	5.00	ug/L	50.0	ND	100	0-200	5.16	200	
Methylene chloride (Dichloromethane)	44.7	5.00	ug/L	50.0	ND	89.5	1-221	1.35	28	
4-Methyl-2-pentanone (MIBK)	47.7	10.0	ug/L	50.0	ND	95.3	0-200	4.79	200	
Styrene	47.1	5.00	ug/L	50.0	ND	94.2	0-200	0.339	200	
1,1,2,2-Tetrachloroethane	45.5	5.00	ug/L	50.0	ND	91.0	46-157	1.93	61	
Tetrachloroethene	44.7	5.00	ug/L	50.0	ND	89.5	64-148	0.602	39	
Toluene	47.0	5.00	ug/L	50.0	ND	93.9	47-150	1.40	41	
1,1,2-Trichloroethane	44.0	5.00	ug/L	50.0	ND	88.0	52-150	4.93	45	
1,1,1-Trichloroethane	48.6	5.00	ug/L	50.0	ND	97.2	52-162	1.89	36	
Trichloroethene	45.1	5.00	ug/L	50.0	ND	90.2	70-157	1.39	48	
Trichlorofluoromethane (Freon 11)	46.0	5.00	ug/L	50.0	ND	91.9	17-181	0.874	84	
Vinyl chloride	40.7	5.00	ug/L	50.0	ND	81.4	1-251	1.39	66	
m,p-Xylene	97.8	10.0	ug/L	100	ND	97.8	0-200	2.02	200	
o-Xylene	49.4	5.00	ug/L	50.0	ND	98.8	0-200	1.43	200	
Vinyl acetate	41.3	5.00	ug/L	50.0	ND	82.6	60-140	5.27	25	
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.4*	*70-130*			
Matrix Spike Dup (DA91088-MSD2)	**Source: D9A1306-06RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	37.8	20.0	ug/L	50.0	0.640	74.3	40-160	10.6	60	
2-Chloroethyl vinyl ether	26.8	5.00	ug/L	50.0	ND	53.5	1-305	6.89	71	
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.6*		ug/L	*50.0*		*99.2*	*70-130*			
Surrogate: Toluene-d8	*49.0*		ug/L	*50.0*		*98.1*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 01/23/2019 15:20

MICROBAC

D 9 A 1 2 1 3

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To		Billing Information		Project Information	
CUSTOMER:	VEOLIA WATER NORTH AMERICA	BILL TO:	VEOLIA WATER NORTH AMERICA	PROJECT:	PLYMOUTH, MA WWTP
ADDRESS:	131 CAMELOT DRIVE	ADDRESS:	125 SOUTH STREET SUITE 173	LOCATION:	ID 11773
	PLYMOUTH, MA 02360		MILWAUKEE, WI		WELLS - QUARTERLY
DELIVERY:	MICHAEL EMOND	PURCHASE ORDER #		ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL	MICHAEL EMOND
E-MAIL:		ATTENTION:	ACCOUNTS PAYABLE	PHONE:	CELL - 508-328-5758
PHONE:	508-830-4159 FAX: 508-732-0238	PHONE:	866-688-0988	FAX:	508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A8 (250 mL)	1/15/2019	13:00		X	WW	1	X	X											X			
Well # A8 (250 mL)	1/15/2019	13:00		X	WW	1			X	X								X				
Well # A8 (250 mL)(filtered)	1/15/2019	13:00		X	WW	1					X							X				
Well # A8 (500 mL)	1/15/2019	13:00		X	WW	1						X						X				
Well # A8 (500 mL)	1/15/2019	13:00		X	WW	1							X					X				
Well # A8 (250 mL)	1/15/2019	13:00		X	WW	1				PRESERVATIVE VERIFIED Initials PL				X	X	X					X	
Well # A8 (40 mL vial)	1/15/2019	13:00		X	WW	2											X	X				
Well # A8 (40 mL vial)	1/15/2019	13:00		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-15-19	
RECEIVED:		
RELINQUISHED:	1-15-19	1354
RECEIVED:	1.15.19	1354
RELINQUISHED:	1-15-19	1555
RECEIVED:	1-15-19	1555

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX	☐	HARD COPY	☐	E-MAIL	☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED	☐	AMBIENT	☐	4.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1215

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Ronald L. Warila
Director

Thursday, January 24, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1215

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/15/2019
Reported: 01/24/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A9	D9A1215-01	Wastewater	Grab		01/15/19 11:10	01/15/19 15:55
Well #A9 (Filtered)	D9A1215-02	Wastewater	Grab		01/15/19 11:10	01/15/19 15:55

Analytical Testing Parameters

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9A1215-01
Collected By: Customer
Collection Date: 01/15/2019 11:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		01/17/19 1443	01/18/19 1526	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0234**	0.0100	mg/L		01/17/19 1946	01/18/19 0933	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**28.7**	1.00	mg/L			01/22/19 1944	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**365**	20.0	mg/L			01/17/19 1047	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**3.57**	0.0500	mg/L			01/16/19 1945	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/16/19 1945	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 3010A/EPA 200.7, Rv. 4.4							
Boron	**0.119**	0.0050	mg/L	**Y1**	01/17/19 1444	01/18/19 1353	BRC
Copper	<0.0020	0.0020	mg/L		01/17/19 1444	01/18/19 1353	BRC
Sodium	**251**	1.00	mg/L		01/17/19 1444	01/18/19 1353	BRC

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		01/17/19 2210	MRB
Acrolein	<20.0	20.0	ug/L			01/17/19 2235	MRB
Acrylonitrile	<20.0	20.0	ug/L			01/17/19 2210	MRB
Benzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Bromodichloromethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
Bromoform	<5.00	5.00	ug/L			01/17/19 2210	MRB
Bromomethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2210	MRB
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
Carbon tetrachloride	<5.00	5.00	ug/L			01/17/19 2210	MRB
Chlorobenzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			01/17/19 2210	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/17/19 2235	MRB
Chloroform	<4.00	4.00	ug/L			01/17/19 2210	MRB
Chloromethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
Dibromochloromethane	<5.00	5.00	ug/L			01/17/19 2210	MRB

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1215

Client Sample ID:	Well #A9		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1215-01	**Collection Date:**	01/15/2019 11:10

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
1,2-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
1,3-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
1,4-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
1,2-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
1,1-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
1,1-Dichloroethene	<5.00	5.00	ug/L			01/17/19 2210	MRB
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			01/17/19 2210	MRB
1,2-Dichloropropane	<5.00	5.00	ug/L			01/17/19 2210	MRB
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2210	MRB
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Ethylbenzene	<5.00	5.00	ug/L			01/17/19 2210	MRB
2-Hexanone (MBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2210	MRB
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			01/17/19 2210	MRB
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2210	MRB
Styrene	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
Tetrachloroethene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Toluene	<5.00	5.00	ug/L			01/17/19 2210	MRB
1,1,2-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
1,1,1-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2210	MRB
Trichloroethene	<5.00	5.00	ug/L			01/17/19 2210	MRB
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			01/17/19 2210	MRB
Vinyl chloride	<5.00	5.00	ug/L			01/17/19 2210	MRB
m,p-Xylene	<10.0	10.0	ug/L	**Y1**		01/17/19 2210	MRB
o-Xylene	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
Vinyl acetate	<5.00	5.00	ug/L	**Y1**		01/17/19 2210	MRB
Surrogate: 4-Bromofluorobenzene	97.9	Limit: 70-130	% Rec			01/17/19 2210	MRB
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 70-130	% Rec			01/17/19 2235	MRB
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 70-130	% Rec			01/17/19 2210	MRB
Surrogate: 1,2-Dichloroethane-d4	99.4	Limit: 70-130	% Rec			01/17/19 2235	MRB
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			01/17/19 2235	MRB
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			01/17/19 2210	MRB

CERTIFICATE OF ANALYSIS

D9A1215

Client Sample ID:	Well #A9 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1215-02	**Collection Date:**	01/15/2019 11:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0600**	0.0100	mg/L		01/15/19 1741	01/16/19 2124	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90752-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90752-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.940	0.0100	mg/L	1.00		93.8	90-110			
Duplicate (DA90752-DUP1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.495	0.0100	mg/L		0.527			6.26	20	A21
Matrix Spike (DA90752-MS1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.47	0.0100	mg/L	1.00	0.527	94.4	90-110			A21
Matrix Spike (DA90752-MS2)	**Source: D9A1228-08**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.41	0.0100	mg/L	1.00	0.452	95.1	90-110			A21
Batch DA90853 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90853-BLK1)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90853-BS1)			Prepared & Analyzed: 01/16/2019							
Nitrate as N	5.15	0.0500	mg/L	5.00		103	90-110			
LCS (DA90853-BS2)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DA90853-DUP1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	0.0488	0.0100	mg/L		0.0451			7.88	20	
Nitrate as N	11.0	0.100	mg/L		10.9			1.11	20	
Matrix Spike (DA90853-MS1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.0451	101	75-125			
Nitrate as N	15.0	0.200	mg/L	5.00	10.9	82.9	75-125			
Matrix Spike Dup (DA90853-MSD1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0451	101	75-125	0.606	20	
Nitrate as N	15.2	0.200	mg/L	5.00	10.9	86.2	75-125	1.10	20	
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90893-BLK1)			Prepared & Analyzed: 01/17/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90893-BS1)			Prepared & Analyzed: 01/17/2019							
Chloride	19.5	2.00	mg/L	20.0		97.7	90-110			
Duplicate (DA90893-DUP1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	14.7	2.00	mg/L		14.8			0.815	20	
Matrix Spike (DA90893-MS1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.1	2.00	mg/L	20.0	14.8	101	75-125			
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.4	2.00	mg/L	20.0	14.8	103	75-125	0.674	20	
Batch DA90943 - Wet-Digestion-W - EPA 351.1										
Blank (DA90943-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90943-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	4.85	0.100	mg/L	5.00		97.0	90-110			
Duplicate (DA90943-DUP1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	0.510	0.100	mg/L		0.375			30.6	20	R3
Matrix Spike (DA90943-MS1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	9.94	0.100	mg/L	10.0	0.375	95.6	90-110			
Matrix Spike (DA90943-MS2)	**Source: D9A1276-05**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	27.8	0.200	mg/L	10.0	19.1	87.4	90-110			M2
Batch DA90975 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90975-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90975-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	0.972	0.0100	mg/L	1.00		97.2	90-110			
Duplicate (DA90975-DUP1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	1.88	0.0100	mg/L		1.88			0.113	20	
Matrix Spike (DA90975-MS1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.16	0.0200	mg/L	1.25	1.88	102	90-110			
Matrix Spike (DA90975-MS2)	**Source: D9A1155-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.75	0.0400	mg/L	1.25	2.84	72.2	90-110			M2
Batch DA91199 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA91199-DUP1)	**Source: D9A1215-01**		Prepared & Analyzed: 01/22/2019							
Alkalinity to pH 4.5	28.7	1.00	mg/L		28.7			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Blank (DA90917-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90917-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.461	0.0050	mg/L	0.500		92.2	85-115			
Copper	0.472	0.0020	mg/L	0.500		94.5	85-115			
Sodium	9.74	1.00	mg/L	10.5		92.8	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Duplicate (DA90917-DUP1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.0012	0.0020	mg/L		0.0031			90.2	20	R3
Sodium	56.8	1.00	mg/L		54.3			4.62	20	
Duplicate (DA90917-DUP2)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.0267	0.0050	mg/L		0.0326			19.9	20	
Matrix Spike (DA90917-MS1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.512	0.0020	mg/L	0.500	0.0031	102	70-130			
Sodium	66.2	1.00	mg/L	10.5	54.3	114	70-130			
Matrix Spike (DA90917-MS2)	**Source: D9A1213-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.708	0.0050	mg/L	0.500	0.214	98.7	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0033	103	70-130			
Sodium	416	1.00	mg/L	10.5	416	NR	70-130			M6
Matrix Spike (DA90917-MS3)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0326	103	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
Acetone	ND	10.0	ug/L							
Acrolein	ND	20.0	ug/L							
Acrylonitrile	ND	20.0	ug/L							
Benzene	ND	5.00	ug/L							
Bromodichloromethane	ND	5.00	ug/L							
Bromoform	ND	5.00	ug/L							
Bromomethane	ND	5.00	ug/L							
2-Butanone (MEK)	ND	10.0	ug/L							
Carbon disulfide	ND	5.00	ug/L							
Carbon tetrachloride	ND	5.00	ug/L							
Chlorobenzene	ND	5.00	ug/L							
Chloroethane (Ethyl chloride)	ND	5.00	ug/L							
2-Chloroethyl vinyl ether	ND	5.00	ug/L							
Chloroform	ND	4.00	ug/L							
Chloromethane	ND	5.00	ug/L							
Dibromochloromethane	ND	5.00	ug/L							
Dibromomethane (Methylene bromide)	ND	5.00	ug/L							
1,2-Dichlorobenzene	ND	5.00	ug/L							
1,3-Dichlorobenzene	ND	5.00	ug/L							
1,4-Dichlorobenzene	ND	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L							
1,2-Dichloroethane	ND	5.00	ug/L							
1,1-Dichloroethane	ND	5.00	ug/L							
cis-1,2-Dichloroethene	ND	5.00	ug/L							
1,1-Dichloroethene	ND	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
trans-1,2-Dichloroethene	ND	4.00	ug/L							
1,2-Dichloropropane	ND	5.00	ug/L							
cis-1,3-Dichloropropene	ND	5.00	ug/L							
trans-1,3-Dichloropropene	ND	5.00	ug/L							
Ethylbenzene	ND	5.00	ug/L							
2-Hexanone (MBK)	ND	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	ND	5.00	ug/L							
Methylene chloride (Dichloromethane)	ND	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	ND	10.0	ug/L							
Styrene	ND	5.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	5.00	ug/L							
Tetrachloroethene	ND	5.00	ug/L							
Toluene	ND	5.00	ug/L							
1,1,2-Trichloroethane	ND	5.00	ug/L							
1,1,1-Trichloroethane	ND	5.00	ug/L							
Trichloroethene	ND	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	ND	5.00	ug/L							
Vinyl chloride	ND	5.00	ug/L							
m,p-Xylene	ND	10.0	ug/L							
o-Xylene	ND	5.00	ug/L							
Vinyl acetate	0.00		ug/L							
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*70-130*			
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Acetone	55.0	10.0	ug/L	50.0		110	65-133			
Acrolein	43.5	20.0	ug/L	50.0		87.1	60-140			
Acrylonitrile	56.1	20.0	ug/L	50.0		112	60-140			
Benzene	43.4	5.00	ug/L	50.0		86.9	65-135			
Bromodichloromethane	46.4	5.00	ug/L	50.0		92.7	65-135			
Bromoform	50.7	5.00	ug/L	50.0		101	70-130			
Bromomethane	45.2	5.00	ug/L	50.0		90.4	15-185			
2-Butanone (MEK)	60.0	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	43.1	5.00	ug/L	50.0		86.1	77-141			
Carbon tetrachloride	38.3	5.00	ug/L	50.0		76.5	70-130			
Chlorobenzene	46.3	5.00	ug/L	50.0		92.5	65-135			
Chloroethane (Ethyl chloride)	43.7	5.00	ug/L	50.0		87.4	40-160			
2-Chloroethyl vinyl ether	29.1	5.00	ug/L	50.0		58.2	1-225			
Chloroform	41.1	4.00	ug/L	50.0		82.1	70-135			
Chloromethane	39.8	5.00	ug/L	50.0		79.7	1-205			
Dibromochloromethane	48.4	5.00	ug/L	50.0		96.8	70-135			
Dibromomethane (Methylene bromide)	44.8	5.00	ug/L	50.0		89.6	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	47.5	5.00	ug/L	50.0		94.9	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.8	65-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Dichlorodifluoromethane (Freon-12)	25.7	5.00	ug/L	50.0		51.5	1-205			
1,2-Dichloroethane	48.6	5.00	ug/L	50.0		97.1	70-130			
1,1-Dichloroethane	39.6	5.00	ug/L	50.0		79.1	70-130			
cis-1,2-Dichloroethene	45.6	5.00	ug/L	50.0		91.2	82-137			
1,1-Dichloroethene	36.3	5.00	ug/L	50.0		72.6	50-150			
trans-1,2-Dichloroethene	39.8	4.00	ug/L	50.0		79.6	70-130			
1,2-Dichloropropane	46.1	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.0	5.00	ug/L	50.0		95.9	25-175			
trans-1,3-Dichloropropene	45.7	5.00	ug/L	50.0		91.4	50-150			
Ethylbenzene	45.1	5.00	ug/L	50.0		90.1	60-140			
2-Hexanone (MBK)	61.0	10.0	ug/L	50.0		122	74-134			
Methyl tert-butyl ether (MTBE)	54.2	5.00	ug/L	50.0		108	81-140			
Methylene chloride (Dichloromethane)	45.2	5.00	ug/L	50.0		90.4	60-140			
4-Methyl-2-pentanone (MIBK)	58.9	10.0	ug/L	50.0		118	73-142			
Styrene	49.1	5.00	ug/L	50.0		98.2	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	41.1	5.00	ug/L	50.0		82.1	70-130			
Toluene	44.8	5.00	ug/L	50.0		89.5	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.3	70-130			
1,1,1-Trichloroethane	40.1	5.00	ug/L	50.0		80.2	70-130			
Trichloroethene	42.2	5.00	ug/L	50.0		84.3	65-135			
Trichlorofluoromethane (Freon 11)	40.6	5.00	ug/L	50.0		81.2	50-150			
Vinyl chloride	35.4	5.00	ug/L	50.0		70.8	5-195			
m,p-Xylene	93.2	10.0	ug/L	100		93.2	80-122			
o-Xylene	49.3	5.00	ug/L	50.0		98.5	81-125			
Vinyl acetate	52.4	5.00	ug/L	50.0		105	60-140			
Surrogate: 4-Bromofluorobenzene	*51.5*		ug/L	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.5*	*70-130*			
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
Acrylonitrile	49.0	20.0	ug/L	50.0	ND	98.0	40-160			
Benzene	49.5	5.00	ug/L	50.0	ND	99.0	37-151			
Bromodichloromethane	48.7	5.00	ug/L	50.0	ND	97.3	35-155			
Bromoform	46.2	5.00	ug/L	50.0	ND	92.4	45-169			
Bromomethane	57.7	5.00	ug/L	62.5	ND	92.3	1-242			
Carbon tetrachloride	52.9	5.00	ug/L	50.0	ND	106	70-140			
Chlorobenzene	50.0	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	59.1	5.00	ug/L	62.5	ND	94.5	14-230			
Chloroform	44.9	4.00	ug/L	50.0	ND	89.7	51-138			
Dibromochloromethane	46.5	5.00	ug/L	50.0	ND	93.0	53-149			
1,2-Dichlorobenzene	50.3	5.00	ug/L	50.0	ND	101	18-190			
1,3-Dichlorobenzene	48.7	5.00	ug/L	50.0	ND	97.5	59-156			
1,4-Dichlorobenzene	47.9	5.00	ug/L	50.0	ND	95.8	18-190			
Dichlorodifluoromethane (Freon-12)	45.3	5.00	ug/L	62.5	ND	72.5	0-200			
1,2-Dichloroethane	49.2	5.00	ug/L	50.0	ND	98.5	49-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
1,1-Dichloroethane	46.0	5.00	ug/L	50.0	ND	91.9	59-155			
cis-1,2-Dichloroethene	49.6	5.00	ug/L	50.0	ND	99.2	0-200			
1,1-Dichloroethene	49.3	5.00	ug/L	50.0	ND	98.7	1-234			
trans-1,2-Dichloroethene	48.2	4.00	ug/L	50.0	ND	96.4	54-156			
1,2-Dichloropropane	50.1	5.00	ug/L	50.0	ND	100	1-210			
cis-1,3-Dichloropropene	46.7	5.00	ug/L	50.0	ND	93.5	1-227			
trans-1,3-Dichloropropene	42.8	5.00	ug/L	50.0	ND	85.5	17-183			
Ethylbenzene	50.3	5.00	ug/L	50.0	ND	101	37-162			
Methyl tert-butyl ether (MTBE)	50.7	5.00	ug/L	50.0	ND	101	0-200			
Methylene chloride (Dichloromethane)	48.3	5.00	ug/L	50.0	ND	96.6	1-221			
1,1,2,2-Tetrachloroethane	46.6	5.00	ug/L	50.0	ND	93.3	46-157			
Tetrachloroethene	50.5	5.00	ug/L	50.0	ND	101	64-148			
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150			
1,1,2-Trichloroethane	45.9	5.00	ug/L	50.0	ND	91.8	52-150			
1,1,1-Trichloroethane	50.9	5.00	ug/L	50.0	ND	102	52-162			
Trichloroethene	49.5	5.00	ug/L	50.0	ND	98.9	70-157			
Trichlorofluoromethane (Freon 11)	65.0	5.00	ug/L	62.5	ND	104	17-181			
Vinyl chloride	53.0	5.00	ug/L	62.5	ND	84.7	1-251			
m,p-Xylene	104	10.0	ug/L	100	ND	104	0-200			
o-Xylene	52.6	5.00	ug/L	50.0	ND	105	0-200			
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DA90999-MS2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	36.7	20.0	ug/L	62.5	ND	58.7	40-160			
2-Chloroethyl vinyl ether	21.4	5.00	ug/L	62.5	ND	34.3	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
Acrylonitrile	43.3	20.0	ug/L	50.0	ND	86.6	40-160	12.4	60	
Benzene	43.3	5.00	ug/L	50.0	ND	86.5	37-151	13.5	61	
Bromodichloromethane	42.1	5.00	ug/L	50.0	ND	84.2	35-155	14.4	56	
Bromoform	41.5	5.00	ug/L	50.0	ND	83.0	45-169	10.7	42	
Bromomethane	49.6	5.00	ug/L	62.5	ND	79.4	1-242	15.0	61	
Carbon tetrachloride	46.1	5.00	ug/L	50.0	ND	92.2	70-140	13.7	41	
Chlorobenzene	44.3	5.00	ug/L	50.0	ND	88.6	37-160	12.2	53	
Chloroethane (Ethyl chloride)	50.8	5.00	ug/L	62.5	ND	81.2	14-230	15.2	78	
Chloroform	39.4	4.00	ug/L	50.0	ND	78.7	51-138	13.1	54	
Dibromochloromethane	41.7	5.00	ug/L	50.0	ND	83.5	53-149	10.7	50	
1,2-Dichlorobenzene	44.8	5.00	ug/L	50.0	ND	89.7	18-190	11.5	57	
1,3-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.3	59-156	9.88	43	
1,4-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.0	18-190	10.8	57	
Dichlorodifluoromethane (Freon-12)	39.1	5.00	ug/L	62.5	ND	62.6	0-200	14.6	200	
1,2-Dichloroethane	43.3	5.00	ug/L	50.0	ND	86.7	49-155	12.8	49	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
1,1-Dichloroethane	39.7	5.00	ug/L	50.0	ND	79.4	59-155	14.6	40	
cis-1,2-Dichloroethene	43.5	5.00	ug/L	50.0	ND	86.9	0-200	13.2	200	
1,1-Dichloroethene	42.2	5.00	ug/L	50.0	ND	84.3	1-234	15.7	32	
trans-1,2-Dichloroethene	41.9	4.00	ug/L	50.0	ND	83.9	54-156	13.9	45	
1,2-Dichloropropane	43.2	5.00	ug/L	50.0	ND	86.4	1-210	14.8	55	
cis-1,3-Dichloropropene	42.7	5.00	ug/L	50.0	ND	85.4	1-227	9.08	58	
trans-1,3-Dichloropropene	38.8	5.00	ug/L	50.0	ND	77.6	17-183	9.79	86	
Ethylbenzene	44.3	5.00	ug/L	50.0	ND	88.5	37-162	12.9	63	
Methyl tert-butyl ether (MTBE)	46.1	5.00	ug/L	50.0	ND	92.2	0-200	9.50	200	
Methylene chloride (Dichloromethane)	41.9	5.00	ug/L	50.0	ND	83.7	1-221	14.4	28	
1,1,2,2-Tetrachloroethane	42.9	5.00	ug/L	50.0	ND	85.9	46-157	8.26	61	
Tetrachloroethene	43.6	5.00	ug/L	50.0	ND	87.2	64-148	14.7	39	
Toluene	44.0	5.00	ug/L	50.0	ND	88.0	47-150	12.4	41	
1,1,2-Trichloroethane	40.8	5.00	ug/L	50.0	ND	81.6	52-150	11.8	45	
1,1,1-Trichloroethane	44.8	5.00	ug/L	50.0	ND	89.6	52-162	12.7	36	
Trichloroethene	43.3	5.00	ug/L	50.0	ND	86.6	70-157	13.2	48	
Trichlorofluoromethane (Freon 11)	55.5	5.00	ug/L	62.5	ND	88.8	17-181	15.7	84	
Vinyl chloride	44.4	5.00	ug/L	62.5	ND	71.0	1-251	17.6	66	
m,p-Xylene	92.2	10.0	ug/L	100	ND	92.2	0-200	12.2	200	
o-Xylene	46.3	5.00	ug/L	50.0	ND	92.5	0-200	12.8	200	
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DA90999-MSD2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	35.2	20.0	ug/L	62.5	ND	56.3	40-160	4.20	60	
2-Chloroethyl vinyl ether	21.5	5.00	ug/L	62.5	ND	34.4	1-305	0.559	71	
Surrogate: 4-Bromofluorobenzene	*51.1*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Ronald L. Warila
Director
Reported: 01/24/2019 17:10

MICROBAC

Microbac Laboratories, Inc.

D 9 A 1 2 1 5

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: MICHAEL EMOND
E-MAIL:
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A9 (250 mL)	1/15/2019	11:10		X	WW	1	X	X											X			
Well # A9 (250 mL)	1/15/2019	11:10		X	WW	1			X	X								X				
Well # A9 (250 mL)(filtered)	1/15/2019	11:10		X	WW	1					X							X				
Well # A9 (500 mL)	1/15/2019	11:10		X	WW	1						X						X				
Well # A9 (500 mL)	1/15/2019	11:10		X	WW	1							X					X				
Well # A9 (250 mL)	1/15/2019	11:10		X	WW	1								X	X	X					X	
Well # A9 (40 mL vial)	1/15/2019	11:10		X	WW	2											X	X				
Well # A9 (40 mL vial)	1/15/2019	11:10		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-15-19	
RECEIVED:		
RELINQUISHED:	1-15-19	1354
RECEIVED:	1.15.19	1354
RELINQUISHED:	1.15.19	1555
RECEIVED:	1-15-19	1555

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.1 °C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1216

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Melisa L. Montgomery
QA Officer

Thursday, January 24, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1216

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/15/2019
Reported: 01/24/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1s	D9A1216-01	Wastewater	Grab		01/15/19 10:05	01/15/19 15:55
Well #1s (Filtered)	D9A1216-02	Wastewater	Grab		01/15/19 10:05	01/15/19 15:55

Analytical Testing Parameters

Client Sample ID:	Well #1s		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1216-01	**Collection Date:**	01/15/2019 10:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.100	0.100	mg/L		01/16/19 1237	01/17/19 1209	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0128**	0.0100	mg/L		01/17/19 1946	01/18/19 0934	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**3.09**	1.00	mg/L			01/22/19 1944	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**14.8**	2.00	mg/L			01/17/19 1029	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.112**	0.0500	mg/L			01/15/19 2007	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/15/19 2007	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 3010A/EPA 200.7, Rv. 4.4							
Boron	<0.0050	0.0050	mg/L	**Y1**	01/17/19 1444	01/23/19 1247	BRC
Copper	<0.0020	0.0020	mg/L		01/17/19 1444	01/18/19 1356	BRC
Sodium	**8.72**	1.00	mg/L		01/17/19 1444	01/18/19 1356	BRC

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		01/17/19 2119	MRB
Acrolein	<20.0	20.0	ug/L			01/17/19 2119	MRB
Acrolein	<20.0	20.0	ug/L			01/17/19 2144	MRB
Acrylonitrile	<20.0	20.0	ug/L			01/17/19 2119	MRB
Benzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Bromodichloromethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
Bromoform	<5.00	5.00	ug/L			01/17/19 2119	MRB
Bromomethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2119	MRB
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
Carbon tetrachloride	<5.00	5.00	ug/L			01/17/19 2119	MRB
Chlorobenzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			01/17/19 2119	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/17/19 2119	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/17/19 2144	MRB
Chloroform	<4.00	4.00	ug/L			01/17/19 2119	MRB

CERTIFICATE OF ANALYSIS

D9A1216

Client Sample ID:	Well #1s		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1216-01	**Collection Date:**	01/15/2019 10:05

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Chloromethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
Dibromochloromethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
1,2-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
1,3-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
1,4-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
1,2-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
1,1-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
1,1-Dichloroethene	<5.00	5.00	ug/L			01/17/19 2119	MRB
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			01/17/19 2119	MRB
1,2-Dichloropropane	<5.00	5.00	ug/L			01/17/19 2119	MRB
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2119	MRB
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Ethylbenzene	<5.00	5.00	ug/L			01/17/19 2119	MRB
2-Hexanone (MBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2119	MRB
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			01/17/19 2119	MRB
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2119	MRB
Styrene	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
Tetrachloroethene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Toluene	<5.00	5.00	ug/L			01/17/19 2119	MRB
1,1,2-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
1,1,1-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2119	MRB
Trichloroethene	<5.00	5.00	ug/L			01/17/19 2119	MRB
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			01/17/19 2119	MRB
Vinyl chloride	<5.00	5.00	ug/L			01/17/19 2119	MRB
m,p-Xylene	<10.0	10.0	ug/L	**Y1**		01/17/19 2119	MRB
o-Xylene	<5.00	5.00	ug/L	**Y1**		01/17/19 2119	MRB
Vinyl acetate	**0.00**		ug/L	**Y1**		01/17/19 2119	MRB
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 70-130	% Rec			01/17/19 2119	MRB
Surrogate: 4-Bromofluorobenzene	97.5	Limit: 70-130	% Rec			01/17/19 2144	MRB
Surrogate: 1,2-Dichloroethane-d4	99.1	Limit: 70-130	% Rec			01/17/19 2119	MRB
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 70-130	% Rec			01/17/19 2144	MRB
Surrogate: Toluene-d8	99.9	Limit: 70-130	% Rec			01/17/19 2144	MRB
Surrogate: Toluene-d8	99.7	Limit: 70-130	% Rec			01/17/19 2119	MRB

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1216

Client Sample ID:	Well #1s (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1216-02	**Collection Date:**	01/15/2019 10:05

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	<0.0100	0.0100	mg/L		01/15/19 1741	01/17/19 1552	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90741 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90741-BLK1)				Prepared & Analyzed: 01/15/2019						
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90741-BS1)				Prepared & Analyzed: 01/15/2019						
Nitrate as N	4.98	0.0500	mg/L	5.00		99.7	90-110			
LCS (DA90741-BS2)				Prepared & Analyzed: 01/15/2019						
Nitrite as N	0.987	0.0100	mg/L	1.00		98.7	90-110			
Duplicate (DA90741-DUP1)		**Source: D9A1111-04**		Prepared & Analyzed: 01/15/2019						
Nitrite as N	0.126	0.0100	mg/L		0.125			1.04	20	
Nitrate as N	7.89	0.0500	mg/L		7.84			0.609	20	
Matrix Spike (DA90741-MS1)		**Source: D9A1111-04**		Prepared & Analyzed: 01/15/2019						
Nitrite as N	1.16	0.0100	mg/L	1.00	0.125	103	75-125			
Nitrate as N	11.9	0.100	mg/L	5.00	7.84	81.9	75-125			
Matrix Spike Dup (DA90741-MSD1)		**Source: D9A1111-04**		Prepared & Analyzed: 01/15/2019						
Nitrite as N	1.16	0.0100	mg/L	1.00	0.125	103	75-125	0.190	20	
Nitrate as N	12.1	0.100	mg/L	5.00	7.84	84.4	75-125	1.05	20	
Batch DA90752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90752-BLK1)				Prepared: 01/15/2019 Analyzed: 01/16/2019						
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90752-BS1)				Prepared: 01/15/2019 Analyzed: 01/16/2019						
Ortho-phosphate as P	0.940	0.0100	mg/L	1.00		93.8	90-110			
Duplicate (DA90752-DUP1)		**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019						
Ortho-phosphate as P	0.495	0.0100	mg/L		0.527			6.26	20	A21
Matrix Spike (DA90752-MS1)		**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019						
Ortho-phosphate as P	1.47	0.0100	mg/L	1.00	0.527	94.4	90-110			A21
Matrix Spike (DA90752-MS2)		**Source: D9A1228-08**		Prepared: 01/15/2019 Analyzed: 01/16/2019						
Ortho-phosphate as P	1.41	0.0100	mg/L	1.00	0.452	95.1	90-110			A21
Batch DA90803 - Wet-Digestion-W - EPA 351.1										
Blank (DA90803-BLK1)				Prepared: 01/16/2019 Analyzed: 01/17/2019						
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90803-BS1)				Prepared: 01/16/2019 Analyzed: 01/17/2019						
Total Kjeldahl Nitrogen (TKN)	4.99	0.100	mg/L	5.00		99.8	90-110			
Duplicate (DA90803-DUP1)		**Source: D9A0914-02**		Prepared: 01/16/2019 Analyzed: 01/17/2019						
Total Kjeldahl Nitrogen (TKN)	18.1	0.200	mg/L		18.6			2.84	20	
Matrix Spike (DA90803-MS1)		**Source: D9A0914-02**		Prepared: 01/16/2019 Analyzed: 01/17/2019						
Total Kjeldahl Nitrogen (TKN)	29.0	0.200	mg/L	10.0	18.6	104	90-110			
Matrix Spike (DA90803-MS2)		**Source: D9A1183-01**		Prepared: 01/16/2019 Analyzed: 01/17/2019						

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90803 - Wet-Digestion-W - EPA 351.1										
Matrix Spike (DA90803-MS2)	**Source: D9A1183-01**		Prepared: 01/16/2019 Analyzed: 01/17/2019							
Total Kjeldahl Nitrogen (TKN)	17.8	0.200	mg/L	10.0	7.33	105	90-110			
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90893-BLK1)			Prepared & Analyzed: 01/17/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90893-BS1)			Prepared & Analyzed: 01/17/2019							
Chloride	19.5	2.00	mg/L	20.0		97.7	90-110			
Duplicate (DA90893-DUP1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	14.7	2.00	mg/L		14.8			0.815	20	
Matrix Spike (DA90893-MS1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.1	2.00	mg/L	20.0	14.8	101	75-125			
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.4	2.00	mg/L	20.0	14.8	103	75-125	0.674	20	
Batch DA90975 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90975-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90975-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	0.972	0.0100	mg/L	1.00		97.2	90-110			
Duplicate (DA90975-DUP1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	1.88	0.0100	mg/L		1.88			0.113	20	
Matrix Spike (DA90975-MS1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.16	0.0200	mg/L	1.25	1.88	102	90-110			
Matrix Spike (DA90975-MS2)	**Source: D9A1155-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.75	0.0400	mg/L	1.25	2.84	72.2	90-110			M2
Batch DA91199 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA91199-DUP1)	**Source: D9A1215-01**		Prepared & Analyzed: 01/22/2019							
Alkalinity to pH 4.5	28.7	1.00	mg/L		28.7			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Blank (DA90917-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90917-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.461	0.0050	mg/L	0.500		92.2	85-115			
Copper	0.472	0.0020	mg/L	0.500		94.5	85-115			
Sodium	9.74	1.00	mg/L	10.5		92.8	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Duplicate (DA90917-DUP1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.0012	0.0020	mg/L		0.0031			90.2	20	R3
Sodium	56.8	1.00	mg/L		54.3			4.62	20	
Duplicate (DA90917-DUP2)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.0267	0.0050	mg/L		0.0326			19.9	20	
Matrix Spike (DA90917-MS1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.512	0.0020	mg/L	0.500	0.0031	102	70-130			
Sodium	66.2	1.00	mg/L	10.5	54.3	114	70-130			
Matrix Spike (DA90917-MS2)	**Source: D9A1213-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.708	0.0050	mg/L	0.500	0.214	98.7	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0033	103	70-130			
Sodium	416	1.00	mg/L	10.5	416	NR	70-130			M6
Matrix Spike (DA90917-MS3)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0326	103	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
Acetone	ND	10.0	ug/L							
Acrolein	ND	20.0	ug/L							
Acrylonitrile	ND	20.0	ug/L							
Benzene	ND	5.00	ug/L							
Bromodichloromethane	ND	5.00	ug/L							
Bromoform	ND	5.00	ug/L							
Bromomethane	ND	5.00	ug/L							
2-Butanone (MEK)	ND	10.0	ug/L							
Carbon disulfide	ND	5.00	ug/L							
Carbon tetrachloride	ND	5.00	ug/L							
Chlorobenzene	ND	5.00	ug/L							
Chloroethane (Ethyl chloride)	ND	5.00	ug/L							
2-Chloroethyl vinyl ether	ND	5.00	ug/L							
Chloroform	ND	4.00	ug/L							
Chloromethane	ND	5.00	ug/L							
Dibromochloromethane	ND	5.00	ug/L							
Dibromomethane (Methylene bromide)	ND	5.00	ug/L							
1,2-Dichlorobenzene	ND	5.00	ug/L							
1,3-Dichlorobenzene	ND	5.00	ug/L							
1,4-Dichlorobenzene	ND	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L							
1,2-Dichloroethane	ND	5.00	ug/L							
1,1-Dichloroethane	ND	5.00	ug/L							
cis-1,2-Dichloroethene	ND	5.00	ug/L							
1,1-Dichloroethene	ND	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
trans-1,2-Dichloroethene	ND	4.00	ug/L							
1,2-Dichloropropane	ND	5.00	ug/L							
cis-1,3-Dichloropropene	ND	5.00	ug/L							
trans-1,3-Dichloropropene	ND	5.00	ug/L							
Ethylbenzene	ND	5.00	ug/L							
2-Hexanone (MBK)	ND	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	ND	5.00	ug/L							
Methylene chloride (Dichloromethane)	ND	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	ND	10.0	ug/L							
Styrene	ND	5.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	5.00	ug/L							
Tetrachloroethene	ND	5.00	ug/L							
Toluene	ND	5.00	ug/L							
1,1,2-Trichloroethane	ND	5.00	ug/L							
1,1,1-Trichloroethane	ND	5.00	ug/L							
Trichloroethene	ND	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	ND	5.00	ug/L							
Vinyl chloride	ND	5.00	ug/L							
m,p-Xylene	ND	10.0	ug/L							
o-Xylene	ND	5.00	ug/L							
Vinyl acetate	0.00		ug/L							
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*70-130*			
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Acetone	55.0	10.0	ug/L	50.0		110	65-133			
Acrolein	43.5	20.0	ug/L	50.0		87.1	60-140			
Acrylonitrile	56.1	20.0	ug/L	50.0		112	60-140			
Benzene	43.4	5.00	ug/L	50.0		86.9	65-135			
Bromodichloromethane	46.4	5.00	ug/L	50.0		92.7	65-135			
Bromoform	50.7	5.00	ug/L	50.0		101	70-130			
Bromomethane	45.2	5.00	ug/L	50.0		90.4	15-185			
2-Butanone (MEK)	60.0	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	43.1	5.00	ug/L	50.0		86.1	77-141			
Carbon tetrachloride	38.3	5.00	ug/L	50.0		76.5	70-130			
Chlorobenzene	46.3	5.00	ug/L	50.0		92.5	65-135			
Chloroethane (Ethyl chloride)	43.7	5.00	ug/L	50.0		87.4	40-160			
2-Chloroethyl vinyl ether	29.1	5.00	ug/L	50.0		58.2	1-225			
Chloroform	41.1	4.00	ug/L	50.0		82.1	70-135			
Chloromethane	39.8	5.00	ug/L	50.0		79.7	1-205			
Dibromochloromethane	48.4	5.00	ug/L	50.0		96.8	70-135			
Dibromomethane (Methylene bromide)	44.8	5.00	ug/L	50.0		89.6	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	47.5	5.00	ug/L	50.0		94.9	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.8	65-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Dichlorodifluoromethane (Freon-12)	25.7	5.00	ug/L	50.0		51.5	1-205			
1,2-Dichloroethane	48.6	5.00	ug/L	50.0		97.1	70-130			
1,1-Dichloroethane	39.6	5.00	ug/L	50.0		79.1	70-130			
cis-1,2-Dichloroethene	45.6	5.00	ug/L	50.0		91.2	82-137			
1,1-Dichloroethene	36.3	5.00	ug/L	50.0		72.6	50-150			
trans-1,2-Dichloroethene	39.8	4.00	ug/L	50.0		79.6	70-130			
1,2-Dichloropropane	46.1	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.0	5.00	ug/L	50.0		95.9	25-175			
trans-1,3-Dichloropropene	45.7	5.00	ug/L	50.0		91.4	50-150			
Ethylbenzene	45.1	5.00	ug/L	50.0		90.1	60-140			
2-Hexanone (MBK)	61.0	10.0	ug/L	50.0		122	74-134			
Methyl tert-butyl ether (MTBE)	54.2	5.00	ug/L	50.0		108	81-140			
Methylene chloride (Dichloromethane)	45.2	5.00	ug/L	50.0		90.4	60-140			
4-Methyl-2-pentanone (MIBK)	58.9	10.0	ug/L	50.0		118	73-142			
Styrene	49.1	5.00	ug/L	50.0		98.2	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	41.1	5.00	ug/L	50.0		82.1	70-130			
Toluene	44.8	5.00	ug/L	50.0		89.5	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.3	70-130			
1,1,1-Trichloroethane	40.1	5.00	ug/L	50.0		80.2	70-130			
Trichloroethene	42.2	5.00	ug/L	50.0		84.3	65-135			
Trichlorofluoromethane (Freon 11)	40.6	5.00	ug/L	50.0		81.2	50-150			
Vinyl chloride	35.4	5.00	ug/L	50.0		70.8	5-195			
m,p-Xylene	93.2	10.0	ug/L	100		93.2	80-122			
o-Xylene	49.3	5.00	ug/L	50.0		98.5	81-125			
Vinyl acetate	52.4	5.00	ug/L	50.0		105	60-140			
Surrogate: 4-Bromofluorobenzene	*51.5*		ug/L	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.5*	*70-130*			
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
Acrylonitrile	49.0	20.0	ug/L	50.0	ND	98.0	40-160			
Benzene	49.5	5.00	ug/L	50.0	ND	99.0	37-151			
Bromodichloromethane	48.7	5.00	ug/L	50.0	ND	97.3	35-155			
Bromoform	46.2	5.00	ug/L	50.0	ND	92.4	45-169			
Bromomethane	57.7	5.00	ug/L	62.5	ND	92.3	1-242			
Carbon tetrachloride	52.9	5.00	ug/L	50.0	ND	106	70-140			
Chlorobenzene	50.0	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	59.1	5.00	ug/L	62.5	ND	94.5	14-230			
Chloroform	44.9	4.00	ug/L	50.0	ND	89.7	51-138			
Dibromochloromethane	46.5	5.00	ug/L	50.0	ND	93.0	53-149			
1,2-Dichlorobenzene	50.3	5.00	ug/L	50.0	ND	101	18-190			
1,3-Dichlorobenzene	48.7	5.00	ug/L	50.0	ND	97.5	59-156			
1,4-Dichlorobenzene	47.9	5.00	ug/L	50.0	ND	95.8	18-190			
Dichlorodifluoromethane (Freon-12)	45.3	5.00	ug/L	62.5	ND	72.5	0-200			
1,2-Dichloroethane	49.2	5.00	ug/L	50.0	ND	98.5	49-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
1,1-Dichloroethane	46.0	5.00	ug/L	50.0	ND	91.9	59-155			
cis-1,2-Dichloroethene	49.6	5.00	ug/L	50.0	ND	99.2	0-200			
1,1-Dichloroethene	49.3	5.00	ug/L	50.0	ND	98.7	1-234			
trans-1,2-Dichloroethene	48.2	4.00	ug/L	50.0	ND	96.4	54-156			
1,2-Dichloropropane	50.1	5.00	ug/L	50.0	ND	100	1-210			
cis-1,3-Dichloropropene	46.7	5.00	ug/L	50.0	ND	93.5	1-227			
trans-1,3-Dichloropropene	42.8	5.00	ug/L	50.0	ND	85.5	17-183			
Ethylbenzene	50.3	5.00	ug/L	50.0	ND	101	37-162			
Methyl tert-butyl ether (MTBE)	50.7	5.00	ug/L	50.0	ND	101	0-200			
Methylene chloride (Dichloromethane)	48.3	5.00	ug/L	50.0	ND	96.6	1-221			
1,1,2,2-Tetrachloroethane	46.6	5.00	ug/L	50.0	ND	93.3	46-157			
Tetrachloroethene	50.5	5.00	ug/L	50.0	ND	101	64-148			
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150			
1,1,2-Trichloroethane	45.9	5.00	ug/L	50.0	ND	91.8	52-150			
1,1,1-Trichloroethane	50.9	5.00	ug/L	50.0	ND	102	52-162			
Trichloroethene	49.5	5.00	ug/L	50.0	ND	98.9	70-157			
Trichlorofluoromethane (Freon 11)	65.0	5.00	ug/L	62.5	ND	104	17-181			
Vinyl chloride	53.0	5.00	ug/L	62.5	ND	84.7	1-251			
m,p-Xylene	104	10.0	ug/L	100	ND	104	0-200			
o-Xylene	52.6	5.00	ug/L	50.0	ND	105	0-200			
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DA90999-MS2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	36.7	20.0	ug/L	62.5	ND	58.7	40-160			
2-Chloroethyl vinyl ether	21.4	5.00	ug/L	62.5	ND	34.3	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
Acrylonitrile	43.3	20.0	ug/L	50.0	ND	86.6	40-160	12.4	60	
Benzene	43.3	5.00	ug/L	50.0	ND	86.5	37-151	13.5	61	
Bromodichloromethane	42.1	5.00	ug/L	50.0	ND	84.2	35-155	14.4	56	
Bromoform	41.5	5.00	ug/L	50.0	ND	83.0	45-169	10.7	42	
Bromomethane	49.6	5.00	ug/L	62.5	ND	79.4	1-242	15.0	61	
Carbon tetrachloride	46.1	5.00	ug/L	50.0	ND	92.2	70-140	13.7	41	
Chlorobenzene	44.3	5.00	ug/L	50.0	ND	88.6	37-160	12.2	53	
Chloroethane (Ethyl chloride)	50.8	5.00	ug/L	62.5	ND	81.2	14-230	15.2	78	
Chloroform	39.4	4.00	ug/L	50.0	ND	78.7	51-138	13.1	54	
Dibromochloromethane	41.7	5.00	ug/L	50.0	ND	83.5	53-149	10.7	50	
1,2-Dichlorobenzene	44.8	5.00	ug/L	50.0	ND	89.7	18-190	11.5	57	
1,3-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.3	59-156	9.88	43	
1,4-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.0	18-190	10.8	57	
Dichlorodifluoromethane (Freon-12)	39.1	5.00	ug/L	62.5	ND	62.6	0-200	14.6	200	
1,2-Dichloroethane	43.3	5.00	ug/L	50.0	ND	86.7	49-155	12.8	49	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
1,1-Dichloroethane	39.7	5.00	ug/L	50.0	ND	79.4	59-155	14.6	40	
cis-1,2-Dichloroethene	43.5	5.00	ug/L	50.0	ND	86.9	0-200	13.2	200	
1,1-Dichloroethene	42.2	5.00	ug/L	50.0	ND	84.3	1-234	15.7	32	
trans-1,2-Dichloroethene	41.9	4.00	ug/L	50.0	ND	83.9	54-156	13.9	45	
1,2-Dichloropropane	43.2	5.00	ug/L	50.0	ND	86.4	1-210	14.8	55	
cis-1,3-Dichloropropene	42.7	5.00	ug/L	50.0	ND	85.4	1-227	9.08	58	
trans-1,3-Dichloropropene	38.8	5.00	ug/L	50.0	ND	77.6	17-183	9.79	86	
Ethylbenzene	44.3	5.00	ug/L	50.0	ND	88.5	37-162	12.9	63	
Methyl tert-butyl ether (MTBE)	46.1	5.00	ug/L	50.0	ND	92.2	0-200	9.50	200	
Methylene chloride (Dichloromethane)	41.9	5.00	ug/L	50.0	ND	83.7	1-221	14.4	28	
1,1,2,2-Tetrachloroethane	42.9	5.00	ug/L	50.0	ND	85.9	46-157	8.26	61	
Tetrachloroethene	43.6	5.00	ug/L	50.0	ND	87.2	64-148	14.7	39	
Toluene	44.0	5.00	ug/L	50.0	ND	88.0	47-150	12.4	41	
1,1,2-Trichloroethane	40.8	5.00	ug/L	50.0	ND	81.6	52-150	11.8	45	
1,1,1-Trichloroethane	44.8	5.00	ug/L	50.0	ND	89.6	52-162	12.7	36	
Trichloroethene	43.3	5.00	ug/L	50.0	ND	86.6	70-157	13.2	48	
Trichlorofluoromethane (Freon 11)	55.5	5.00	ug/L	62.5	ND	88.8	17-181	15.7	84	
Vinyl chloride	44.4	5.00	ug/L	62.5	ND	71.0	1-251	17.6	66	
m,p-Xylene	92.2	10.0	ug/L	100	ND	92.2	0-200	12.2	200	
o-Xylene	46.3	5.00	ug/L	50.0	ND	92.5	0-200	12.8	200	
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DA90999-MSD2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	35.2	20.0	ug/L	62.5	ND	56.3	40-160	4.20	60	
2-Chloroethyl vinyl ether	21.5	5.00	ug/L	62.5	ND	34.4	1-305	0.559	71	
Surrogate: 4-Bromofluorobenzene	*51.1*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville	
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

M Montgomery

Melisa L. Montgomery
QA Officer
Reported: 01/24/2019 13:52

MICROBAC

D 9 A 1 2 1 6

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To		Billing Information		Project Information	
CUSTOMER:	VEOLIA WATER NORTH AMERICA	BILL TO:	VEOLIA WATER NORTH AMERICA	PROJECT:	PLYMOUTH, MA WWTP
ADDRESS:	131 CAMELOT DRIVE	ADDRESS:	125 SOUTH STREET SUITE 173	LOCATION:	ID 11773
	PLYMOUTH, MA 02360		MILWAUKEE, WI		WELLS - QUARTERLY
DELIVERY:	MICHAEL EMOND	PURCHASE ORDER #		ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL	MICHAEL EMOND
E-MAIL:		ATTENTION:	ACCOUNTS PAYABLE	PHONE:	CELL - 508-328-5758
PHONE:	508-830-4159 FAX: 508-732-0238	PHONE:	866-688-0988	FAX:	508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 1s (250 mL)	1/15/2019	10:05		X	WW	1	X	X											X			
Well # 1s (250 mL)	1/15/2019	10:05		X	WW	1			X	X								X				
Well # 1s (250 mL)(filtered)	1/15/2019	10:05		X	WW	1					X							X				
Well # 1s (500 mL)	1/15/2019	10:05		X	WW	1						X						X				
Well # 1s (500 mL)	1/15/2019	10:05		X	WW	1							X					X				
Well # 1s (250 mL)	1/15/2019	10:05		X	WW	1								X	X	X					X	
Well # 1s (40 mL vial)	1/15/2019	10:05		X	WW	2											X	X				
Well # 1s (40 mL vial)	1/15/2019	10:05		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-15-19	
RECEIVED:		
RELINQUISHED:	1.15.19	1354
RECEIVED:	1.15.19	1354
RELINQUISHED:	1.15.19	1555
RECEIVED:	1-15-19	1555

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1218

Project Description

Plymouth WWTP

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Melisa L. Montgomery
QA Officer

Wednesday, January 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9A1218

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 01/15/2019
Reported: 01/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A10	D9A1218-01	Wastewater	Grab		01/15/19 12:10	01/15/19 15:55
Well #A10 (Filtered)	D9A1218-02	Wastewater	Grab		01/15/19 12:10	01/15/19 15:55

Analytical Testing Parameters

Client Sample ID: Well #A10
Sample Matrix: Wastewater
Lab Sample ID: D9A1218-01
Collected By: Customer
Collection Date: 01/15/2019 12:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.320**	0.100	mg/L		01/17/19 1443	01/18/19 1526	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	<0.0100	0.0100	mg/L		01/17/19 1946	01/18/19 0935	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**16.5**	1.00	mg/L			01/22/19 1944	BDC
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**239**	10.0	mg/L			01/17/19 1048	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**2.89**	0.0500	mg/L			01/16/19 1946	DCH
Nitrite as N	<0.0100	0.0100	mg/L			01/16/19 1946	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 3010A/EPA 200.7, Rv. 4.4							
Boron	**0.0546**	0.0050	mg/L	**Y1**	01/17/19 1444	01/18/19 1359	BRC
Copper	<0.0020	0.0020	mg/L		01/17/19 1444	01/18/19 1359	BRC
Sodium	**140**	1.00	mg/L		01/17/19 1444	01/18/19 1359	BRC

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		01/17/19 2300	MRB
Acrolein	<20.0	20.0	ug/L			01/17/19 2300	MRB
Acrolein	<20.0	20.0	ug/L			01/17/19 2326	MRB
Acrylonitrile	<20.0	20.0	ug/L			01/17/19 2300	MRB
Benzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Bromodichloromethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
Bromoform	<5.00	5.00	ug/L			01/17/19 2300	MRB
Bromomethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2300	MRB
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
Carbon tetrachloride	<5.00	5.00	ug/L			01/17/19 2300	MRB
Chlorobenzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			01/17/19 2300	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/17/19 2300	MRB
2-Chloroethyl vinyl ether	<5.00	5.00	ug/L			01/17/19 2326	MRB
Chloroform	<4.00	4.00	ug/L			01/17/19 2300	MRB

CERTIFICATE OF ANALYSIS

D9A1218

Client Sample ID:	Well #A10		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1218-01	**Collection Date:**	01/15/2019 12:10

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Chloromethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
Dibromochloromethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
1,2-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
1,3-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
1,4-Dichlorobenzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
1,2-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
1,1-Dichloroethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
1,1-Dichloroethene	<5.00	5.00	ug/L			01/17/19 2300	MRB
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			01/17/19 2300	MRB
1,2-Dichloropropane	<5.00	5.00	ug/L			01/17/19 2300	MRB
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2300	MRB
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Ethylbenzene	<5.00	5.00	ug/L			01/17/19 2300	MRB
2-Hexanone (MBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2300	MRB
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			01/17/19 2300	MRB
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	**Y1**		01/17/19 2300	MRB
Styrene	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
Tetrachloroethene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Toluene	<5.00	5.00	ug/L			01/17/19 2300	MRB
1,1,2-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
1,1,1-Trichloroethane	<5.00	5.00	ug/L			01/17/19 2300	MRB
Trichloroethene	<5.00	5.00	ug/L			01/17/19 2300	MRB
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			01/17/19 2300	MRB
Vinyl chloride	<5.00	5.00	ug/L			01/17/19 2300	MRB
m,p-Xylene	<10.0	10.0	ug/L	**Y1**		01/17/19 2300	MRB
o-Xylene	<5.00	5.00	ug/L	**Y1**		01/17/19 2300	MRB
Vinyl acetate	**0.00**		ug/L	**Y1**		01/17/19 2300	MRB
Surrogate: 4-Bromofluorobenzene	96.4	Limit: 70-130	% Rec			01/17/19 2300	MRB
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 70-130	% Rec			01/17/19 2326	MRB
Surrogate: 1,2-Dichloroethane-d4	99.2	Limit: 70-130	% Rec			01/17/19 2300	MRB
Surrogate: 1,2-Dichloroethane-d4	99.4	Limit: 70-130	% Rec			01/17/19 2326	MRB
Surrogate: Toluene-d8	103	Limit: 70-130	% Rec			01/17/19 2326	MRB
Surrogate: Toluene-d8	99.5	Limit: 70-130	% Rec			01/17/19 2300	MRB

CERTIFICATE OF ANALYSIS

D9A1218

Client Sample ID:	Well #A10 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9A1218-02	**Collection Date:**	01/15/2019 12:10

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0210**	0.0100	mg/L		01/15/19 1741	01/16/19 2125	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DA90752-BLK1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	ND	0.0100	mg/L							
LCS (DA90752-BS1)			Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.940	0.0100	mg/L	1.00		93.8	90-110			
Duplicate (DA90752-DUP1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	0.495	0.0100	mg/L		0.527			6.26	20	A21
Matrix Spike (DA90752-MS1)	**Source: D9A1222-02**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.47	0.0100	mg/L	1.00	0.527	94.4	90-110			A21
Matrix Spike (DA90752-MS2)	**Source: D9A1228-08**		Prepared: 01/15/2019 Analyzed: 01/16/2019							
Ortho-phosphate as P	1.41	0.0100	mg/L	1.00	0.452	95.1	90-110			A21
Batch DA90853 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DA90853-BLK1)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	ND	0.0100	mg/L							
Nitrate as N	ND	0.0500	mg/L							
LCS (DA90853-BS1)			Prepared & Analyzed: 01/16/2019							
Nitrate as N	5.15	0.0500	mg/L	5.00		103	90-110			
LCS (DA90853-BS2)			Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DA90853-DUP1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	0.0488	0.0100	mg/L		0.0451			7.88	20	
Nitrate as N	11.0	0.100	mg/L		10.9			1.11	20	
Matrix Spike (DA90853-MS1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.0451	101	75-125			
Nitrate as N	15.0	0.200	mg/L	5.00	10.9	82.9	75-125			
Matrix Spike Dup (DA90853-MSD1)	**Source: D9A1276-04**		Prepared & Analyzed: 01/16/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0451	101	75-125	0.606	20	
Nitrate as N	15.2	0.200	mg/L	5.00	10.9	86.2	75-125	1.10	20	
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DA90893-BLK1)			Prepared & Analyzed: 01/17/2019							
Chloride	ND	2.00	mg/L							
LCS (DA90893-BS1)			Prepared & Analyzed: 01/17/2019							
Chloride	19.5	2.00	mg/L	20.0		97.7	90-110			
Duplicate (DA90893-DUP1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	14.7	2.00	mg/L		14.8			0.815	20	
Matrix Spike (DA90893-MS1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.1	2.00	mg/L	20.0	14.8	101	75-125			
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90893 - Wet Chem - W - SM4500-Cl E-2011										
Matrix Spike Dup (DA90893-MSD1)	**Source: D9A1216-01**		Prepared & Analyzed: 01/17/2019							
Chloride	35.4	2.00	mg/L	20.0	14.8	103	75-125	0.674	20	
Batch DA90943 - Wet-Digestion-W - EPA 351.1										
Blank (DA90943-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	ND	0.100	mg/L							
LCS (DA90943-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	4.85	0.100	mg/L	5.00		97.0	90-110			
Duplicate (DA90943-DUP1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	0.510	0.100	mg/L		0.375			30.6	20	R3
Matrix Spike (DA90943-MS1)	**Source: D9A1187-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	9.94	0.100	mg/L	10.0	0.375	95.6	90-110			
Matrix Spike (DA90943-MS2)	**Source: D9A1276-05**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Total Kjeldahl Nitrogen (TKN)	27.8	0.200	mg/L	10.0	19.1	87.4	90-110			M2
Batch DA90975 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DA90975-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	ND	0.0100	mg/L							
LCS (DA90975-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	0.972	0.0100	mg/L	1.00		97.2	90-110			
Duplicate (DA90975-DUP1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	1.88	0.0100	mg/L		1.88			0.113	20	
Matrix Spike (DA90975-MS1)	**Source: D9A1130-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.16	0.0200	mg/L	1.25	1.88	102	90-110			
Matrix Spike (DA90975-MS2)	**Source: D9A1155-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Phosphorus - Total as P	3.75	0.0400	mg/L	1.25	2.84	72.2	90-110			M2
Batch DA91199 - Wet Chem - W - SM2320 B-2011										
Duplicate (DA91199-DUP1)	**Source: D9A1215-01**		Prepared & Analyzed: 01/22/2019							
Alkalinity to pH 4.5	28.7	1.00	mg/L		28.7			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Blank (DA90917-BLK1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	ND	0.0050	mg/L							
Copper	ND	0.0020	mg/L							
Sodium	ND	1.00	mg/L							
LCS (DA90917-BS1)			Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.461	0.0050	mg/L	0.500		92.2	85-115			
Copper	0.472	0.0020	mg/L	0.500		94.5	85-115			
Sodium	9.74	1.00	mg/L	10.5		92.8	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90917 - 3010A - EPA 200.7, Rv. 4.4										
Duplicate (DA90917-DUP1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.0012	0.0020	mg/L		0.0031			90.2	20	R3
Sodium	56.8	1.00	mg/L		54.3			4.62	20	
Duplicate (DA90917-DUP2)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.0267	0.0050	mg/L		0.0326			19.9	20	
Matrix Spike (DA90917-MS1)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Copper	0.512	0.0020	mg/L	0.500	0.0031	102	70-130			
Sodium	66.2	1.00	mg/L	10.5	54.3	114	70-130			
Matrix Spike (DA90917-MS2)	**Source: D9A1213-01**		Prepared: 01/17/2019 Analyzed: 01/18/2019							
Boron	0.708	0.0050	mg/L	0.500	0.214	98.7	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0033	103	70-130			
Sodium	416	1.00	mg/L	10.5	416	NR	70-130			M6
Matrix Spike (DA90917-MS3)	**Source: D9A1212-01**		Prepared: 01/17/2019 Analyzed: 01/21/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0326	103	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
Acetone	ND	10.0	ug/L							
Acrolein	ND	20.0	ug/L							
Acrylonitrile	ND	20.0	ug/L							
Benzene	ND	5.00	ug/L							
Bromodichloromethane	ND	5.00	ug/L							
Bromoform	ND	5.00	ug/L							
Bromomethane	ND	5.00	ug/L							
2-Butanone (MEK)	ND	10.0	ug/L							
Carbon disulfide	ND	5.00	ug/L							
Carbon tetrachloride	ND	5.00	ug/L							
Chlorobenzene	ND	5.00	ug/L							
Chloroethane (Ethyl chloride)	ND	5.00	ug/L							
2-Chloroethyl vinyl ether	ND	5.00	ug/L							
Chloroform	ND	4.00	ug/L							
Chloromethane	ND	5.00	ug/L							
Dibromochloromethane	ND	5.00	ug/L							
Dibromomethane (Methylene bromide)	ND	5.00	ug/L							
1,2-Dichlorobenzene	ND	5.00	ug/L							
1,3-Dichlorobenzene	ND	5.00	ug/L							
1,4-Dichlorobenzene	ND	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L							
1,2-Dichloroethane	ND	5.00	ug/L							
1,1-Dichloroethane	ND	5.00	ug/L							
cis-1,2-Dichloroethene	ND	5.00	ug/L							
1,1-Dichloroethene	ND	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Blank (DA90999-BLK1)			Prepared & Analyzed: 01/17/2019							
trans-1,2-Dichloroethene	ND	4.00	ug/L							
1,2-Dichloropropane	ND	5.00	ug/L							
cis-1,3-Dichloropropene	ND	5.00	ug/L							
trans-1,3-Dichloropropene	ND	5.00	ug/L							
Ethylbenzene	ND	5.00	ug/L							
2-Hexanone (MBK)	ND	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	ND	5.00	ug/L							
Methylene chloride (Dichloromethane)	ND	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	ND	10.0	ug/L							
Styrene	ND	5.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	5.00	ug/L							
Tetrachloroethene	ND	5.00	ug/L							
Toluene	ND	5.00	ug/L							
1,1,2-Trichloroethane	ND	5.00	ug/L							
1,1,1-Trichloroethane	ND	5.00	ug/L							
Trichloroethene	ND	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	ND	5.00	ug/L							
Vinyl chloride	ND	5.00	ug/L							
m,p-Xylene	ND	10.0	ug/L							
o-Xylene	ND	5.00	ug/L							
Vinyl acetate	0.00		ug/L							
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.0*		*100*	*70-130*			
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Acetone	55.0	10.0	ug/L	50.0		110	65-133			
Acrolein	43.5	20.0	ug/L	50.0		87.1	60-140			
Acrylonitrile	56.1	20.0	ug/L	50.0		112	60-140			
Benzene	43.4	5.00	ug/L	50.0		86.9	65-135			
Bromodichloromethane	46.4	5.00	ug/L	50.0		92.7	65-135			
Bromoform	50.7	5.00	ug/L	50.0		101	70-130			
Bromomethane	45.2	5.00	ug/L	50.0		90.4	15-185			
2-Butanone (MEK)	60.0	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	43.1	5.00	ug/L	50.0		86.1	77-141			
Carbon tetrachloride	38.3	5.00	ug/L	50.0		76.5	70-130			
Chlorobenzene	46.3	5.00	ug/L	50.0		92.5	65-135			
Chloroethane (Ethyl chloride)	43.7	5.00	ug/L	50.0		87.4	40-160			
2-Chloroethyl vinyl ether	29.1	5.00	ug/L	50.0		58.2	1-225			
Chloroform	41.1	4.00	ug/L	50.0		82.1	70-135			
Chloromethane	39.8	5.00	ug/L	50.0		79.7	1-205			
Dibromochloromethane	48.4	5.00	ug/L	50.0		96.8	70-135			
Dibromomethane (Methylene bromide)	44.8	5.00	ug/L	50.0		89.6	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	47.5	5.00	ug/L	50.0		94.9	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.8	65-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
LCS (DA90999-BS1)			Prepared & Analyzed: 01/17/2019							
Dichlorodifluoromethane (Freon-12)	25.7	5.00	ug/L	50.0		51.5	1-205			
1,2-Dichloroethane	48.6	5.00	ug/L	50.0		97.1	70-130			
1,1-Dichloroethane	39.6	5.00	ug/L	50.0		79.1	70-130			
cis-1,2-Dichloroethene	45.6	5.00	ug/L	50.0		91.2	82-137			
1,1-Dichloroethene	36.3	5.00	ug/L	50.0		72.6	50-150			
trans-1,2-Dichloroethene	39.8	4.00	ug/L	50.0		79.6	70-130			
1,2-Dichloropropane	46.1	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.0	5.00	ug/L	50.0		95.9	25-175			
trans-1,3-Dichloropropene	45.7	5.00	ug/L	50.0		91.4	50-150			
Ethylbenzene	45.1	5.00	ug/L	50.0		90.1	60-140			
2-Hexanone (MBK)	61.0	10.0	ug/L	50.0		122	74-134			
Methyl tert-butyl ether (MTBE)	54.2	5.00	ug/L	50.0		108	81-140			
Methylene chloride (Dichloromethane)	45.2	5.00	ug/L	50.0		90.4	60-140			
4-Methyl-2-pentanone (MIBK)	58.9	10.0	ug/L	50.0		118	73-142			
Styrene	49.1	5.00	ug/L	50.0		98.2	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	41.1	5.00	ug/L	50.0		82.1	70-130			
Toluene	44.8	5.00	ug/L	50.0		89.5	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.3	70-130			
1,1,1-Trichloroethane	40.1	5.00	ug/L	50.0		80.2	70-130			
Trichloroethene	42.2	5.00	ug/L	50.0		84.3	65-135			
Trichlorofluoromethane (Freon 11)	40.6	5.00	ug/L	50.0		81.2	50-150			
Vinyl chloride	35.4	5.00	ug/L	50.0		70.8	5-195			
m,p-Xylene	93.2	10.0	ug/L	100		93.2	80-122			
o-Xylene	49.3	5.00	ug/L	50.0		98.5	81-125			
Vinyl acetate	52.4	5.00	ug/L	50.0		105	60-140			
Surrogate: 4-Bromofluorobenzene	*51.5*		ug/L	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.5*	*70-130*			
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
Acrylonitrile	49.0	20.0	ug/L	50.0	ND	98.0	40-160			
Benzene	49.5	5.00	ug/L	50.0	ND	99.0	37-151			
Bromodichloromethane	48.7	5.00	ug/L	50.0	ND	97.3	35-155			
Bromoform	46.2	5.00	ug/L	50.0	ND	92.4	45-169			
Bromomethane	57.7	5.00	ug/L	62.5	ND	92.3	1-242			
Carbon tetrachloride	52.9	5.00	ug/L	50.0	ND	106	70-140			
Chlorobenzene	50.0	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	59.1	5.00	ug/L	62.5	ND	94.5	14-230			
Chloroform	44.9	4.00	ug/L	50.0	ND	89.7	51-138			
Dibromochloromethane	46.5	5.00	ug/L	50.0	ND	93.0	53-149			
1,2-Dichlorobenzene	50.3	5.00	ug/L	50.0	ND	101	18-190			
1,3-Dichlorobenzene	48.7	5.00	ug/L	50.0	ND	97.5	59-156			
1,4-Dichlorobenzene	47.9	5.00	ug/L	50.0	ND	95.8	18-190			
Dichlorodifluoromethane (Freon-12)	45.3	5.00	ug/L	62.5	ND	72.5	0-200			
1,2-Dichloroethane	49.2	5.00	ug/L	50.0	ND	98.5	49-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike (DA90999-MS1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/17/2019							
1,1-Dichloroethane	46.0	5.00	ug/L	50.0	ND	91.9	59-155			
cis-1,2-Dichloroethene	49.6	5.00	ug/L	50.0	ND	99.2	0-200			
1,1-Dichloroethene	49.3	5.00	ug/L	50.0	ND	98.7	1-234			
trans-1,2-Dichloroethene	48.2	4.00	ug/L	50.0	ND	96.4	54-156			
1,2-Dichloropropane	50.1	5.00	ug/L	50.0	ND	100	1-210			
cis-1,3-Dichloropropene	46.7	5.00	ug/L	50.0	ND	93.5	1-227			
trans-1,3-Dichloropropene	42.8	5.00	ug/L	50.0	ND	85.5	17-183			
Ethylbenzene	50.3	5.00	ug/L	50.0	ND	101	37-162			
Methyl tert-butyl ether (MTBE)	50.7	5.00	ug/L	50.0	ND	101	0-200			
Methylene chloride (Dichloromethane)	48.3	5.00	ug/L	50.0	ND	96.6	1-221			
1,1,2,2-Tetrachloroethane	46.6	5.00	ug/L	50.0	ND	93.3	46-157			
Tetrachloroethene	50.5	5.00	ug/L	50.0	ND	101	64-148			
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150			
1,1,2-Trichloroethane	45.9	5.00	ug/L	50.0	ND	91.8	52-150			
1,1,1-Trichloroethane	50.9	5.00	ug/L	50.0	ND	102	52-162			
Trichloroethene	49.5	5.00	ug/L	50.0	ND	98.9	70-157			
Trichlorofluoromethane (Freon 11)	65.0	5.00	ug/L	62.5	ND	104	17-181			
Vinyl chloride	53.0	5.00	ug/L	62.5	ND	84.7	1-251			
m,p-Xylene	104	10.0	ug/L	100	ND	104	0-200			
o-Xylene	52.6	5.00	ug/L	50.0	ND	105	0-200			
Surrogate: 4-Bromofluorobenzene	*50.7*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DA90999-MS2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	36.7	20.0	ug/L	62.5	ND	58.7	40-160			
2-Chloroethyl vinyl ether	21.4	5.00	ug/L	62.5	ND	34.3	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
Acrylonitrile	43.3	20.0	ug/L	50.0	ND	86.6	40-160	12.4	60	
Benzene	43.3	5.00	ug/L	50.0	ND	86.5	37-151	13.5	61	
Bromodichloromethane	42.1	5.00	ug/L	50.0	ND	84.2	35-155	14.4	56	
Bromoform	41.5	5.00	ug/L	50.0	ND	83.0	45-169	10.7	42	
Bromomethane	49.6	5.00	ug/L	62.5	ND	79.4	1-242	15.0	61	
Carbon tetrachloride	46.1	5.00	ug/L	50.0	ND	92.2	70-140	13.7	41	
Chlorobenzene	44.3	5.00	ug/L	50.0	ND	88.6	37-160	12.2	53	
Chloroethane (Ethyl chloride)	50.8	5.00	ug/L	62.5	ND	81.2	14-230	15.2	78	
Chloroform	39.4	4.00	ug/L	50.0	ND	78.7	51-138	13.1	54	
Dibromochloromethane	41.7	5.00	ug/L	50.0	ND	83.5	53-149	10.7	50	
1,2-Dichlorobenzene	44.8	5.00	ug/L	50.0	ND	89.7	18-190	11.5	57	
1,3-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.3	59-156	9.88	43	
1,4-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.0	18-190	10.8	57	
Dichlorodifluoromethane (Freon-12)	39.1	5.00	ug/L	62.5	ND	62.6	0-200	14.6	200	
1,2-Dichloroethane	43.3	5.00	ug/L	50.0	ND	86.7	49-155	12.8	49	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DA90999 - 624 - EPA 624.1										
Matrix Spike Dup (DA90999-MSD1)	**Source: D9A1130-01**		Prepared & Analyzed: 01/18/2019							
1,1-Dichloroethane	39.7	5.00	ug/L	50.0	ND	79.4	59-155	14.6	40	
cis-1,2-Dichloroethene	43.5	5.00	ug/L	50.0	ND	86.9	0-200	13.2	200	
1,1-Dichloroethene	42.2	5.00	ug/L	50.0	ND	84.3	1-234	15.7	32	
trans-1,2-Dichloroethene	41.9	4.00	ug/L	50.0	ND	83.9	54-156	13.9	45	
1,2-Dichloropropane	43.2	5.00	ug/L	50.0	ND	86.4	1-210	14.8	55	
cis-1,3-Dichloropropene	42.7	5.00	ug/L	50.0	ND	85.4	1-227	9.08	58	
trans-1,3-Dichloropropene	38.8	5.00	ug/L	50.0	ND	77.6	17-183	9.79	86	
Ethylbenzene	44.3	5.00	ug/L	50.0	ND	88.5	37-162	12.9	63	
Methyl tert-butyl ether (MTBE)	46.1	5.00	ug/L	50.0	ND	92.2	0-200	9.50	200	
Methylene chloride (Dichloromethane)	41.9	5.00	ug/L	50.0	ND	83.7	1-221	14.4	28	
1,1,2,2-Tetrachloroethane	42.9	5.00	ug/L	50.0	ND	85.9	46-157	8.26	61	
Tetrachloroethene	43.6	5.00	ug/L	50.0	ND	87.2	64-148	14.7	39	
Toluene	44.0	5.00	ug/L	50.0	ND	88.0	47-150	12.4	41	
1,1,2-Trichloroethane	40.8	5.00	ug/L	50.0	ND	81.6	52-150	11.8	45	
1,1,1-Trichloroethane	44.8	5.00	ug/L	50.0	ND	89.6	52-162	12.7	36	
Trichloroethene	43.3	5.00	ug/L	50.0	ND	86.6	70-157	13.2	48	
Trichlorofluoromethane (Freon 11)	55.5	5.00	ug/L	62.5	ND	88.8	17-181	15.7	84	
Vinyl chloride	44.4	5.00	ug/L	62.5	ND	71.0	1-251	17.6	66	
m,p-Xylene	92.2	10.0	ug/L	100	ND	92.2	0-200	12.2	200	
o-Xylene	46.3	5.00	ug/L	50.0	ND	92.5	0-200	12.8	200	
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DA90999-MSD2)	**Source: D9A1130-01RE1**		Prepared & Analyzed: 01/18/2019							
Acrolein	35.2	20.0	ug/L	62.5	ND	56.3	40-160	4.20	60	
2-Chloroethyl vinyl ether	21.5	5.00	ug/L	62.5	ND	34.4	1-305	0.559	71	
Surrogate: 4-Bromofluorobenzene	*51.1*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M2:	Matrix spike recovery is below acceptance limits.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville	
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

M Montgomery

Melisa L. Montgomery
QA Officer
Reported: 01/23/2019 14:34

MICROBAC

D 9 A 1 2 1 8

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: MICHAEL EMOND
E-MAIL:
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
MICHAEL EMOND
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A10 (250 mL)	1/15/2019	12:10		X	WW	1	X	X											X			
Well # A10 (250 mL)	1/15/2019	12:10		X	WW	1			X	X								X				
Well # A10 (250 mL)(filtered)	1/15/2019	12:10		X	WW	1					X							X				
Well # A10 (500 mL)	1/15/2019	12:10		X	WW	1						X						X				
Well # A10 (500 mL)	1/15/2019	12:10		X	WW	1							X					X				
Well # A10 (250 mL)	1/15/2019	12:10		X	WW	1								X	X	X					X	
Well # A10 (40 mL vial)	1/15/2019	12:10		X	WW	2			PRESERVATIVE VERIFIED initials								X	X				
Well # A10 (40 mL vial)	1/15/2019	12:10		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	1-15-19	
RECEIVED:		
RELINQUISHED:	1-15-19	13:54
RECEIVED:	1.15.19	1754
RELINQUISHED:	1.15.19	1555
RECEIVED:	1-15-19	1555

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.1 °C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0552

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, April 11, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0552

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/04/2019
Reported: 04/11/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #475	D9D0552-01	Wastewater	Grab		04/04/19 10:54	04/04/19 15:30
Well #475 (Filtered)	D9D0552-02	Wastewater	Grab		04/04/19 10:54	04/04/19 15:30

CERTIFICATE OF ANALYSIS

D9D0552

Analytical Testing Parameters

Client Sample ID: Well #475
Sample Matrix: Wastewater
Lab Sample ID: D9D0552-01
Collected By: Customer
Collection Date: 04/04/2019 10:54

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		04/09/19 1500	04/10/19 1228	CLW
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0255**	0.0106	mg/L		04/08/19 2030	04/09/19 1138	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**3.50**	1.00	mg/L			04/08/19 1714	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**71.9**	2.00	mg/L			04/09/19 1044	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**1.59**	0.0500	mg/L			04/05/19 0011	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/05/19 0011	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0197**	0.0050	mg/L	**Y1**	04/08/19 1403	04/09/19 1607	DLO
Copper	<0.0020	0.0020	mg/L		04/08/19 1403	04/09/19 1607	DLO
Sodium	**33.8**	1.00	mg/L		04/08/19 1403	04/09/19 1607	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/09/19 1614	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/09/19 1614	JAN
Benzene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
Bromoform	<5.00	5.00	ug/L			04/09/19 1614	JAN
Bromomethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/09/19 1614	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/09/19 1614	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/09/19 1614	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/09/19 1614	JAN
Chloroform	<4.00	4.00	ug/L			04/09/19 1614	JAN
Chloromethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/09/19 1614	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1614	JAN

CERTIFICATE OF ANALYSIS

D9D0552

Client Sample ID:	Well #475		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0552-01	**Collection Date:**	04/04/2019 10:54

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1614	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/09/19 1614	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/09/19 1614	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/09/19 1614	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1614	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/09/19 1614	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/09/19 1614	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/09/19 1614	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/09/19 1614	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Toluene	<5.00	5.00	ug/L			04/09/19 1614	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1614	JAN
Trichloroethene	<5.00	5.00	ug/L			04/09/19 1614	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/09/19 1614	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/09/19 1614	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/09/19 1614	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/09/19 1614	JAN
Surrogate: 4-Bromofluorobenzene	94.0	Limit: 70-130	% Rec			04/09/19 1614	JAN
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 70-130	% Rec			04/09/19 1614	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/09/19 1614	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/05/19 1306	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/05/19 1306	JAN
Surrogate: 4-Bromofluorobenzene	93.4	Limit: 70-130	% Rec			04/05/19 1306	JAN
Surrogate: 1,2-Dichloroethane-d4	112	Limit: 70-130	% Rec			04/05/19 1306	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/05/19 1306	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0552

Client Sample ID:	Well #475 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0552-02	**Collection Date:**	04/04/2019 10:54

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0220**	0.0100	mg/L		04/05/19 0208	04/05/19 0228	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90302 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD90302-BLK1)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD90302-BS1)			Prepared & Analyzed: 04/04/2019							
Nitrate as N	5.19	0.0500	mg/L	5.00		104	90-110			
LCS (DD90302-BS2)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DD90302-DUP1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00330			16.4	20	
Nitrate as N	4.37	0.0500	mg/L		4.32			1.12	20	
Matrix Spike (DD90302-MS1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.00330	105	75-125			
Nitrate as N	9.24	0.0500	mg/L	5.00	4.32	98.3	75-125			
Matrix Spike Dup (DD90302-MSD1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/05/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.00330	104	75-125	1.03	20	
Nitrate as N	9.12	0.0500	mg/L	5.00	4.32	96.1	75-125	1.21	20	
Batch DD90304 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90304-BLK1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DD90304-BLK2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD90304-BS1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.993	0.0100	mg/L	1.00		99.1	90-110			
LCS (DD90304-BS2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.998	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DD90304-DUP1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.0260	0.0100	mg/L		0.0220			16.7	20	
Matrix Spike (DD90304-MS1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.08	0.0100	mg/L	1.00	0.0220	106	90-110			
Matrix Spike (DD90304-MS2)		**Source: L9D0130-01**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0220	104	90-110			
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD90467-BLK1)			Prepared & Analyzed: 04/09/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD90467-BS1)			Prepared & Analyzed: 04/09/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Duplicate (DD90467-DUP1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	71.5	2.00	mg/L		71.9			0.657	20	
Matrix Spike (DD90467-MS1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	88.9	2.00	mg/L	20.0	71.9	84.9	75-125			
Matrix Spike Dup (DD90467-MSD1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	89.2	2.00	mg/L	20.0	71.9	86.1	75-125	0.282	20	
Batch DD90468 - Wet Chem - W - SM2320 B-2011										
Blank (DD90468-BLK1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD90468-BS1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD90468-DUP1)		**Source: D9D0641-02**	Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	32.3	1.00	mg/L		32.3			0.00	20	
Batch DD90485 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90485-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD90485-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.972	0.0106	mg/L	1.00		97.2	90-110			
Duplicate (DD90485-DUP1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.0563	0.0106	mg/L		0.0553			1.90	20	
Matrix Spike (DD90485-MS1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.23	0.0106	mg/L	1.25	0.0553	93.9	90-110			
Matrix Spike (DD90485-MS2)		**Source: D9D0495-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.75	0.0106	mg/L	1.25	0.431	105	90-110			
Batch DD90535 - Wet-Digestion-W - EPA 351.1										
Blank (DD90535-BLK1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DD90535-BS1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	4.98	0.200	mg/L	5.00		99.6	90-110			
Duplicate (DD90535-DUP1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DD90535-MS1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	9.77	0.200	mg/L	10.0	ND	97.7	90-110			
Matrix Spike (DD90535-MS2)		**Source: D9D0601-01**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.53	99.0	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90433 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD90433-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD90433-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.519	0.0050	mg/L	0.500		104	85-115			
Copper	0.504	0.0020	mg/L	0.500		101	85-115			
Sodium	10.8	1.00	mg/L	10.5		103	85-115			
Duplicate (DD90433-DUP1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.0147	0.0050	mg/L		0.0150			1.59	20	
Copper	0.0021	0.0020	mg/L		0.0016			26.1	20	R3
Sodium	35.0	1.00	mg/L		34.1			2.56	20	
Matrix Spike (DD90433-MS1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0150	107	70-130			
Copper	0.513	0.0020	mg/L	0.500	0.0016	102	70-130			
Sodium	45.4	1.00	mg/L	10.5	34.1	107	70-130			
Matrix Spike (DD90433-MS2)		**Source: D9D0608-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0160	105	70-130			
Copper	0.515	0.0020	mg/L	0.500	0.0021	103	70-130			
Sodium	165	1.00	mg/L	10.5	153	113	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.9*		ug/L	*50.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
LCS (DD90631-BS1)			Prepared & Analyzed: 04/09/2019							
Acetone	49.1	10.0	ug/L	50.0		98.1	65-133			
Acrylonitrile	50.4	20.0	ug/L	50.0		101	60-140			
Benzene	43.2	5.00	ug/L	50.0		86.4	65-135			
Bromodichloromethane	42.9	5.00	ug/L	50.0		85.8	65-135			
Bromoform	42.9	5.00	ug/L	50.0		85.8	70-130			
Bromomethane	52.5	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	57.4	10.0	ug/L	50.0		115	77-140			
Carbon disulfide	41.2	5.00	ug/L	50.0		82.3	70-130			
Carbon tetrachloride	44.6	5.00	ug/L	50.0		89.3	70-130			
Chlorobenzene	45.8	5.00	ug/L	50.0		91.6	65-135			
Chloroethane (Ethyl chloride)	49.8	5.00	ug/L	50.0		99.6	40-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
LCS (DD90631-BS1)				Prepared & Analyzed: 04/09/2019						
Chloroform	42.6	4.00	ug/L	50.0		85.2	70-135			
Chloromethane	40.7	5.00	ug/L	50.0		81.4	1-205			
Dibromochloromethane	44.7	5.00	ug/L	50.0		89.4	70-135			
Dibromomethane (Methylene bromide)	42.2	5.00	ug/L	50.0		84.3	76-126			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0		95.8	65-135			
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0		92.7	70-130			
1,4-Dichlorobenzene	46.2	5.00	ug/L	50.0		92.5	65-135			
Dichlorodifluoromethane (Freon-12)	43.5	5.00	ug/L	50.0		87.0	1-205			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0		91.8	70-130			
1,1-Dichloroethane	44.0	5.00	ug/L	50.0		87.9	70-130			
cis-1,2-Dichloroethene	43.8	5.00	ug/L	50.0		87.5	82-137			
1,1-Dichloroethene	42.7	5.00	ug/L	50.0		85.5	50-150			
trans-1,2-Dichloroethene	42.0	4.00	ug/L	50.0		84.0	70-130			
1,2-Dichloropropane	46.2	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.8	5.00	ug/L	50.0		97.7	25-175			
trans-1,3-Dichloropropene	46.7	5.00	ug/L	50.0		93.3	50-150			
Ethylbenzene	45.3	5.00	ug/L	50.0		90.5	60-140			
2-Hexanone (MBK)	52.6	10.0	ug/L	50.0		105	74-134			
Methyl tert-butyl ether (MTBE)	58.0	5.00	ug/L	50.0		116	81-140			
Methylene chloride (Dichloromethane)	40.0	5.00	ug/L	50.0		80.1	60-140			
4-Methyl-2-pentanone (MIBK)	53.2	10.0	ug/L	50.0		106	73-142			
Styrene	46.1	5.00	ug/L	50.0		92.3	82-125			
1,1,2,2-Tetrachloroethane	50.3	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	44.1	5.00	ug/L	50.0		88.2	70-130			
Toluene	45.6	5.00	ug/L	50.0		91.3	70-130			
1,1,2-Trichloroethane	44.9	5.00	ug/L	50.0		89.8	70-130			
1,1,1-Trichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
Trichloroethene	42.4	5.00	ug/L	50.0		84.8	65-135			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	45.3	5.00	ug/L	50.0		90.5	5-195			
m,p-Xylene	89.6	10.0	ug/L	100		89.6	80-122			
o-Xylene	45.7	5.00	ug/L	50.0		91.5	81-125			
Vinyl acetate	55.0	5.00	ug/L	50.0		110	60-140			
Surrogate: 4-Bromofluorobenzene	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**			Prepared & Analyzed: 04/09/2019						
Acetone	51.5	10.0	ug/L	50.0	ND	103	0-200			
Acrylonitrile	48.5	20.0	ug/L	50.0	ND	97.0	40-160			
Benzene	46.8	5.00	ug/L	50.0	ND	93.7	37-151			
Bromodichloromethane	44.6	5.00	ug/L	50.0	ND	89.1	35-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019								
Bromoform	41.9	5.00	ug/L	50.0	ND	83.9	45-169			
Bromomethane	57.5	5.00	ug/L	50.0	ND	115	1-242			
2-Butanone (MEK)	54.9	10.0	ug/L	50.0	ND	110	0-200			
Carbon disulfide	43.4	5.00	ug/L	50.0	ND	86.7	0-200			
Carbon tetrachloride	48.4	5.00	ug/L	50.0	ND	96.8	70-140			
Chlorobenzene	46.0	5.00	ug/L	50.0	ND	92.0	37-160			
Chloroethane (Ethyl chloride)	52.7	5.00	ug/L	50.0	ND	105	14-230			
Chloroform	46.2	4.00	ug/L	50.0	ND	92.3	51-138			
Chloromethane	42.2	5.00	ug/L	50.0	ND	84.4	1-273			
Dibromochloromethane	44.5	5.00	ug/L	50.0	ND	89.0	53-149			
Dibromomethane (Methylene bromide)	43.1	5.00	ug/L	50.0	ND	86.2	0-200			
1,2-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	18-190			
1,3-Dichlorobenzene	44.4	5.00	ug/L	50.0	ND	88.8	59-156			
1,4-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.4	18-190			
Dichlorodifluoromethane (Freon-12)	43.2	5.00	ug/L	50.0	ND	86.5	0-200			
1,2-Dichloroethane	47.8	5.00	ug/L	50.0	ND	95.5	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.1	59-155			
cis-1,2-Dichloroethene	46.7	5.00	ug/L	50.0	ND	93.5	0-200			
1,1-Dichloroethene	46.1	5.00	ug/L	50.0	ND	92.3	1-234			
trans-1,2-Dichloroethene	45.2	4.00	ug/L	50.0	ND	90.5	54-156			
1,2-Dichloropropane	49.3	5.00	ug/L	50.0	ND	98.7	1-210			
cis-1,3-Dichloropropene	47.3	5.00	ug/L	50.0	ND	94.6	1-227			
trans-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.9	17-183			
Ethylbenzene	45.7	5.00	ug/L	50.0	ND	91.4	37-162			
2-Hexanone (MBK)	48.9	10.0	ug/L	50.0	ND	97.8	0-200			
Methyl tert-butyl ether (MTBE)	58.7	5.00	ug/L	50.0	ND	117	0-200			
Methylene chloride (Dichloromethane)	42.1	5.00	ug/L	50.0	ND	84.2	1-221			
4-Methyl-2-pentanone (MIBK)	50.5	10.0	ug/L	50.0	ND	101	0-200			
Styrene	46.2	5.00	ug/L	50.0	ND	92.4	0-200			
1,1,2,2-Tetrachloroethane	48.3	5.00	ug/L	50.0	ND	96.6	46-157			
Tetrachloroethene	43.8	5.00	ug/L	50.0	ND	87.6	64-148			
Toluene	47.1	5.00	ug/L	50.0	ND	94.1	47-150			
1,1,2-Trichloroethane	44.2	5.00	ug/L	50.0	ND	88.5	52-150			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0	ND	98.7	52-162			
Trichloroethene	45.7	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	57.5	5.00	ug/L	50.0	ND	115	17-181			
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251			
m,p-Xylene	91.0	10.0	ug/L	100	ND	91.0	0-200			
o-Xylene	46.8	5.00	ug/L	50.0	ND	93.6	0-200			
Vinyl acetate	45.8	5.00	ug/L	50.0	ND	91.6	60-140			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.8*		ug/L	*50.0*		*108*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/09/2019						
Surrogate: Toluene-d8		*50.7*	ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DD90631-MSD2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019						
Acetone	56.5	10.0	ug/L	50.0	ND	113	0-200	9.25	200	
Acrylonitrile	51.6	20.0	ug/L	50.0	ND	103	40-160	6.14	60	
Benzene	47.3	5.00	ug/L	50.0	ND	94.6	37-151	1.02	61	
Bromodichloromethane	45.9	5.00	ug/L	50.0	ND	91.9	35-155	3.01	56	
Bromoform	44.3	5.00	ug/L	50.0	ND	88.6	45-169	5.47	42	
Bromomethane	57.9	5.00	ug/L	50.0	ND	116	1-242	0.607	61	
2-Butanone (MEK)	57.5	10.0	ug/L	50.0	ND	115	0-200	4.61	200	
Carbon disulfide	44.9	5.00	ug/L	50.0	ND	89.8	0-200	3.47	200	
Carbon tetrachloride	49.8	5.00	ug/L	50.0	ND	99.5	70-140	2.73	41	
Chlorobenzene	47.2	5.00	ug/L	50.0	ND	94.4	37-160	2.64	53	
Chloroethane (Ethyl chloride)	52.9	5.00	ug/L	50.0	ND	106	14-230	0.493	78	
Chloroform	47.5	4.00	ug/L	50.0	ND	94.9	51-138	2.78	54	
Chloromethane	42.8	5.00	ug/L	50.0	ND	85.6	1-273	1.41	60	
Dibromochloromethane	46.1	5.00	ug/L	50.0	ND	92.1	53-149	3.40	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	4.43	200	
1,2-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	18-190	1.42	57	
1,3-Dichlorobenzene	45.6	5.00	ug/L	50.0	ND	91.1	59-156	2.60	43	
1,4-Dichlorobenzene	46.1	5.00	ug/L	50.0	ND	92.1	18-190	4.17	57	
Dichlorodifluoromethane (Freon-12)	44.3	5.00	ug/L	50.0	ND	88.6	0-200	2.44	200	
1,2-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.7	49-155	0.209	49	
1,1-Dichloroethane	47.5	5.00	ug/L	50.0	ND	95.1	59-155	3.12	40	
cis-1,2-Dichloroethene	47.5	5.00	ug/L	50.0	ND	94.9	0-200	1.55	200	
1,1-Dichloroethene	48.5	5.00	ug/L	50.0	ND	97.0	1-234	4.97	32	
trans-1,2-Dichloroethene	47.0	4.00	ug/L	50.0	ND	94.1	54-156	3.88	45	
1,2-Dichloropropane	50.5	5.00	ug/L	50.0	ND	101	1-210	2.26	55	
cis-1,3-Dichloropropene	47.6	5.00	ug/L	50.0	ND	95.1	1-227	0.590	58	
trans-1,3-Dichloropropene	44.8	5.00	ug/L	50.0	ND	89.6	17-183	3.13	86	
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.2	37-162	1.97	63	
2-Hexanone (MBK)	51.8	10.0	ug/L	50.0	ND	104	0-200	5.82	200	
Methyl tert-butyl ether (MTBE)	62.3	5.00	ug/L	50.0	ND	125	0-200	5.90	200	
Methylene chloride (Dichloromethane)	43.5	5.00	ug/L	50.0	ND	87.0	1-221	3.30	28	
4-Methyl-2-pentanone (MIBK)	52.8	10.0	ug/L	50.0	ND	106	0-200	4.43	200	
Styrene	46.8	5.00	ug/L	50.0	ND	93.6	0-200	1.27	200	
1,1,2,2-Tetrachloroethane	50.7	5.00	ug/L	50.0	ND	101	46-157	4.91	61	
Tetrachloroethene	44.8	5.00	ug/L	50.0	ND	89.6	64-148	2.28	39	
Toluene	47.0	5.00	ug/L	50.0	ND	94.0	47-150	0.170	41	
1,1,2-Trichloroethane	46.4	5.00	ug/L	50.0	ND	92.8	52-150	4.72	45	
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0	ND	101	52-162	2.40	36	
Trichloroethene	45.9	5.00	ug/L	50.0	ND	91.8	70-157	0.371	48	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD90631-MSD2)	**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019							
Trichlorofluoromethane (Freon 11)	58.4	5.00	ug/L	50.0	ND	117	17-181	1.55	84	
Vinyl chloride	51.9	5.00	ug/L	50.0	ND	104	1-251	3.63	66	
m,p-Xylene	92.7	10.0	ug/L	100	ND	92.7	0-200	1.85	200	
o-Xylene	47.3	5.00	ug/L	50.0	ND	94.6	0-200	1.06	200	
Vinyl acetate	48.1	5.00	ug/L	50.0	ND	96.1	60-140	4.88	25	
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.6*		ug/L	*50.0*		*101*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90422 - 624.1 - EPA 624.1										
Blank (DD90422-BLK1)			Prepared & Analyzed: 04/05/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.2*		ug/L	*50.0*		*94.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.5*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
LCS (DD90422-BS1)			Prepared & Analyzed: 04/05/2019							
Acrolein	64.2	20.0	ug/L	50.0		128	60-140			
2-Chloroethyl vinyl ether	44.1	20.0	ug/L	50.0		88.1	1-305			
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.5*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike (DD90422-MS1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	43.7	20.0	ug/L	50.0	ND	87.3	40-160			
2-Chloroethyl vinyl ether	35.4	20.0	ug/L	50.0	ND	70.9	1-305			
Surrogate: 4-Bromofluorobenzene	*46.1*		ug/L	*50.0*		*92.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike Dup (DD90422-MSD1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	51.3	20.0	ug/L	50.0	ND	103	40-160	16.0	60	
2-Chloroethyl vinyl ether	37.7	20.0	ug/L	50.0	ND	75.3	1-305	6.07	71	
Surrogate: 4-Bromofluorobenzene	*45.8*		ug/L	*50.0*		*91.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*56.3*		ug/L	*50.0*		*113*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			

Definitions

R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall

Project Manager

Reported: 04/11/2019 17:19

MICROBAC

Microbac Laboratories, Inc.

D 9 D 0 5 5 2

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 475 (250 mL)	4/4/2019	1654		X	WW	1	X	X											X			
Well # 475 (250 mL)	4/4/2019			X	WW	1			X	X								X				
Well # 475 (250 mL)(filtered)	4/4/2019			X	WW	1					X							X				
Well # 475 (250 mL)	4/4/2019			X	WW	1						X						X				
Well # 475 (250 mL)	4/4/2019			X	WW	1							X					X				
Well # 475 (250 mL)	4/4/2019			X	WW	1								X	X	X					X	
Well # 475 (40 mL vial)	4/4/2019			X	WW	2											X	X				
Well # 475 (40 mL vial)	4/4/2019			X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-4-19	13:17
RECEIVED:		
RELINQUISHED:		
RECEIVED:	4/4/19	13:13
RELINQUISHED:	4/4/19	15:30
RECEIVED:	4-4-19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☑ AMBIENT ☐ COMPLIANT ☐

3-8°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0555

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, April 11, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0555

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/04/2019
Reported: 04/11/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A11	D9D0555-01	Wastewater	Grab		04/04/19 13:07	04/04/19 15:30
Well #A11 (Filtered)	D9D0555-02	Wastewater	Grab		04/04/19 13:07	04/04/19 15:30

CERTIFICATE OF ANALYSIS

D9D0555

Analytical Testing Parameters

Client Sample ID:	Well #A11		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0555-01	**Collection Date:**	04/04/2019 13:07

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		04/09/19 1500	04/10/19 1229	CLW
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0159**	0.0106	mg/L		04/08/19 2030	04/09/19 1140	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**5.50**	1.00	mg/L			04/08/19 1714	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**208**	8.00	mg/L			04/09/19 1103	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**1.93**	0.0500	mg/L			04/05/19 0012	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/05/19 0012	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0146**	0.0050	mg/L	**Y1**	04/08/19 1403	04/09/19 1617	DLO
Copper	<0.0020	0.0020	mg/L		04/08/19 1403	04/09/19 1617	DLO
Sodium	**102**	1.00	mg/L		04/08/19 1403	04/09/19 1617	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/09/19 1640	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/09/19 1640	JAN
Benzene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
Bromoform	<5.00	5.00	ug/L			04/09/19 1640	JAN
Bromomethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/09/19 1640	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/09/19 1640	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/09/19 1640	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/09/19 1640	JAN
Chloroform	<4.00	4.00	ug/L			04/09/19 1640	JAN
Chloromethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/09/19 1640	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1640	JAN

CERTIFICATE OF ANALYSIS

D9D0555

Client Sample ID:	Well #A11		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0555-01	**Collection Date:**	04/04/2019 13:07

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1640	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/09/19 1640	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/09/19 1640	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/09/19 1640	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1640	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/09/19 1640	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/09/19 1640	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/09/19 1640	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/09/19 1640	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Toluene	<5.00	5.00	ug/L			04/09/19 1640	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1640	JAN
Trichloroethene	<5.00	5.00	ug/L			04/09/19 1640	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/09/19 1640	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/09/19 1640	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/09/19 1640	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/09/19 1640	JAN
Surrogate: 4-Bromofluorobenzene	92.3	Limit: 70-130	% Rec			04/09/19 1640	JAN
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 70-130	% Rec			04/09/19 1640	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/09/19 1640	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/05/19 1332	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/05/19 1332	JAN
Surrogate: 4-Bromofluorobenzene	94.2	Limit: 70-130	% Rec			04/05/19 1332	JAN
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 70-130	% Rec			04/05/19 1332	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/05/19 1332	JAN

CERTIFICATE OF ANALYSIS

D9D0555

Client Sample ID:	Well #A11 (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0555-02	**Collection Date:**	04/04/2019 13:07

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0190**	0.0100	mg/L		04/05/19 0208	04/05/19 0236	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90302 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD90302-BLK1)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD90302-BS1)			Prepared & Analyzed: 04/04/2019							
Nitrate as N	5.19	0.0500	mg/L	5.00		104	90-110			
LCS (DD90302-BS2)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DD90302-DUP1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00330			16.4	20	
Nitrate as N	4.37	0.0500	mg/L		4.32			1.12	20	
Matrix Spike (DD90302-MS1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.00330	105	75-125			
Nitrate as N	9.24	0.0500	mg/L	5.00	4.32	98.3	75-125			
Matrix Spike Dup (DD90302-MSD1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/05/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.00330	104	75-125	1.03	20	
Nitrate as N	9.12	0.0500	mg/L	5.00	4.32	96.1	75-125	1.21	20	
Batch DD90304 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90304-BLK1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DD90304-BLK2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD90304-BS1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.993	0.0100	mg/L	1.00		99.1	90-110			
LCS (DD90304-BS2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.998	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DD90304-DUP1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.0260	0.0100	mg/L		0.0220			16.7	20	
Matrix Spike (DD90304-MS1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.08	0.0100	mg/L	1.00	0.0220	106	90-110			
Matrix Spike (DD90304-MS2)		**Source: L9D0130-01**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0220	104	90-110			
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD90467-BLK1)			Prepared & Analyzed: 04/09/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD90467-BS1)			Prepared & Analyzed: 04/09/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Duplicate (DD90467-DUP1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	71.5	2.00	mg/L		71.9			0.657	20	
Matrix Spike (DD90467-MS1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	88.9	2.00	mg/L	20.0	71.9	84.9	75-125			
Matrix Spike Dup (DD90467-MSD1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	89.2	2.00	mg/L	20.0	71.9	86.1	75-125	0.282	20	
Batch DD90468 - Wet Chem - W - SM2320 B-2011										
Blank (DD90468-BLK1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD90468-BS1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD90468-DUP1)		**Source: D9D0641-02**	Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	32.3	1.00	mg/L		32.3			0.00	20	
Batch DD90485 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90485-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD90485-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.972	0.0106	mg/L	1.00		97.2	90-110			
Duplicate (DD90485-DUP1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.0563	0.0106	mg/L		0.0553			1.90	20	
Matrix Spike (DD90485-MS1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.23	0.0106	mg/L	1.25	0.0553	93.9	90-110			
Matrix Spike (DD90485-MS2)		**Source: D9D0495-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.75	0.0106	mg/L	1.25	0.431	105	90-110			
Batch DD90535 - Wet-Digestion-W - EPA 351.1										
Blank (DD90535-BLK1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DD90535-BS1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	4.98	0.200	mg/L	5.00		99.6	90-110			
Duplicate (DD90535-DUP1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DD90535-MS1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	9.77	0.200	mg/L	10.0	ND	97.7	90-110			
Matrix Spike (DD90535-MS2)		**Source: D9D0601-01**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.53	99.0	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90433 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD90433-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD90433-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.519	0.0050	mg/L	0.500		104	85-115			
Copper	0.504	0.0020	mg/L	0.500		101	85-115			
Sodium	10.8	1.00	mg/L	10.5		103	85-115			
Duplicate (DD90433-DUP1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.0147	0.0050	mg/L		0.0150			1.59	20	
Copper	0.0021	0.0020	mg/L		0.0016			26.1	20	R3
Sodium	35.0	1.00	mg/L		34.1			2.56	20	
Matrix Spike (DD90433-MS1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0150	107	70-130			
Copper	0.513	0.0020	mg/L	0.500	0.0016	102	70-130			
Sodium	45.4	1.00	mg/L	10.5	34.1	107	70-130			
Matrix Spike (DD90433-MS2)		**Source: D9D0608-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0160	105	70-130			
Copper	0.515	0.0020	mg/L	0.500	0.0021	103	70-130			
Sodium	165	1.00	mg/L	10.5	153	113	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.9*		ug/L	*50.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
LCS (DD90631-BS1)			Prepared & Analyzed: 04/09/2019							
Acetone	49.1	10.0	ug/L	50.0		98.1	65-133			
Acrylonitrile	50.4	20.0	ug/L	50.0		101	60-140			
Benzene	43.2	5.00	ug/L	50.0		86.4	65-135			
Bromodichloromethane	42.9	5.00	ug/L	50.0		85.8	65-135			
Bromoform	42.9	5.00	ug/L	50.0		85.8	70-130			
Bromomethane	52.5	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	57.4	10.0	ug/L	50.0		115	77-140			
Carbon disulfide	41.2	5.00	ug/L	50.0		82.3	70-130			
Carbon tetrachloride	44.6	5.00	ug/L	50.0		89.3	70-130			
Chlorobenzene	45.8	5.00	ug/L	50.0		91.6	65-135			
Chloroethane (Ethyl chloride)	49.8	5.00	ug/L	50.0		99.6	40-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
LCS (DD90631-BS1)				Prepared & Analyzed: 04/09/2019						
Chloroform	42.6	4.00	ug/L	50.0		85.2	70-135			
Chloromethane	40.7	5.00	ug/L	50.0		81.4	1-205			
Dibromochloromethane	44.7	5.00	ug/L	50.0		89.4	70-135			
Dibromomethane (Methylene bromide)	42.2	5.00	ug/L	50.0		84.3	76-126			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0		95.8	65-135			
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0		92.7	70-130			
1,4-Dichlorobenzene	46.2	5.00	ug/L	50.0		92.5	65-135			
Dichlorodifluoromethane (Freon-12)	43.5	5.00	ug/L	50.0		87.0	1-205			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0		91.8	70-130			
1,1-Dichloroethane	44.0	5.00	ug/L	50.0		87.9	70-130			
cis-1,2-Dichloroethene	43.8	5.00	ug/L	50.0		87.5	82-137			
1,1-Dichloroethene	42.7	5.00	ug/L	50.0		85.5	50-150			
trans-1,2-Dichloroethene	42.0	4.00	ug/L	50.0		84.0	70-130			
1,2-Dichloropropane	46.2	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.8	5.00	ug/L	50.0		97.7	25-175			
trans-1,3-Dichloropropene	46.7	5.00	ug/L	50.0		93.3	50-150			
Ethylbenzene	45.3	5.00	ug/L	50.0		90.5	60-140			
2-Hexanone (MBK)	52.6	10.0	ug/L	50.0		105	74-134			
Methyl tert-butyl ether (MTBE)	58.0	5.00	ug/L	50.0		116	81-140			
Methylene chloride (Dichloromethane)	40.0	5.00	ug/L	50.0		80.1	60-140			
4-Methyl-2-pentanone (MIBK)	53.2	10.0	ug/L	50.0		106	73-142			
Styrene	46.1	5.00	ug/L	50.0		92.3	82-125			
1,1,2,2-Tetrachloroethane	50.3	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	44.1	5.00	ug/L	50.0		88.2	70-130			
Toluene	45.6	5.00	ug/L	50.0		91.3	70-130			
1,1,2-Trichloroethane	44.9	5.00	ug/L	50.0		89.8	70-130			
1,1,1-Trichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
Trichloroethene	42.4	5.00	ug/L	50.0		84.8	65-135			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	45.3	5.00	ug/L	50.0		90.5	5-195			
m,p-Xylene	89.6	10.0	ug/L	100		89.6	80-122			
o-Xylene	45.7	5.00	ug/L	50.0		91.5	81-125			
Vinyl acetate	55.0	5.00	ug/L	50.0		110	60-140			
Surrogate: 4-Bromofluorobenzene	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**			Prepared & Analyzed: 04/09/2019						
Acetone	51.5	10.0	ug/L	50.0	ND	103	0-200			
Acrylonitrile	48.5	20.0	ug/L	50.0	ND	97.0	40-160			
Benzene	46.8	5.00	ug/L	50.0	ND	93.7	37-151			
Bromodichloromethane	44.6	5.00	ug/L	50.0	ND	89.1	35-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019								
Bromoform	41.9	5.00	ug/L	50.0	ND	83.9	45-169			
Bromomethane	57.5	5.00	ug/L	50.0	ND	115	1-242			
2-Butanone (MEK)	54.9	10.0	ug/L	50.0	ND	110	0-200			
Carbon disulfide	43.4	5.00	ug/L	50.0	ND	86.7	0-200			
Carbon tetrachloride	48.4	5.00	ug/L	50.0	ND	96.8	70-140			
Chlorobenzene	46.0	5.00	ug/L	50.0	ND	92.0	37-160			
Chloroethane (Ethyl chloride)	52.7	5.00	ug/L	50.0	ND	105	14-230			
Chloroform	46.2	4.00	ug/L	50.0	ND	92.3	51-138			
Chloromethane	42.2	5.00	ug/L	50.0	ND	84.4	1-273			
Dibromochloromethane	44.5	5.00	ug/L	50.0	ND	89.0	53-149			
Dibromomethane (Methylene bromide)	43.1	5.00	ug/L	50.0	ND	86.2	0-200			
1,2-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	18-190			
1,3-Dichlorobenzene	44.4	5.00	ug/L	50.0	ND	88.8	59-156			
1,4-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.4	18-190			
Dichlorodifluoromethane (Freon-12)	43.2	5.00	ug/L	50.0	ND	86.5	0-200			
1,2-Dichloroethane	47.8	5.00	ug/L	50.0	ND	95.5	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.1	59-155			
cis-1,2-Dichloroethene	46.7	5.00	ug/L	50.0	ND	93.5	0-200			
1,1-Dichloroethene	46.1	5.00	ug/L	50.0	ND	92.3	1-234			
trans-1,2-Dichloroethene	45.2	4.00	ug/L	50.0	ND	90.5	54-156			
1,2-Dichloropropane	49.3	5.00	ug/L	50.0	ND	98.7	1-210			
cis-1,3-Dichloropropene	47.3	5.00	ug/L	50.0	ND	94.6	1-227			
trans-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.9	17-183			
Ethylbenzene	45.7	5.00	ug/L	50.0	ND	91.4	37-162			
2-Hexanone (MBK)	48.9	10.0	ug/L	50.0	ND	97.8	0-200			
Methyl tert-butyl ether (MTBE)	58.7	5.00	ug/L	50.0	ND	117	0-200			
Methylene chloride (Dichloromethane)	42.1	5.00	ug/L	50.0	ND	84.2	1-221			
4-Methyl-2-pentanone (MIBK)	50.5	10.0	ug/L	50.0	ND	101	0-200			
Styrene	46.2	5.00	ug/L	50.0	ND	92.4	0-200			
1,1,2,2-Tetrachloroethane	48.3	5.00	ug/L	50.0	ND	96.6	46-157			
Tetrachloroethene	43.8	5.00	ug/L	50.0	ND	87.6	64-148			
Toluene	47.1	5.00	ug/L	50.0	ND	94.1	47-150			
1,1,2-Trichloroethane	44.2	5.00	ug/L	50.0	ND	88.5	52-150			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0	ND	98.7	52-162			
Trichloroethene	45.7	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	57.5	5.00	ug/L	50.0	ND	115	17-181			
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251			
m,p-Xylene	91.0	10.0	ug/L	100	ND	91.0	0-200			
o-Xylene	46.8	5.00	ug/L	50.0	ND	93.6	0-200			
Vinyl acetate	45.8	5.00	ug/L	50.0	ND	91.6	60-140			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.8*		ug/L	*50.0*		*108*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/09/2019						
Surrogate: Toluene-d8		*50.7*	ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DD90631-MSD2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019						
Acetone	56.5	10.0	ug/L	50.0	ND	113	0-200	9.25	200	
Acrylonitrile	51.6	20.0	ug/L	50.0	ND	103	40-160	6.14	60	
Benzene	47.3	5.00	ug/L	50.0	ND	94.6	37-151	1.02	61	
Bromodichloromethane	45.9	5.00	ug/L	50.0	ND	91.9	35-155	3.01	56	
Bromoform	44.3	5.00	ug/L	50.0	ND	88.6	45-169	5.47	42	
Bromomethane	57.9	5.00	ug/L	50.0	ND	116	1-242	0.607	61	
2-Butanone (MEK)	57.5	10.0	ug/L	50.0	ND	115	0-200	4.61	200	
Carbon disulfide	44.9	5.00	ug/L	50.0	ND	89.8	0-200	3.47	200	
Carbon tetrachloride	49.8	5.00	ug/L	50.0	ND	99.5	70-140	2.73	41	
Chlorobenzene	47.2	5.00	ug/L	50.0	ND	94.4	37-160	2.64	53	
Chloroethane (Ethyl chloride)	52.9	5.00	ug/L	50.0	ND	106	14-230	0.493	78	
Chloroform	47.5	4.00	ug/L	50.0	ND	94.9	51-138	2.78	54	
Chloromethane	42.8	5.00	ug/L	50.0	ND	85.6	1-273	1.41	60	
Dibromochloromethane	46.1	5.00	ug/L	50.0	ND	92.1	53-149	3.40	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	4.43	200	
1,2-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	18-190	1.42	57	
1,3-Dichlorobenzene	45.6	5.00	ug/L	50.0	ND	91.1	59-156	2.60	43	
1,4-Dichlorobenzene	46.1	5.00	ug/L	50.0	ND	92.1	18-190	4.17	57	
Dichlorodifluoromethane (Freon-12)	44.3	5.00	ug/L	50.0	ND	88.6	0-200	2.44	200	
1,2-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.7	49-155	0.209	49	
1,1-Dichloroethane	47.5	5.00	ug/L	50.0	ND	95.1	59-155	3.12	40	
cis-1,2-Dichloroethene	47.5	5.00	ug/L	50.0	ND	94.9	0-200	1.55	200	
1,1-Dichloroethene	48.5	5.00	ug/L	50.0	ND	97.0	1-234	4.97	32	
trans-1,2-Dichloroethene	47.0	4.00	ug/L	50.0	ND	94.1	54-156	3.88	45	
1,2-Dichloropropane	50.5	5.00	ug/L	50.0	ND	101	1-210	2.26	55	
cis-1,3-Dichloropropene	47.6	5.00	ug/L	50.0	ND	95.1	1-227	0.590	58	
trans-1,3-Dichloropropene	44.8	5.00	ug/L	50.0	ND	89.6	17-183	3.13	86	
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.2	37-162	1.97	63	
2-Hexanone (MBK)	51.8	10.0	ug/L	50.0	ND	104	0-200	5.82	200	
Methyl tert-butyl ether (MTBE)	62.3	5.00	ug/L	50.0	ND	125	0-200	5.90	200	
Methylene chloride (Dichloromethane)	43.5	5.00	ug/L	50.0	ND	87.0	1-221	3.30	28	
4-Methyl-2-pentanone (MIBK)	52.8	10.0	ug/L	50.0	ND	106	0-200	4.43	200	
Styrene	46.8	5.00	ug/L	50.0	ND	93.6	0-200	1.27	200	
1,1,2,2-Tetrachloroethane	50.7	5.00	ug/L	50.0	ND	101	46-157	4.91	61	
Tetrachloroethene	44.8	5.00	ug/L	50.0	ND	89.6	64-148	2.28	39	
Toluene	47.0	5.00	ug/L	50.0	ND	94.0	47-150	0.170	41	
1,1,2-Trichloroethane	46.4	5.00	ug/L	50.0	ND	92.8	52-150	4.72	45	
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0	ND	101	52-162	2.40	36	
Trichloroethene	45.9	5.00	ug/L	50.0	ND	91.8	70-157	0.371	48	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD90631-MSD2)	**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019							
Trichlorofluoromethane (Freon 11)	58.4	5.00	ug/L	50.0	ND	117	17-181	1.55	84	
Vinyl chloride	51.9	5.00	ug/L	50.0	ND	104	1-251	3.63	66	
m,p-Xylene	92.7	10.0	ug/L	100	ND	92.7	0-200	1.85	200	
o-Xylene	47.3	5.00	ug/L	50.0	ND	94.6	0-200	1.06	200	
Vinyl acetate	48.1	5.00	ug/L	50.0	ND	96.1	60-140	4.88	25	
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.6*		ug/L	*50.0*		*101*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90422 - 624.1 - EPA 624.1										
Blank (DD90422-BLK1)			Prepared & Analyzed: 04/05/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.2*		ug/L	*50.0*		*94.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.5*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
LCS (DD90422-BS1)			Prepared & Analyzed: 04/05/2019							
Acrolein	64.2	20.0	ug/L	50.0		128	60-140			
2-Chloroethyl vinyl ether	44.1	20.0	ug/L	50.0		88.1	1-305			
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.5*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike (DD90422-MS1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	43.7	20.0	ug/L	50.0	ND	87.3	40-160			
2-Chloroethyl vinyl ether	35.4	20.0	ug/L	50.0	ND	70.9	1-305			
Surrogate: 4-Bromofluorobenzene	*46.1*		ug/L	*50.0*		*92.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike Dup (DD90422-MSD1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	51.3	20.0	ug/L	50.0	ND	103	40-160	16.0	60	
2-Chloroethyl vinyl ether	37.7	20.0	ug/L	50.0	ND	75.3	1-305	6.07	71	
Surrogate: 4-Bromofluorobenzene	*45.8*		ug/L	*50.0*		*91.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*56.3*		ug/L	*50.0*		*113*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			

Definitions

R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall
Project Manager
Reported: 04/11/2019 17:20

MICROBAC

Microbac Laboratories, Inc.

D 9 D 0 5 5 5

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

WELLS - QUARTERLY

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A11 (250 mL)	4/4/2019	13:07		X	WW	1	X	X											X			
Well # A11 (250 mL)	4/4/2019	↓		X	WW	1			X	X								X				
Well # A11 (250 mL)(filtered)	4/4/2019			X	WW	1					X							X				
Well # A11 (250 mL)	4/4/2019			X	WW	1						X						X				
Well # A11 (250 mL)	4/4/2019			X	WW	1							X					X				
Well # A11 (250 mL)	4/4/2019			X	WW	1								X	X	X					X	
Well # A11 (40 mL vial)	4/4/2019			X	WW	2											X	X				
Well # A11 (40 mL vial)	4/4/2019			X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-4-19	13:17
RECEIVED:		
RELINQUISHED:		
RECEIVED:	4/4/19	13:13
RELINQUISHED:	4/4/19	15:30
RECEIVED:	4.4.19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☑ AMBIENT ☐ COMPLIANT ☐

3.8°c

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0557

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, April 11, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0557

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/04/2019
Reported: 04/11/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #6S	D9D0557-01	Wastewater	Grab		04/04/19 12:08	04/04/19 15:30
Well #6S (Filtered)	D9D0557-02	Wastewater	Grab		04/04/19 12:08	04/04/19 15:30

CERTIFICATE OF ANALYSIS

D9D0557

Analytical Testing Parameters

Client Sample ID: Well #6S
Sample Matrix: Wastewater
Lab Sample ID: D9D0557-01
Collected By: Customer
Collection Date: 04/04/2019 12:08

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		04/09/19 1500	04/10/19 1230	CLW
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0106**	0.0106	mg/L		04/08/19 2030	04/09/19 1141	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**1.50**	1.00	mg/L			04/08/19 1714	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**13.3**	2.00	mg/L			04/09/19 1104	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.0797**	0.0500	mg/L			04/05/19 0014	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/05/19 0014	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0116**	0.0050	mg/L	**Y1**	04/08/19 1403	04/09/19 1620	DLO
Copper	<0.0020	0.0020	mg/L		04/08/19 1403	04/09/19 1620	DLO
Sodium	**7.56**	1.00	mg/L		04/08/19 1403	04/09/19 1620	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/09/19 1706	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/09/19 1706	JAN
Benzene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
Bromoform	<5.00	5.00	ug/L			04/09/19 1706	JAN
Bromomethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/09/19 1706	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/09/19 1706	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/09/19 1706	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/09/19 1706	JAN
Chloroform	<4.00	4.00	ug/L			04/09/19 1706	JAN
Chloromethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/09/19 1706	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1706	JAN

CERTIFICATE OF ANALYSIS

D9D0557

Client Sample ID:	Well #6S		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0557-01	**Collection Date:**	04/04/2019 12:08

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1706	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/09/19 1706	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/09/19 1706	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/09/19 1706	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1706	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/09/19 1706	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/09/19 1706	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/09/19 1706	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/09/19 1706	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Toluene	<5.00	5.00	ug/L			04/09/19 1706	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1706	JAN
Trichloroethene	<5.00	5.00	ug/L			04/09/19 1706	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/09/19 1706	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/09/19 1706	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/09/19 1706	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/09/19 1706	JAN
Surrogate: 4-Bromofluorobenzene	94.7	Limit: 70-130	% Rec			04/09/19 1706	JAN
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 70-130	% Rec			04/09/19 1706	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/09/19 1706	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/05/19 1357	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/05/19 1357	JAN
Surrogate: 4-Bromofluorobenzene	91.6	Limit: 70-130	% Rec			04/05/19 1357	JAN
Surrogate: 1,2-Dichloroethane-d4	113	Limit: 70-130	% Rec			04/05/19 1357	JAN
Surrogate: Toluene-d8	98.9	Limit: 70-130	% Rec			04/05/19 1357	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0557

Client Sample ID:	Well #6S (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0557-02	**Collection Date:**	04/04/2019 12:08

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0210**	0.0100	mg/L		04/05/19 0208	04/05/19 0238	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90302 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD90302-BLK1)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD90302-BS1)			Prepared & Analyzed: 04/04/2019							
Nitrate as N	5.19	0.0500	mg/L	5.00		104	90-110			
LCS (DD90302-BS2)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DD90302-DUP1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00330			16.4	20	
Nitrate as N	4.37	0.0500	mg/L		4.32			1.12	20	
Matrix Spike (DD90302-MS1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.00330	105	75-125			
Nitrate as N	9.24	0.0500	mg/L	5.00	4.32	98.3	75-125			
Matrix Spike Dup (DD90302-MSD1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/05/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.00330	104	75-125	1.03	20	
Nitrate as N	9.12	0.0500	mg/L	5.00	4.32	96.1	75-125	1.21	20	
Batch DD90304 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90304-BLK1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DD90304-BLK2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD90304-BS1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.993	0.0100	mg/L	1.00		99.1	90-110			
LCS (DD90304-BS2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.998	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DD90304-DUP1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.0260	0.0100	mg/L		0.0220			16.7	20	
Matrix Spike (DD90304-MS1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.08	0.0100	mg/L	1.00	0.0220	106	90-110			
Matrix Spike (DD90304-MS2)		**Source: L9D0130-01**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0220	104	90-110			
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD90467-BLK1)			Prepared & Analyzed: 04/09/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD90467-BS1)			Prepared & Analyzed: 04/09/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Duplicate (DD90467-DUP1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	71.5	2.00	mg/L		71.9			0.657	20	
Matrix Spike (DD90467-MS1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	88.9	2.00	mg/L	20.0	71.9	84.9	75-125			
Matrix Spike Dup (DD90467-MSD1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	89.2	2.00	mg/L	20.0	71.9	86.1	75-125	0.282	20	
Batch DD90468 - Wet Chem - W - SM2320 B-2011										
Blank (DD90468-BLK1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD90468-BS1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD90468-DUP1)		**Source: D9D0641-02**	Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	32.3	1.00	mg/L		32.3			0.00	20	
Batch DD90485 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90485-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD90485-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.972	0.0106	mg/L	1.00		97.2	90-110			
Duplicate (DD90485-DUP1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.0563	0.0106	mg/L		0.0553			1.90	20	
Matrix Spike (DD90485-MS1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.23	0.0106	mg/L	1.25	0.0553	93.9	90-110			
Matrix Spike (DD90485-MS2)		**Source: D9D0495-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.75	0.0106	mg/L	1.25	0.431	105	90-110			
Batch DD90535 - Wet-Digestion-W - EPA 351.1										
Blank (DD90535-BLK1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DD90535-BS1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	4.98	0.200	mg/L	5.00		99.6	90-110			
Duplicate (DD90535-DUP1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DD90535-MS1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	9.77	0.200	mg/L	10.0	ND	97.7	90-110			
Matrix Spike (DD90535-MS2)		**Source: D9D0601-01**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.53	99.0	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90433 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD90433-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD90433-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.519	0.0050	mg/L	0.500		104	85-115			
Copper	0.504	0.0020	mg/L	0.500		101	85-115			
Sodium	10.8	1.00	mg/L	10.5		103	85-115			
Duplicate (DD90433-DUP1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.0147	0.0050	mg/L		0.0150			1.59	20	
Copper	0.0021	0.0020	mg/L		0.0016			26.1	20	R3
Sodium	35.0	1.00	mg/L		34.1			2.56	20	
Matrix Spike (DD90433-MS1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0150	107	70-130			
Copper	0.513	0.0020	mg/L	0.500	0.0016	102	70-130			
Sodium	45.4	1.00	mg/L	10.5	34.1	107	70-130			
Matrix Spike (DD90433-MS2)		**Source: D9D0608-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0160	105	70-130			
Copper	0.515	0.0020	mg/L	0.500	0.0021	103	70-130			
Sodium	165	1.00	mg/L	10.5	153	113	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.9*		ug/L	*50.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
LCS (DD90631-BS1)			Prepared & Analyzed: 04/09/2019							
Acetone	49.1	10.0	ug/L	50.0		98.1	65-133			
Acrylonitrile	50.4	20.0	ug/L	50.0		101	60-140			
Benzene	43.2	5.00	ug/L	50.0		86.4	65-135			
Bromodichloromethane	42.9	5.00	ug/L	50.0		85.8	65-135			
Bromoform	42.9	5.00	ug/L	50.0		85.8	70-130			
Bromomethane	52.5	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	57.4	10.0	ug/L	50.0		115	77-140			
Carbon disulfide	41.2	5.00	ug/L	50.0		82.3	70-130			
Carbon tetrachloride	44.6	5.00	ug/L	50.0		89.3	70-130			
Chlorobenzene	45.8	5.00	ug/L	50.0		91.6	65-135			
Chloroethane (Ethyl chloride)	49.8	5.00	ug/L	50.0		99.6	40-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
LCS (DD90631-BS1)				Prepared & Analyzed: 04/09/2019						
Chloroform	42.6	4.00	ug/L	50.0		85.2	70-135			
Chloromethane	40.7	5.00	ug/L	50.0		81.4	1-205			
Dibromochloromethane	44.7	5.00	ug/L	50.0		89.4	70-135			
Dibromomethane (Methylene bromide)	42.2	5.00	ug/L	50.0		84.3	76-126			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0		95.8	65-135			
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0		92.7	70-130			
1,4-Dichlorobenzene	46.2	5.00	ug/L	50.0		92.5	65-135			
Dichlorodifluoromethane (Freon-12)	43.5	5.00	ug/L	50.0		87.0	1-205			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0		91.8	70-130			
1,1-Dichloroethane	44.0	5.00	ug/L	50.0		87.9	70-130			
cis-1,2-Dichloroethene	43.8	5.00	ug/L	50.0		87.5	82-137			
1,1-Dichloroethene	42.7	5.00	ug/L	50.0		85.5	50-150			
trans-1,2-Dichloroethene	42.0	4.00	ug/L	50.0		84.0	70-130			
1,2-Dichloropropane	46.2	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.8	5.00	ug/L	50.0		97.7	25-175			
trans-1,3-Dichloropropene	46.7	5.00	ug/L	50.0		93.3	50-150			
Ethylbenzene	45.3	5.00	ug/L	50.0		90.5	60-140			
2-Hexanone (MBK)	52.6	10.0	ug/L	50.0		105	74-134			
Methyl tert-butyl ether (MTBE)	58.0	5.00	ug/L	50.0		116	81-140			
Methylene chloride (Dichloromethane)	40.0	5.00	ug/L	50.0		80.1	60-140			
4-Methyl-2-pentanone (MIBK)	53.2	10.0	ug/L	50.0		106	73-142			
Styrene	46.1	5.00	ug/L	50.0		92.3	82-125			
1,1,2,2-Tetrachloroethane	50.3	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	44.1	5.00	ug/L	50.0		88.2	70-130			
Toluene	45.6	5.00	ug/L	50.0		91.3	70-130			
1,1,2-Trichloroethane	44.9	5.00	ug/L	50.0		89.8	70-130			
1,1,1-Trichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
Trichloroethene	42.4	5.00	ug/L	50.0		84.8	65-135			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	45.3	5.00	ug/L	50.0		90.5	5-195			
m,p-Xylene	89.6	10.0	ug/L	100		89.6	80-122			
o-Xylene	45.7	5.00	ug/L	50.0		91.5	81-125			
Vinyl acetate	55.0	5.00	ug/L	50.0		110	60-140			
Surrogate: 4-Bromofluorobenzene	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**			Prepared & Analyzed: 04/09/2019						
Acetone	51.5	10.0	ug/L	50.0	ND	103	0-200			
Acrylonitrile	48.5	20.0	ug/L	50.0	ND	97.0	40-160			
Benzene	46.8	5.00	ug/L	50.0	ND	93.7	37-151			
Bromodichloromethane	44.6	5.00	ug/L	50.0	ND	89.1	35-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019								
Bromoform	41.9	5.00	ug/L	50.0	ND	83.9	45-169			
Bromomethane	57.5	5.00	ug/L	50.0	ND	115	1-242			
2-Butanone (MEK)	54.9	10.0	ug/L	50.0	ND	110	0-200			
Carbon disulfide	43.4	5.00	ug/L	50.0	ND	86.7	0-200			
Carbon tetrachloride	48.4	5.00	ug/L	50.0	ND	96.8	70-140			
Chlorobenzene	46.0	5.00	ug/L	50.0	ND	92.0	37-160			
Chloroethane (Ethyl chloride)	52.7	5.00	ug/L	50.0	ND	105	14-230			
Chloroform	46.2	4.00	ug/L	50.0	ND	92.3	51-138			
Chloromethane	42.2	5.00	ug/L	50.0	ND	84.4	1-273			
Dibromochloromethane	44.5	5.00	ug/L	50.0	ND	89.0	53-149			
Dibromomethane (Methylene bromide)	43.1	5.00	ug/L	50.0	ND	86.2	0-200			
1,2-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	18-190			
1,3-Dichlorobenzene	44.4	5.00	ug/L	50.0	ND	88.8	59-156			
1,4-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.4	18-190			
Dichlorodifluoromethane (Freon-12)	43.2	5.00	ug/L	50.0	ND	86.5	0-200			
1,2-Dichloroethane	47.8	5.00	ug/L	50.0	ND	95.5	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.1	59-155			
cis-1,2-Dichloroethene	46.7	5.00	ug/L	50.0	ND	93.5	0-200			
1,1-Dichloroethene	46.1	5.00	ug/L	50.0	ND	92.3	1-234			
trans-1,2-Dichloroethene	45.2	4.00	ug/L	50.0	ND	90.5	54-156			
1,2-Dichloropropane	49.3	5.00	ug/L	50.0	ND	98.7	1-210			
cis-1,3-Dichloropropene	47.3	5.00	ug/L	50.0	ND	94.6	1-227			
trans-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.9	17-183			
Ethylbenzene	45.7	5.00	ug/L	50.0	ND	91.4	37-162			
2-Hexanone (MBK)	48.9	10.0	ug/L	50.0	ND	97.8	0-200			
Methyl tert-butyl ether (MTBE)	58.7	5.00	ug/L	50.0	ND	117	0-200			
Methylene chloride (Dichloromethane)	42.1	5.00	ug/L	50.0	ND	84.2	1-221			
4-Methyl-2-pentanone (MIBK)	50.5	10.0	ug/L	50.0	ND	101	0-200			
Styrene	46.2	5.00	ug/L	50.0	ND	92.4	0-200			
1,1,2,2-Tetrachloroethane	48.3	5.00	ug/L	50.0	ND	96.6	46-157			
Tetrachloroethene	43.8	5.00	ug/L	50.0	ND	87.6	64-148			
Toluene	47.1	5.00	ug/L	50.0	ND	94.1	47-150			
1,1,2-Trichloroethane	44.2	5.00	ug/L	50.0	ND	88.5	52-150			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0	ND	98.7	52-162			
Trichloroethene	45.7	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	57.5	5.00	ug/L	50.0	ND	115	17-181			
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251			
m,p-Xylene	91.0	10.0	ug/L	100	ND	91.0	0-200			
o-Xylene	46.8	5.00	ug/L	50.0	ND	93.6	0-200			
Vinyl acetate	45.8	5.00	ug/L	50.0	ND	91.6	60-140			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.8*		ug/L	*50.0*		*108*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/09/2019						
Surrogate: Toluene-d8		*50.7*	ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DD90631-MSD2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019						
Acetone	56.5	10.0	ug/L	50.0	ND	113	0-200	9.25	200	
Acrylonitrile	51.6	20.0	ug/L	50.0	ND	103	40-160	6.14	60	
Benzene	47.3	5.00	ug/L	50.0	ND	94.6	37-151	1.02	61	
Bromodichloromethane	45.9	5.00	ug/L	50.0	ND	91.9	35-155	3.01	56	
Bromoform	44.3	5.00	ug/L	50.0	ND	88.6	45-169	5.47	42	
Bromomethane	57.9	5.00	ug/L	50.0	ND	116	1-242	0.607	61	
2-Butanone (MEK)	57.5	10.0	ug/L	50.0	ND	115	0-200	4.61	200	
Carbon disulfide	44.9	5.00	ug/L	50.0	ND	89.8	0-200	3.47	200	
Carbon tetrachloride	49.8	5.00	ug/L	50.0	ND	99.5	70-140	2.73	41	
Chlorobenzene	47.2	5.00	ug/L	50.0	ND	94.4	37-160	2.64	53	
Chloroethane (Ethyl chloride)	52.9	5.00	ug/L	50.0	ND	106	14-230	0.493	78	
Chloroform	47.5	4.00	ug/L	50.0	ND	94.9	51-138	2.78	54	
Chloromethane	42.8	5.00	ug/L	50.0	ND	85.6	1-273	1.41	60	
Dibromochloromethane	46.1	5.00	ug/L	50.0	ND	92.1	53-149	3.40	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	4.43	200	
1,2-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	18-190	1.42	57	
1,3-Dichlorobenzene	45.6	5.00	ug/L	50.0	ND	91.1	59-156	2.60	43	
1,4-Dichlorobenzene	46.1	5.00	ug/L	50.0	ND	92.1	18-190	4.17	57	
Dichlorodifluoromethane (Freon-12)	44.3	5.00	ug/L	50.0	ND	88.6	0-200	2.44	200	
1,2-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.7	49-155	0.209	49	
1,1-Dichloroethane	47.5	5.00	ug/L	50.0	ND	95.1	59-155	3.12	40	
cis-1,2-Dichloroethene	47.5	5.00	ug/L	50.0	ND	94.9	0-200	1.55	200	
1,1-Dichloroethene	48.5	5.00	ug/L	50.0	ND	97.0	1-234	4.97	32	
trans-1,2-Dichloroethene	47.0	4.00	ug/L	50.0	ND	94.1	54-156	3.88	45	
1,2-Dichloropropane	50.5	5.00	ug/L	50.0	ND	101	1-210	2.26	55	
cis-1,3-Dichloropropene	47.6	5.00	ug/L	50.0	ND	95.1	1-227	0.590	58	
trans-1,3-Dichloropropene	44.8	5.00	ug/L	50.0	ND	89.6	17-183	3.13	86	
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.2	37-162	1.97	63	
2-Hexanone (MBK)	51.8	10.0	ug/L	50.0	ND	104	0-200	5.82	200	
Methyl tert-butyl ether (MTBE)	62.3	5.00	ug/L	50.0	ND	125	0-200	5.90	200	
Methylene chloride (Dichloromethane)	43.5	5.00	ug/L	50.0	ND	87.0	1-221	3.30	28	
4-Methyl-2-pentanone (MIBK)	52.8	10.0	ug/L	50.0	ND	106	0-200	4.43	200	
Styrene	46.8	5.00	ug/L	50.0	ND	93.6	0-200	1.27	200	
1,1,2,2-Tetrachloroethane	50.7	5.00	ug/L	50.0	ND	101	46-157	4.91	61	
Tetrachloroethene	44.8	5.00	ug/L	50.0	ND	89.6	64-148	2.28	39	
Toluene	47.0	5.00	ug/L	50.0	ND	94.0	47-150	0.170	41	
1,1,2-Trichloroethane	46.4	5.00	ug/L	50.0	ND	92.8	52-150	4.72	45	
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0	ND	101	52-162	2.40	36	
Trichloroethene	45.9	5.00	ug/L	50.0	ND	91.8	70-157	0.371	48	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD90631-MSD2)	**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019							
Trichlorofluoromethane (Freon 11)	58.4	5.00	ug/L	50.0	ND	117	17-181	1.55	84	
Vinyl chloride	51.9	5.00	ug/L	50.0	ND	104	1-251	3.63	66	
m,p-Xylene	92.7	10.0	ug/L	100	ND	92.7	0-200	1.85	200	
o-Xylene	47.3	5.00	ug/L	50.0	ND	94.6	0-200	1.06	200	
Vinyl acetate	48.1	5.00	ug/L	50.0	ND	96.1	60-140	4.88	25	
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.6*		ug/L	*50.0*		*101*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90422 - 624.1 - EPA 624.1										
Blank (DD90422-BLK1)			Prepared & Analyzed: 04/05/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.2*		ug/L	*50.0*		*94.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.5*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
LCS (DD90422-BS1)			Prepared & Analyzed: 04/05/2019							
Acrolein	64.2	20.0	ug/L	50.0		128	60-140			
2-Chloroethyl vinyl ether	44.1	20.0	ug/L	50.0		88.1	1-305			
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.5*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike (DD90422-MS1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	43.7	20.0	ug/L	50.0	ND	87.3	40-160			
2-Chloroethyl vinyl ether	35.4	20.0	ug/L	50.0	ND	70.9	1-305			
Surrogate: 4-Bromofluorobenzene	*46.1*		ug/L	*50.0*		*92.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike Dup (DD90422-MSD1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	51.3	20.0	ug/L	50.0	ND	103	40-160	16.0	60	
2-Chloroethyl vinyl ether	37.7	20.0	ug/L	50.0	ND	75.3	1-305	6.07	71	
Surrogate: 4-Bromofluorobenzene	*45.8*		ug/L	*50.0*		*91.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*56.3*		ug/L	*50.0*		*113*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			

Definitions

R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall
Project Manager
Reported: 04/11/2019 17:22

MICROBAC

Microbac Laboratories, Inc.

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D 9 D 0 5 5 7
Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 6S (250 mL)	4/4/2019	12:08		X	WW	1	X	X											X			
Well # 6S (250 mL)	4/4/2019			X	WW	1			X	X								X				
Well # 6S (250 mL)(filtered)	4/4/2019			X	WW	1					X							X				
Well # 6S (250 mL)	4/4/2019			X	WW	1						X						X				
Well # 6S (250 mL)	4/4/2019			X	WW	1							X					X				
Well # 6S (250 mL)	4/4/2019			X	WW	1								X	X	X					X	
Well # 6S (40 mL vial)	4/4/2019			X	WW	2											X	X				
Well # 6S (40 mL vial)	4/4/2019			X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-4-19	13:17
RECEIVED:		
RELINQUISHED:		
RECEIVED:	4/4/19	13:13
RELINQUISHED:	4/4/19	15:30
RECEIVED:	4.4.19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☑ AMBIENT ☐ 3.8°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0560

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Katherine Wall

Project Manager

Katherine A. Wall

Thursday, April 11, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0560

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/04/2019
Reported: 04/11/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #6D	D9D0560-01	Wastewater	Grab		04/04/19 11:40	04/04/19 15:30
Well #6D (Filtered)	D9D0560-02	Wastewater	Grab		04/04/19 11:40	04/04/19 15:30

CERTIFICATE OF ANALYSIS

D9D0560

Analytical Testing Parameters

Client Sample ID: Well #6D
Sample Matrix: Wastewater
Lab Sample ID: D9D0560-01
Collected By: Customer
Collection Date: 04/04/2019 11:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		04/09/19 1500	04/10/19 1232	CLW
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0266**	0.0106	mg/L		04/08/19 2030	04/09/19 1141	CLW
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**4.50**	1.00	mg/L			04/08/19 1714	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**20.5**	2.00	mg/L			04/09/19 1052	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.857**	0.0500	mg/L			04/05/19 0015	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/05/19 0015	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0073**	0.0050	mg/L	**Y1**	04/08/19 1403	04/09/19 1630	DLO
Copper	<0.0020	0.0020	mg/L		04/08/19 1403	04/09/19 1630	DLO
Sodium	**8.66**	1.00	mg/L		04/08/19 1403	04/09/19 1630	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/09/19 1732	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/09/19 1732	JAN
Benzene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
Bromoform	<5.00	5.00	ug/L			04/09/19 1732	JAN
Bromomethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/09/19 1732	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/09/19 1732	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/09/19 1732	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/09/19 1732	JAN
Chloroform	<4.00	4.00	ug/L			04/09/19 1732	JAN
Chloromethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/09/19 1732	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1732	JAN

CERTIFICATE OF ANALYSIS

D9D0560

Client Sample ID:	Well #6D		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0560-01	**Collection Date:**	04/04/2019 11:40

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1732	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/09/19 1732	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/09/19 1732	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/09/19 1732	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1732	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/09/19 1732	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/09/19 1732	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/09/19 1732	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/09/19 1732	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Toluene	<5.00	5.00	ug/L			04/09/19 1732	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/09/19 1732	JAN
Trichloroethene	<5.00	5.00	ug/L			04/09/19 1732	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/09/19 1732	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/09/19 1732	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/09/19 1732	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/09/19 1732	JAN
Surrogate: 4-Bromofluorobenzene	93.7	Limit: 70-130	% Rec			04/09/19 1732	JAN
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 70-130	% Rec			04/09/19 1732	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/09/19 1732	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/05/19 1423	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/05/19 1423	JAN
Surrogate: 4-Bromofluorobenzene	92.5	Limit: 70-130	% Rec			04/05/19 1423	JAN
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 70-130	% Rec			04/05/19 1423	JAN
Surrogate: Toluene-d8	95.7	Limit: 70-130	% Rec			04/05/19 1423	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D0560

Client Sample ID:	Well #6D (Filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D0560-02	**Collection Date:**	04/04/2019 11:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0240**	0.0100	mg/L		04/05/19 0208	04/05/19 0239	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90302 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD90302-BLK1)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD90302-BS1)			Prepared & Analyzed: 04/04/2019							
Nitrate as N	5.19	0.0500	mg/L	5.00		104	90-110			
LCS (DD90302-BS2)			Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DD90302-DUP1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00330			16.4	20	
Nitrate as N	4.37	0.0500	mg/L		4.32			1.12	20	
Matrix Spike (DD90302-MS1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/04/2019							
Nitrite as N	1.06	0.0100	mg/L	1.00	0.00330	105	75-125			
Nitrate as N	9.24	0.0500	mg/L	5.00	4.32	98.3	75-125			
Matrix Spike Dup (DD90302-MSD1)		**Source: D9D0585-02**	Prepared & Analyzed: 04/05/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.00330	104	75-125	1.03	20	
Nitrate as N	9.12	0.0500	mg/L	5.00	4.32	96.1	75-125	1.21	20	
Batch DD90304 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90304-BLK1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Blank (DD90304-BLK2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD90304-BS1)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.993	0.0100	mg/L	1.00		99.1	90-110			
LCS (DD90304-BS2)			Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.998	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DD90304-DUP1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	0.0260	0.0100	mg/L		0.0220			16.7	20	
Matrix Spike (DD90304-MS1)		**Source: D9D0552-02**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.08	0.0100	mg/L	1.00	0.0220	106	90-110			
Matrix Spike (DD90304-MS2)		**Source: L9D0130-01**	Prepared & Analyzed: 04/05/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0220	104	90-110			
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD90467-BLK1)			Prepared & Analyzed: 04/09/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD90467-BS1)			Prepared & Analyzed: 04/09/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90467 - Wet Chem - W - SM4500-Cl E-2011										
Duplicate (DD90467-DUP1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	71.5	2.00	mg/L		71.9			0.657	20	
Matrix Spike (DD90467-MS1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	88.9	2.00	mg/L	20.0	71.9	84.9	75-125			
Matrix Spike Dup (DD90467-MSD1)		**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019							
Chloride	89.2	2.00	mg/L	20.0	71.9	86.1	75-125	0.282	20	
Batch DD90468 - Wet Chem - W - SM2320 B-2011										
Blank (DD90468-BLK1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD90468-BS1)			Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD90468-DUP1)		**Source: D9D0641-02**	Prepared & Analyzed: 04/08/2019							
Alkalinity to pH 4.5	32.3	1.00	mg/L		32.3			0.00	20	
Batch DD90485 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD90485-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD90485-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.972	0.0106	mg/L	1.00		97.2	90-110			
Duplicate (DD90485-DUP1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	0.0563	0.0106	mg/L		0.0553			1.90	20	
Matrix Spike (DD90485-MS1)		**Source: D9D0468-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.23	0.0106	mg/L	1.25	0.0553	93.9	90-110			
Matrix Spike (DD90485-MS2)		**Source: D9D0495-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Phosphorus - Total as P	1.75	0.0106	mg/L	1.25	0.431	105	90-110			
Batch DD90535 - Wet-Digestion-W - EPA 351.1										
Blank (DD90535-BLK1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DD90535-BS1)			Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	4.98	0.200	mg/L	5.00		99.6	90-110			
Duplicate (DD90535-DUP1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DD90535-MS1)		**Source: D9D0541-02**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	9.77	0.200	mg/L	10.0	ND	97.7	90-110			
Matrix Spike (DD90535-MS2)		**Source: D9D0601-01**	Prepared: 04/09/2019 Analyzed: 04/10/2019							
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.53	99.0	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90433 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD90433-BLK1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD90433-BS1)			Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.519	0.0050	mg/L	0.500		104	85-115			
Copper	0.504	0.0020	mg/L	0.500		101	85-115			
Sodium	10.8	1.00	mg/L	10.5		103	85-115			
Duplicate (DD90433-DUP1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.0147	0.0050	mg/L		0.0150			1.59	20	
Copper	0.0021	0.0020	mg/L		0.0016			26.1	20	R3
Sodium	35.0	1.00	mg/L		34.1			2.56	20	
Matrix Spike (DD90433-MS1)		**Source: D9D0608-01**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.548	0.0050	mg/L	0.500	0.0150	107	70-130			
Copper	0.513	0.0020	mg/L	0.500	0.0016	102	70-130			
Sodium	45.4	1.00	mg/L	10.5	34.1	107	70-130			
Matrix Spike (DD90433-MS2)		**Source: D9D0608-02**	Prepared: 04/08/2019 Analyzed: 04/09/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0160	105	70-130			
Copper	0.515	0.0020	mg/L	0.500	0.0021	103	70-130			
Sodium	165	1.00	mg/L	10.5	153	113	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Blank (DD90631-BLK1)			Prepared & Analyzed: 04/09/2019							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.9*		ug/L	*50.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.0*		*103*	*70-130*			
LCS (DD90631-BS1)			Prepared & Analyzed: 04/09/2019							
Acetone	49.1	10.0	ug/L	50.0		98.1	65-133			
Acrylonitrile	50.4	20.0	ug/L	50.0		101	60-140			
Benzene	43.2	5.00	ug/L	50.0		86.4	65-135			
Bromodichloromethane	42.9	5.00	ug/L	50.0		85.8	65-135			
Bromoform	42.9	5.00	ug/L	50.0		85.8	70-130			
Bromomethane	52.5	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	57.4	10.0	ug/L	50.0		115	77-140			
Carbon disulfide	41.2	5.00	ug/L	50.0		82.3	70-130			
Carbon tetrachloride	44.6	5.00	ug/L	50.0		89.3	70-130			
Chlorobenzene	45.8	5.00	ug/L	50.0		91.6	65-135			
Chloroethane (Ethyl chloride)	49.8	5.00	ug/L	50.0		99.6	40-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
LCS (DD90631-BS1)				Prepared & Analyzed: 04/09/2019						
Chloroform	42.6	4.00	ug/L	50.0		85.2	70-135			
Chloromethane	40.7	5.00	ug/L	50.0		81.4	1-205			
Dibromochloromethane	44.7	5.00	ug/L	50.0		89.4	70-135			
Dibromomethane (Methylene bromide)	42.2	5.00	ug/L	50.0		84.3	76-126			
1,2-Dichlorobenzene	47.9	5.00	ug/L	50.0		95.8	65-135			
1,3-Dichlorobenzene	46.4	5.00	ug/L	50.0		92.7	70-130			
1,4-Dichlorobenzene	46.2	5.00	ug/L	50.0		92.5	65-135			
Dichlorodifluoromethane (Freon-12)	43.5	5.00	ug/L	50.0		87.0	1-205			
1,2-Dichloroethane	45.9	5.00	ug/L	50.0		91.8	70-130			
1,1-Dichloroethane	44.0	5.00	ug/L	50.0		87.9	70-130			
cis-1,2-Dichloroethene	43.8	5.00	ug/L	50.0		87.5	82-137			
1,1-Dichloroethene	42.7	5.00	ug/L	50.0		85.5	50-150			
trans-1,2-Dichloroethene	42.0	4.00	ug/L	50.0		84.0	70-130			
1,2-Dichloropropane	46.2	5.00	ug/L	50.0		92.3	35-165			
cis-1,3-Dichloropropene	48.8	5.00	ug/L	50.0		97.7	25-175			
trans-1,3-Dichloropropene	46.7	5.00	ug/L	50.0		93.3	50-150			
Ethylbenzene	45.3	5.00	ug/L	50.0		90.5	60-140			
2-Hexanone (MBK)	52.6	10.0	ug/L	50.0		105	74-134			
Methyl tert-butyl ether (MTBE)	58.0	5.00	ug/L	50.0		116	81-140			
Methylene chloride (Dichloromethane)	40.0	5.00	ug/L	50.0		80.1	60-140			
4-Methyl-2-pentanone (MIBK)	53.2	10.0	ug/L	50.0		106	73-142			
Styrene	46.1	5.00	ug/L	50.0		92.3	82-125			
1,1,2,2-Tetrachloroethane	50.3	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	44.1	5.00	ug/L	50.0		88.2	70-130			
Toluene	45.6	5.00	ug/L	50.0		91.3	70-130			
1,1,2-Trichloroethane	44.9	5.00	ug/L	50.0		89.8	70-130			
1,1,1-Trichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
Trichloroethene	42.4	5.00	ug/L	50.0		84.8	65-135			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	45.3	5.00	ug/L	50.0		90.5	5-195			
m,p-Xylene	89.6	10.0	ug/L	100		89.6	80-122			
o-Xylene	45.7	5.00	ug/L	50.0		91.5	81-125			
Vinyl acetate	55.0	5.00	ug/L	50.0		110	60-140			
Surrogate: 4-Bromofluorobenzene	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.8*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**			Prepared & Analyzed: 04/09/2019						
Acetone	51.5	10.0	ug/L	50.0	ND	103	0-200			
Acrylonitrile	48.5	20.0	ug/L	50.0	ND	97.0	40-160			
Benzene	46.8	5.00	ug/L	50.0	ND	93.7	37-151			
Bromodichloromethane	44.6	5.00	ug/L	50.0	ND	89.1	35-155			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)	**Source: D9D0552-01**	Prepared & Analyzed: 04/09/2019								
Bromoform	41.9	5.00	ug/L	50.0	ND	83.9	45-169			
Bromomethane	57.5	5.00	ug/L	50.0	ND	115	1-242			
2-Butanone (MEK)	54.9	10.0	ug/L	50.0	ND	110	0-200			
Carbon disulfide	43.4	5.00	ug/L	50.0	ND	86.7	0-200			
Carbon tetrachloride	48.4	5.00	ug/L	50.0	ND	96.8	70-140			
Chlorobenzene	46.0	5.00	ug/L	50.0	ND	92.0	37-160			
Chloroethane (Ethyl chloride)	52.7	5.00	ug/L	50.0	ND	105	14-230			
Chloroform	46.2	4.00	ug/L	50.0	ND	92.3	51-138			
Chloromethane	42.2	5.00	ug/L	50.0	ND	84.4	1-273			
Dibromochloromethane	44.5	5.00	ug/L	50.0	ND	89.0	53-149			
Dibromomethane (Methylene bromide)	43.1	5.00	ug/L	50.0	ND	86.2	0-200			
1,2-Dichlorobenzene	46.3	5.00	ug/L	50.0	ND	92.6	18-190			
1,3-Dichlorobenzene	44.4	5.00	ug/L	50.0	ND	88.8	59-156			
1,4-Dichlorobenzene	44.2	5.00	ug/L	50.0	ND	88.4	18-190			
Dichlorodifluoromethane (Freon-12)	43.2	5.00	ug/L	50.0	ND	86.5	0-200			
1,2-Dichloroethane	47.8	5.00	ug/L	50.0	ND	95.5	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.1	59-155			
cis-1,2-Dichloroethene	46.7	5.00	ug/L	50.0	ND	93.5	0-200			
1,1-Dichloroethene	46.1	5.00	ug/L	50.0	ND	92.3	1-234			
trans-1,2-Dichloroethene	45.2	4.00	ug/L	50.0	ND	90.5	54-156			
1,2-Dichloropropane	49.3	5.00	ug/L	50.0	ND	98.7	1-210			
cis-1,3-Dichloropropene	47.3	5.00	ug/L	50.0	ND	94.6	1-227			
trans-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.9	17-183			
Ethylbenzene	45.7	5.00	ug/L	50.0	ND	91.4	37-162			
2-Hexanone (MBK)	48.9	10.0	ug/L	50.0	ND	97.8	0-200			
Methyl tert-butyl ether (MTBE)	58.7	5.00	ug/L	50.0	ND	117	0-200			
Methylene chloride (Dichloromethane)	42.1	5.00	ug/L	50.0	ND	84.2	1-221			
4-Methyl-2-pentanone (MIBK)	50.5	10.0	ug/L	50.0	ND	101	0-200			
Styrene	46.2	5.00	ug/L	50.0	ND	92.4	0-200			
1,1,2,2-Tetrachloroethane	48.3	5.00	ug/L	50.0	ND	96.6	46-157			
Tetrachloroethene	43.8	5.00	ug/L	50.0	ND	87.6	64-148			
Toluene	47.1	5.00	ug/L	50.0	ND	94.1	47-150			
1,1,2-Trichloroethane	44.2	5.00	ug/L	50.0	ND	88.5	52-150			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0	ND	98.7	52-162			
Trichloroethene	45.7	5.00	ug/L	50.0	ND	91.5	70-157			
Trichlorofluoromethane (Freon 11)	57.5	5.00	ug/L	50.0	ND	115	17-181			
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251			
m,p-Xylene	91.0	10.0	ug/L	100	ND	91.0	0-200			
o-Xylene	46.8	5.00	ug/L	50.0	ND	93.6	0-200			
Vinyl acetate	45.8	5.00	ug/L	50.0	ND	91.6	60-140			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.8*		ug/L	*50.0*		*108*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike (DD90631-MS2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/09/2019						
Surrogate: Toluene-d8		*50.7*	ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DD90631-MSD2)		**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019						
Acetone	56.5	10.0	ug/L	50.0	ND	113	0-200	9.25	200	
Acrylonitrile	51.6	20.0	ug/L	50.0	ND	103	40-160	6.14	60	
Benzene	47.3	5.00	ug/L	50.0	ND	94.6	37-151	1.02	61	
Bromodichloromethane	45.9	5.00	ug/L	50.0	ND	91.9	35-155	3.01	56	
Bromoform	44.3	5.00	ug/L	50.0	ND	88.6	45-169	5.47	42	
Bromomethane	57.9	5.00	ug/L	50.0	ND	116	1-242	0.607	61	
2-Butanone (MEK)	57.5	10.0	ug/L	50.0	ND	115	0-200	4.61	200	
Carbon disulfide	44.9	5.00	ug/L	50.0	ND	89.8	0-200	3.47	200	
Carbon tetrachloride	49.8	5.00	ug/L	50.0	ND	99.5	70-140	2.73	41	
Chlorobenzene	47.2	5.00	ug/L	50.0	ND	94.4	37-160	2.64	53	
Chloroethane (Ethyl chloride)	52.9	5.00	ug/L	50.0	ND	106	14-230	0.493	78	
Chloroform	47.5	4.00	ug/L	50.0	ND	94.9	51-138	2.78	54	
Chloromethane	42.8	5.00	ug/L	50.0	ND	85.6	1-273	1.41	60	
Dibromochloromethane	46.1	5.00	ug/L	50.0	ND	92.1	53-149	3.40	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	4.43	200	
1,2-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	18-190	1.42	57	
1,3-Dichlorobenzene	45.6	5.00	ug/L	50.0	ND	91.1	59-156	2.60	43	
1,4-Dichlorobenzene	46.1	5.00	ug/L	50.0	ND	92.1	18-190	4.17	57	
Dichlorodifluoromethane (Freon-12)	44.3	5.00	ug/L	50.0	ND	88.6	0-200	2.44	200	
1,2-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.7	49-155	0.209	49	
1,1-Dichloroethane	47.5	5.00	ug/L	50.0	ND	95.1	59-155	3.12	40	
cis-1,2-Dichloroethene	47.5	5.00	ug/L	50.0	ND	94.9	0-200	1.55	200	
1,1-Dichloroethene	48.5	5.00	ug/L	50.0	ND	97.0	1-234	4.97	32	
trans-1,2-Dichloroethene	47.0	4.00	ug/L	50.0	ND	94.1	54-156	3.88	45	
1,2-Dichloropropane	50.5	5.00	ug/L	50.0	ND	101	1-210	2.26	55	
cis-1,3-Dichloropropene	47.6	5.00	ug/L	50.0	ND	95.1	1-227	0.590	58	
trans-1,3-Dichloropropene	44.8	5.00	ug/L	50.0	ND	89.6	17-183	3.13	86	
Ethylbenzene	46.6	5.00	ug/L	50.0	ND	93.2	37-162	1.97	63	
2-Hexanone (MBK)	51.8	10.0	ug/L	50.0	ND	104	0-200	5.82	200	
Methyl tert-butyl ether (MTBE)	62.3	5.00	ug/L	50.0	ND	125	0-200	5.90	200	
Methylene chloride (Dichloromethane)	43.5	5.00	ug/L	50.0	ND	87.0	1-221	3.30	28	
4-Methyl-2-pentanone (MIBK)	52.8	10.0	ug/L	50.0	ND	106	0-200	4.43	200	
Styrene	46.8	5.00	ug/L	50.0	ND	93.6	0-200	1.27	200	
1,1,2,2-Tetrachloroethane	50.7	5.00	ug/L	50.0	ND	101	46-157	4.91	61	
Tetrachloroethene	44.8	5.00	ug/L	50.0	ND	89.6	64-148	2.28	39	
Toluene	47.0	5.00	ug/L	50.0	ND	94.0	47-150	0.170	41	
1,1,2-Trichloroethane	46.4	5.00	ug/L	50.0	ND	92.8	52-150	4.72	45	
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0	ND	101	52-162	2.40	36	
Trichloroethene	45.9	5.00	ug/L	50.0	ND	91.8	70-157	0.371	48	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90631 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD90631-MSD2)	**Source: D9D0552-01**		Prepared & Analyzed: 04/10/2019							
Trichlorofluoromethane (Freon 11)	58.4	5.00	ug/L	50.0	ND	117	17-181	1.55	84	
Vinyl chloride	51.9	5.00	ug/L	50.0	ND	104	1-251	3.63	66	
m,p-Xylene	92.7	10.0	ug/L	100	ND	92.7	0-200	1.85	200	
o-Xylene	47.3	5.00	ug/L	50.0	ND	94.6	0-200	1.06	200	
Vinyl acetate	48.1	5.00	ug/L	50.0	ND	96.1	60-140	4.88	25	
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.6*		ug/L	*50.0*		*101*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD90422 - 624.1 - EPA 624.1										
Blank (DD90422-BLK1)			Prepared & Analyzed: 04/05/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.2*		ug/L	*50.0*		*94.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.5*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
LCS (DD90422-BS1)			Prepared & Analyzed: 04/05/2019							
Acrolein	64.2	20.0	ug/L	50.0		128	60-140			
2-Chloroethyl vinyl ether	44.1	20.0	ug/L	50.0		88.1	1-305			
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.5*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike (DD90422-MS1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	43.7	20.0	ug/L	50.0	ND	87.3	40-160			
2-Chloroethyl vinyl ether	35.4	20.0	ug/L	50.0	ND	70.9	1-305			
Surrogate: 4-Bromofluorobenzene	*46.1*		ug/L	*50.0*		*92.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8	*51.2*		ug/L	*50.0*		*102*	*70-130*			
Matrix Spike Dup (DD90422-MSD1)	**Source: D9D0555-01**		Prepared & Analyzed: 04/05/2019							
Acrolein	51.3	20.0	ug/L	50.0	ND	103	40-160	16.0	60	
2-Chloroethyl vinyl ether	37.7	20.0	ug/L	50.0	ND	75.3	1-305	6.07	71	
Surrogate: 4-Bromofluorobenzene	*45.8*		ug/L	*50.0*		*91.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*56.3*		ug/L	*50.0*		*113*	*70-130*			
Surrogate: Toluene-d8	*50.9*		ug/L	*50.0*		*102*	*70-130*			

Definitions

R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall
Project Manager
Reported: 04/11/2019 17:23

MICROBAC

Microbac Laboratories, Inc.

D 9 D 0 5 6 0

Veolia - Plymouth

FOR LAB USE ONLY
Lab WO#
Project Manager

Copy of Report To	Billing Information	Project Information
CUSTOMER: VEOLIA WATER NORTH AMERICA	BILL TO: VEOLIA WATER NORTH AMERICA	PROJECT: PLYMOUTH, MA WWTP
ADDRESS: 131 CAMELOT DRIVE	ADDRESS: 125 SOUTH STREET SUITE 173	LOCATION: ID 11773
PLYMOUTH, MA 02360	MILWAUKEE, WI	WELLS - QUARTERLY
DELIVERY: ROBERT BLANCHARD	PURCHASE ORDER #	ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com	ATTENTION: ACCOUNTS PAYABLE	PHONE: CELL - 508-328-5758
PHONE: 508-830-4159 FAX: 508-732-0238	PHONE: 866-688-0988	FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 6D (250 mL)	4/4/2019	11:40		X	WW	1	X	X											X			
Well # 6D (250 mL)	4/4/2019			X	WW	1			X	X								X				
Well # 6D (250 mL)(filtered)	4/4/2019			X	WW	1					X							X				
Well # 6D (250 mL)	4/4/2019			X	WW	1						X						X				
Well # 6D (250 mL)	4/4/2019			X	WW	1							X					X				
Well # 6D (250 mL)	4/4/2019			X	WW	1								X	X	X					X	
Well # 6D (40 mL vial)	4/4/2019			X	WW	2											X	X				
Well # 6D (40 mL vial)	4/4/2019			X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-4-19	13:17
RECEIVED:		
RELINQUISHED:		
RECEIVED:	4/4/19	13:13
RELINQUISHED:	4/4/19	15:30
RECEIVED:	4.4.19	1530

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials M

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 3.8°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1677

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, April 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1677

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/16/2019
Reported: 04/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A16	D9D1677-01	Wastewater	Grab		04/16/19 13:00	04/16/19 16:25
Well #A16 (filtered)	D9D1677-02	Wastewater	Grab		04/16/19 13:00	04/16/19 16:25

CERTIFICATE OF ANALYSIS

D9D1677

Analytical Testing Parameters

Client Sample ID:	Well #A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1677-01	**Collection Date:**	04/16/2019 13:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.343**	0.200	mg/L		04/18/19 1833	04/19/19 0956	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0117**	0.0106	mg/L		04/19/19 1819	04/19/19 2319	DCH
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**10.5**	1.00	mg/L			04/17/19 1607	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**113**	4.00	mg/L	**M6**		04/22/19 1459	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**1.74**	0.0500	mg/L			04/16/19 2352	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/16/19 2352	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0231**	0.0050	mg/L	**Y1**	04/18/19 1402	04/18/19 2027	DLO
Copper	<0.0020	0.0020	mg/L		04/18/19 1402	04/18/19 2027	DLO
Sodium	**56.2**	1.00	mg/L		04/18/19 1402	04/18/19 2027	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/17/19 1613	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/17/19 1613	JAN
Benzene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
Bromoform	<5.00	5.00	ug/L			04/17/19 1613	JAN
Bromomethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/17/19 1613	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/17/19 1613	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/17/19 1613	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/17/19 1613	JAN
Chloroform	<4.00	4.00	ug/L			04/17/19 1613	JAN
Chloromethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/17/19 1613	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1613	JAN

CERTIFICATE OF ANALYSIS

D9D1677

Client Sample ID:	Well #A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1677-01	**Collection Date:**	04/16/2019 13:00

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1613	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/17/19 1613	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/17/19 1613	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/17/19 1613	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1613	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/17/19 1613	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/17/19 1613	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/17/19 1613	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/17/19 1613	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Toluene	<5.00	5.00	ug/L			04/17/19 1613	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1613	JAN
Trichloroethene	<5.00	5.00	ug/L			04/17/19 1613	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/17/19 1613	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/17/19 1613	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/17/19 1613	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/17/19 1613	JAN
Surrogate: 4-Bromofluorobenzene	95.7	Limit: 70-130	% Rec			04/17/19 1613	JAN
Surrogate: 1,2-Dichloroethane-d4	105	Limit: 70-130	% Rec			04/17/19 1613	JAN
Surrogate: Toluene-d8	102	Limit: 70-130	% Rec			04/17/19 1613	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/17/19 1404	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/17/19 1404	JAN
Surrogate: 4-Bromofluorobenzene	94.7	Limit: 70-130	% Rec			04/17/19 1404	JAN
Surrogate: 1,2-Dichloroethane-d4	105	Limit: 70-130	% Rec			04/17/19 1404	JAN
Surrogate: Toluene-d8	98.1	Limit: 70-130	% Rec			04/17/19 1404	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1677

Client Sample ID:	Well #A16 (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1677-02	**Collection Date:**	04/16/2019 13:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0190**	0.0100	mg/L		04/16/19 1930	04/17/19 0042	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91016 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD91016-BLK1)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD91016-BS1)			Prepared & Analyzed: 04/16/2019							
Nitrate as N	4.94	0.0500	mg/L	5.00		98.8	90-110			
LCS (DD91016-BS2)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DD91016-DUP1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	0.101	0.0100	mg/L		0.105			3.21	20	A21
Nitrate as N	5.05	0.0500	mg/L		5.10			1.12	20	A21
Matrix Spike (DD91016-MS1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.105	99.4	75-125			A21
Nitrate as N	9.70	0.100	mg/L	5.00	5.10	91.9	75-125			A21
Matrix Spike Dup (DD91016-MSD1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.12	0.0100	mg/L	1.00	0.105	102	75-125	2.39	20	A21
Nitrate as N	9.62	0.100	mg/L	5.00	5.10	90.4	75-125	0.766	20	A21
Batch DD91019 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD91019-BLK1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD91019-BS1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DD91019-DUP1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0310			21.4	20	R1
Matrix Spike (DD91019-MS1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0310	104	90-110			
Batch DD91092 - Wet Chem - W - SM2320 B-2011										
Blank (DD91092-BLK1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD91092-BS1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD91092-DUP1)		**Source: D9D1679-01**	Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	102	1.00	mg/L		99.7			2.67	20	
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
Blank (DD91191-BLK1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
LCS (DD91191-BS1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DD91191-DUP1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		0.201			25.7	20	R3
Matrix Spike (DD91191-MS1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.2	0.200	mg/L	10.0	0.201	99.9	90-110			
Matrix Spike (DD91191-MS2)		**Source: D9D1615-02**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.8	0.200	mg/L	10.0	0.987	98.5	90-110			
Batch DD91282 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DD91282-BLK1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD91282-BS1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DD91282-DUP1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	0.0956	0.0106	mg/L		0.0935			2.25	20	
Matrix Spike (DD91282-MS1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.26	0.0106	mg/L	1.25	0.0935	92.8	90-110			
Matrix Spike (DD91282-MS2)		**Source: D9D1695-02**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.30	0.0106	mg/L	1.25	0.120	93.9	90-110			
Batch DD91301 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD91301-BLK1)			Prepared & Analyzed: 04/22/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD91301-BS1)			Prepared & Analyzed: 04/22/2019							
Chloride	19.7	2.00	mg/L	20.0		98.5	90-110			
Duplicate (DD91301-DUP1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	112	4.00	mg/L		113			0.507	20	
Matrix Spike (DD91301-MS1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	128	4.00	mg/L	20.0	113	72.6	75-125			M6
Matrix Spike Dup (DD91301-MSD1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	129	4.00	mg/L	20.0	113	82.0	75-125	1.46	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD91147-BLK1)			Prepared & Analyzed: 04/18/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD91147-BS1)			Prepared & Analyzed: 04/18/2019							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DD91147-BS1)				Prepared & Analyzed: 04/18/2019						
Boron	0.502	0.0050	mg/L	0.500		100	85-115			
Copper	0.512	0.0020	mg/L	0.500		102	85-115			
Sodium	10.2	1.00	mg/L	10.5		97.6	85-115			
Duplicate (DD91147-DUP1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.204	0.0050	mg/L		0.198			2.92	20	
Copper	0.0154	0.0020	mg/L		0.0156			1.28	20	
Sodium	121	1.00	mg/L		120			0.964	20	
Matrix Spike (DD91147-MS1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.703	0.0050	mg/L	0.500	0.198	101	70-130			
Copper	0.535	0.0020	mg/L	0.500	0.0156	104	70-130			
Sodium	129	1.00	mg/L	10.5	120	91.1	70-130			
Matrix Spike (DD91147-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.530	0.0050	mg/L	0.500	0.0231	101	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0008	104	70-130			
Sodium	67.9	1.00	mg/L	10.5	56.2	111	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acetone	52.0	10.0	ug/L	50.0		104	65-133			
Acrylonitrile	53.6	20.0	ug/L	50.0		107	60-140			
Benzene	48.4	5.00	ug/L	50.0		96.8	65-135			
Bromodichloromethane	46.2	5.00	ug/L	50.0		92.5	65-135			
Bromoform	45.3	5.00	ug/L	50.0		90.6	70-130			
Bromomethane	57.0	5.00	ug/L	50.0		114	15-185			
2-Butanone (MEK)	59.8	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	45.9	5.00	ug/L	50.0		91.7	70-130			
Carbon tetrachloride	48.5	5.00	ug/L	50.0		97.1	70-130			
Chlorobenzene	47.5	5.00	ug/L	50.0		94.9	65-135			
Chloroethane (Ethyl chloride)	47.2	5.00	ug/L	50.0		94.4	40-160			
Chloroform	47.6	4.00	ug/L	50.0		95.2	70-135			
Chloromethane	38.8	5.00	ug/L	50.0		77.6	1-205			
Dibromochloromethane	47.7	5.00	ug/L	50.0		95.3	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Dibromomethane (Methylene bromide)	47.1	5.00	ug/L	50.0		94.2	76-126			
1,2-Dichlorobenzene	48.2	5.00	ug/L	50.0		96.3	65-135			
1,3-Dichlorobenzene	47.2	5.00	ug/L	50.0		94.3	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.7	65-135			
Dichlorodifluoromethane (Freon-12)	39.8	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	50.0	5.00	ug/L	50.0		100	70-130			
1,1-Dichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
cis-1,2-Dichloroethene	49.3	5.00	ug/L	50.0		98.7	82-137			
1,1-Dichloroethene	47.9	5.00	ug/L	50.0		95.9	50-150			
trans-1,2-Dichloroethene	48.4	4.00	ug/L	50.0		96.7	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.4	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	48.3	5.00	ug/L	50.0		96.5	50-150			
Ethylbenzene	45.8	5.00	ug/L	50.0		91.6	60-140			
2-Hexanone (MBK)	54.5	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	63.7	5.00	ug/L	50.0		127	81-140			
Methylene chloride (Dichloromethane)	44.0	5.00	ug/L	50.0		88.0	60-140			
4-Methyl-2-pentanone (MIBK)	53.4	10.0	ug/L	50.0		107	73-142			
Styrene	48.4	5.00	ug/L	50.0		96.9	82-125			
1,1,2,2-Tetrachloroethane	51.8	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	45.1	5.00	ug/L	50.0		90.2	70-130			
Toluene	47.3	5.00	ug/L	50.0		94.6	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.4	70-130			
1,1,1-Trichloroethane	50.1	5.00	ug/L	50.0		100	70-130			
Trichloroethene	47.9	5.00	ug/L	50.0		95.9	65-135			
Trichlorofluoromethane (Freon 11)	53.6	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	48.5	5.00	ug/L	50.0		97.0	5-195			
m,p-Xylene	92.4	10.0	ug/L	100		92.4	80-122			
o-Xylene	47.7	5.00	ug/L	50.0		95.5	81-125			
Vinyl acetate	55.3	5.00	ug/L	50.0		111	60-140			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS2)	**Source: D9D1677-01**			Prepared & Analyzed: 04/17/2019						
Acetone	56.0	10.0	ug/L	50.0	ND	112	0-200			
Acrylonitrile	55.0	20.0	ug/L	50.0	ND	110	40-160			
Benzene	53.8	5.00	ug/L	50.0	ND	108	37-151			
Bromodichloromethane	50.8	5.00	ug/L	50.0	ND	102	35-155			
Bromoform	45.4	5.00	ug/L	50.0	ND	90.7	45-169			
Bromomethane	68.0	5.00	ug/L	50.0	ND	136	1-242			
2-Butanone (MEK)	58.5	10.0	ug/L	50.0	ND	117	0-200			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike (DD91146-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Carbon disulfide	52.1	5.00	ug/L	50.0	ND	104	0-200			
Carbon tetrachloride	55.7	5.00	ug/L	50.0	ND	111	70-140			
Chlorobenzene	50.2	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	63.0	5.00	ug/L	50.0	ND	126	14-230			
Chloroform	52.1	4.00	ug/L	50.0	ND	104	51-138			
Chloromethane	45.5	5.00	ug/L	50.0	ND	91.0	1-273			
Dibromochloromethane	49.2	5.00	ug/L	50.0	ND	98.5	53-149			
Dibromomethane (Methylene bromide)	50.6	5.00	ug/L	50.0	ND	101	0-200			
1,2-Dichlorobenzene	49.8	5.00	ug/L	50.0	ND	99.6	18-190			
1,3-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	97.1	59-156			
1,4-Dichlorobenzene	48.3	5.00	ug/L	50.0	ND	96.6	18-190			
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.6	0-200			
1,2-Dichloroethane	53.1	5.00	ug/L	50.0	ND	106	49-155			
1,1-Dichloroethane	54.7	5.00	ug/L	50.0	ND	109	59-155			
cis-1,2-Dichloroethene	53.0	5.00	ug/L	50.0	ND	106	0-200			
1,1-Dichloroethene	56.1	5.00	ug/L	50.0	ND	112	1-234			
trans-1,2-Dichloroethene	54.0	4.00	ug/L	50.0	ND	108	54-156			
1,2-Dichloropropane	56.6	5.00	ug/L	50.0	ND	113	1-210			
cis-1,3-Dichloropropene	51.6	5.00	ug/L	50.0	ND	103	1-227			
trans-1,3-Dichloropropene	47.9	5.00	ug/L	50.0	ND	95.8	17-183			
Ethylbenzene	50.0	5.00	ug/L	50.0	ND	99.9	37-162			
2-Hexanone (MBK)	53.0	10.0	ug/L	50.0	ND	106	0-200			
Methyl tert-butyl ether (MTBE)	67.0	5.00	ug/L	50.0	ND	134	0-200			
Methylene chloride (Dichloromethane)	48.4	5.00	ug/L	50.0	ND	96.7	1-221			
4-Methyl-2-pentanone (MIBK)	53.7	10.0	ug/L	50.0	ND	107	0-200			
Styrene	50.4	5.00	ug/L	50.0	ND	101	0-200			
1,1,2,2-Tetrachloroethane	50.6	5.00	ug/L	50.0	ND	101	46-157			
Tetrachloroethene	48.4	5.00	ug/L	50.0	ND	96.7	64-148			
Toluene	51.4	5.00	ug/L	50.0	ND	103	47-150			
1,1,2-Trichloroethane	48.5	5.00	ug/L	50.0	ND	97.0	52-150			
1,1,1-Trichloroethane	57.1	5.00	ug/L	50.0	ND	114	52-162			
Trichloroethene	52.8	5.00	ug/L	50.0	ND	106	70-157			
Trichlorofluoromethane (Freon 11)	64.7	5.00	ug/L	50.0	ND	129	17-181			
Vinyl chloride	57.1	5.00	ug/L	50.0	ND	114	1-251			
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200			
o-Xylene	51.0	5.00	ug/L	50.0	ND	102	0-200			
Vinyl acetate	56.1	5.00	ug/L	50.0	ND	112	60-140			
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acetone	54.2	10.0	ug/L	50.0	ND	108	0-200	3.14	200	
Acrylonitrile	54.3	20.0	ug/L	50.0	ND	109	40-160	1.35	60	
Benzene	50.6	5.00	ug/L	50.0	ND	101	37-151	6.13	61	
Bromodichloromethane	48.0	5.00	ug/L	50.0	ND	96.0	35-155	5.65	56	
Bromoform	45.9	5.00	ug/L	50.0	ND	91.7	45-169	1.12	42	
Bromomethane	64.0	5.00	ug/L	50.0	ND	128	1-242	6.17	61	
2-Butanone (MEK)	57.0	10.0	ug/L	50.0	ND	114	0-200	2.68	200	
Carbon disulfide	48.7	5.00	ug/L	50.0	ND	97.4	0-200	6.80	200	
Carbon tetrachloride	51.8	5.00	ug/L	50.0	ND	104	70-140	7.35	41	
Chlorobenzene	50.1	5.00	ug/L	50.0	ND	100	37-160	0.239	53	
Chloroethane (Ethyl chloride)	57.6	5.00	ug/L	50.0	ND	115	14-230	8.87	78	
Chloroform	49.2	4.00	ug/L	50.0	ND	98.5	51-138	5.74	54	
Chloromethane	42.1	5.00	ug/L	50.0	ND	84.2	1-273	7.79	60	
Dibromochloromethane	47.9	5.00	ug/L	50.0	ND	95.7	53-149	2.82	50	
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0	ND	95.0	0-200	6.44	200	
1,2-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.5	18-190	1.15	57	
1,3-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.2	59-156	2.97	43	
1,4-Dichlorobenzene	46.6	5.00	ug/L	50.0	ND	93.2	18-190	3.60	57	
Dichlorodifluoromethane (Freon-12)	41.6	5.00	ug/L	50.0	ND	83.2	0-200	7.34	200	
1,2-Dichloroethane	50.6	5.00	ug/L	50.0	ND	101	49-155	4.90	49	
1,1-Dichloroethane	50.5	5.00	ug/L	50.0	ND	101	59-155	7.92	40	
cis-1,2-Dichloroethene	50.3	5.00	ug/L	50.0	ND	101	0-200	5.40	200	
1,1-Dichloroethene	51.5	5.00	ug/L	50.0	ND	103	1-234	8.52	32	
trans-1,2-Dichloroethene	50.3	4.00	ug/L	50.0	ND	101	54-156	7.04	45	
1,2-Dichloropropane	53.6	5.00	ug/L	50.0	ND	107	1-210	5.43	55	
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0	ND	103	1-227	0.135	58	
trans-1,3-Dichloropropene	47.7	5.00	ug/L	50.0	ND	95.3	17-183	0.460	86	
Ethylbenzene	49.4	5.00	ug/L	50.0	ND	98.8	37-162	1.09	63	
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0	ND	109	0-200	2.37	200	
Methyl tert-butyl ether (MTBE)	63.6	5.00	ug/L	50.0	ND	127	0-200	5.15	200	
Methylene chloride (Dichloromethane)	46.5	5.00	ug/L	50.0	ND	93.0	1-221	3.92	28	
4-Methyl-2-pentanone (MIBK)	54.4	10.0	ug/L	50.0	ND	109	0-200	1.30	200	
Styrene	50.3	5.00	ug/L	50.0	ND	101	0-200	0.219	200	
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0	ND	102	46-157	0.454	61	
Tetrachloroethene	47.8	5.00	ug/L	50.0	ND	95.6	64-148	1.21	39	
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150	1.27	41	
1,1,2-Trichloroethane	49.0	5.00	ug/L	50.0	ND	98.1	52-150	1.05	45	
1,1,1-Trichloroethane	52.8	5.00	ug/L	50.0	ND	106	52-162	7.90	36	
Trichloroethene	49.7	5.00	ug/L	50.0	ND	99.3	70-157	6.17	48	
Trichlorofluoromethane (Freon 11)	59.6	5.00	ug/L	50.0	ND	119	17-181	8.22	84	
Vinyl chloride	52.4	5.00	ug/L	50.0	ND	105	1-251	8.70	66	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
m,p-Xylene	98.2	10.0	ug/L	100	ND	98.2	0-200	1.94	200	
o-Xylene	50.2	5.00	ug/L	50.0	ND	100	0-200	1.50	200	
Vinyl acetate	52.7	5.00	ug/L	50.0	ND	105	60-140	6.32	25	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)			Prepared & Analyzed: 04/17/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)			Prepared & Analyzed: 04/17/2019							
Acrolein	46.2	20.0	ug/L	50.0		92.5	60-140			
2-Chloroethyl vinyl ether	57.0	20.0	ug/L	50.0		114	1-305			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	48.0	20.0	ug/L	50.0	ND	95.9	40-160			
2-Chloroethyl vinyl ether	47.5	20.0	ug/L	50.0	ND	94.9	1-305			
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.3*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Matrix Spike Dup (DD91146-MSD1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	44.9	20.0	ug/L	50.0	ND	89.9	40-160	6.48	60	
2-Chloroethyl vinyl ether	46.6	20.0	ug/L	50.0	ND	93.2	1-305	1.79	71	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.7*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R1:	Duplicate RPD is outside acceptance criteria.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 04/23/2019 12:46

MICROBAC®

Microbac Laboratories, Inc.

D 9 D 1 6 7 7

Veolia - Plymouth

FOR LAB USE ONLY
Lab WO#
Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A16 (250 mL)	4/16/2019	13:00		X	WW	1	X	X											X			
Well # A16 (250 mL)	4/16/2019			X	WW	1			X	X								X				
Well # A16 (250 mL)(filtered)	4/16/2019			X	WW	1					X							X				
Well # A16 (250 mL)	4/16/2019			X	WW	1						X						X				
Well # A16 (250 mL)	4/16/2019			X	WW	1							X					X				
Well # A16 (250 mL)	4/16/2019			X	WW	1								X	X	X					X	
Well # A16 (40 mL vial)	4/16/2019			X	WW	2											X	X				
Well # A16 (40 mL vial)	4/16/2019			X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-16-19	
RECEIVED:		
RELINQUISHED:	4-16-19	13:38
CEIVED:	4/16/19	1378
LINQUISHED:	4/16/19	1625
CEIVED:	4/16/19	1625

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 4.9 2 MPV

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1679

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, April 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1679

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/16/2019
Reported: 04/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A8	D9D1679-01	Wastewater	Grab		04/16/19 12:40	04/16/19 16:25
Well #A8 (filtered)	D9D1679-02	Wastewater	Grab		04/16/19 12:40	04/16/19 16:25

CERTIFICATE OF ANALYSIS

D9D1679

Analytical Testing Parameters

Client Sample ID:	Well #A8		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1679-01	**Collection Date:**	04/16/2019 12:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1		**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	<0.800	0.800	mg/L		04/18/19 1833	04/19/19 0957	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**5.14**	0.0425	mg/L		04/19/19 1819	04/20/19 0027	DCH
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**99.7**	1.00	mg/L			04/17/19 1607	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**400**	10.0	mg/L			04/22/19 1502	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**5.85**	0.0500	mg/L			04/16/19 2353	DCH
Nitrite as N	**0.0143**	0.0100	mg/L			04/16/19 2353	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.191**	0.0050	mg/L	**Y1**	04/18/19 1402	04/18/19 2004	DLO
Copper	**0.0058**	0.0020	mg/L		04/18/19 1402	04/18/19 2004	DLO
Sodium	**293**	1.00	mg/L		04/18/19 1402	04/18/19 2004	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/17/19 1638	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/17/19 1638	JAN
Benzene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Bromodichloromethane	**8.17**	5.00	ug/L			04/17/19 1638	JAN
Bromoform	<5.00	5.00	ug/L			04/17/19 1638	JAN
Bromomethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/17/19 1638	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/17/19 1638	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/17/19 1638	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/17/19 1638	JAN
Chloroform	**7.53**	4.00	ug/L			04/17/19 1638	JAN
Chloromethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
Dibromochloromethane	**9.37**	5.00	ug/L			04/17/19 1638	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/17/19 1638	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1638	JAN

CERTIFICATE OF ANALYSIS

D9D1679

Client Sample ID:	Well #A8		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1679-01	**Collection Date:**	04/16/2019 12:40

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1638	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/17/19 1638	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/17/19 1638	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/17/19 1638	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1638	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/17/19 1638	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/17/19 1638	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/17/19 1638	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/17/19 1638	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Toluene	<5.00	5.00	ug/L			04/17/19 1638	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1638	JAN
Trichloroethene	<5.00	5.00	ug/L			04/17/19 1638	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/17/19 1638	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/17/19 1638	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/17/19 1638	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/17/19 1638	JAN
Surrogate: 4-Bromofluorobenzene	93.9	Limit: 70-130	% Rec			04/17/19 1638	JAN
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 70-130	% Rec			04/17/19 1638	JAN
Surrogate: Toluene-d8	100	Limit: 70-130	% Rec			04/17/19 1638	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/17/19 1430	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/17/19 1430	JAN
Surrogate: 4-Bromofluorobenzene	92.3	Limit: 70-130	% Rec			04/17/19 1430	JAN
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 70-130	% Rec			04/17/19 1430	JAN
Surrogate: Toluene-d8	100	Limit: 70-130	% Rec			04/17/19 1430	JAN

CERTIFICATE OF ANALYSIS

D9D1679

Client Sample ID:	Well #A8 (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1679-02	**Collection Date:**	04/16/2019 12:40

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**5.06**	0.0400	mg/L		04/16/19 1930	04/17/19 0110	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91016 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD91016-BLK1)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD91016-BS1)			Prepared & Analyzed: 04/16/2019							
Nitrate as N	4.94	0.0500	mg/L	5.00		98.8	90-110			
LCS (DD91016-BS2)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DD91016-DUP1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	0.101	0.0100	mg/L		0.105			3.21	20	A21
Nitrate as N	5.05	0.0500	mg/L		5.10			1.12	20	A21
Matrix Spike (DD91016-MS1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.105	99.4	75-125			A21
Nitrate as N	9.70	0.100	mg/L	5.00	5.10	91.9	75-125			A21
Matrix Spike Dup (DD91016-MSD1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.12	0.0100	mg/L	1.00	0.105	102	75-125	2.39	20	A21
Nitrate as N	9.62	0.100	mg/L	5.00	5.10	90.4	75-125	0.766	20	A21
Batch DD91019 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD91019-BLK1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD91019-BS1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DD91019-DUP1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0310			21.4	20	R1
Matrix Spike (DD91019-MS1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0310	104	90-110			
Batch DD91092 - Wet Chem - W - SM2320 B-2011										
Blank (DD91092-BLK1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD91092-BS1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD91092-DUP1)		**Source: D9D1679-01**	Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	102	1.00	mg/L		99.7			2.67	20	
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
Blank (DD91191-BLK1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
LCS (DD91191-BS1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DD91191-DUP1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		0.201			25.7	20	R3
Matrix Spike (DD91191-MS1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.2	0.200	mg/L	10.0	0.201	99.9	90-110			
Matrix Spike (DD91191-MS2)		**Source: D9D1615-02**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.8	0.200	mg/L	10.0	0.987	98.5	90-110			
Batch DD91282 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DD91282-BLK1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD91282-BS1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DD91282-DUP1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	0.0956	0.0106	mg/L		0.0935			2.25	20	
Matrix Spike (DD91282-MS1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.26	0.0106	mg/L	1.25	0.0935	92.8	90-110			
Matrix Spike (DD91282-MS2)		**Source: D9D1695-02**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.30	0.0106	mg/L	1.25	0.120	93.9	90-110			
Batch DD91301 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD91301-BLK1)			Prepared & Analyzed: 04/22/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD91301-BS1)			Prepared & Analyzed: 04/22/2019							
Chloride	19.7	2.00	mg/L	20.0		98.5	90-110			
Duplicate (DD91301-DUP1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	112	4.00	mg/L		113			0.507	20	
Matrix Spike (DD91301-MS1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	128	4.00	mg/L	20.0	113	72.6	75-125			M6
Matrix Spike Dup (DD91301-MSD1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	129	4.00	mg/L	20.0	113	82.0	75-125	1.46	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD91147-BLK1)			Prepared & Analyzed: 04/18/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD91147-BS1)			Prepared & Analyzed: 04/18/2019							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DD91147-BS1)				Prepared & Analyzed: 04/18/2019						
Boron	0.502	0.0050	mg/L	0.500		100	85-115			
Copper	0.512	0.0020	mg/L	0.500		102	85-115			
Sodium	10.2	1.00	mg/L	10.5		97.6	85-115			
Duplicate (DD91147-DUP1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.204	0.0050	mg/L		0.198			2.92	20	
Copper	0.0154	0.0020	mg/L		0.0156			1.28	20	
Sodium	121	1.00	mg/L		120			0.964	20	
Matrix Spike (DD91147-MS1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.703	0.0050	mg/L	0.500	0.198	101	70-130			
Copper	0.535	0.0020	mg/L	0.500	0.0156	104	70-130			
Sodium	129	1.00	mg/L	10.5	120	91.1	70-130			
Matrix Spike (DD91147-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.530	0.0050	mg/L	0.500	0.0231	101	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0008	104	70-130			
Sodium	67.9	1.00	mg/L	10.5	56.2	111	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acetone	52.0	10.0	ug/L	50.0		104	65-133			
Acrylonitrile	53.6	20.0	ug/L	50.0		107	60-140			
Benzene	48.4	5.00	ug/L	50.0		96.8	65-135			
Bromodichloromethane	46.2	5.00	ug/L	50.0		92.5	65-135			
Bromoform	45.3	5.00	ug/L	50.0		90.6	70-130			
Bromomethane	57.0	5.00	ug/L	50.0		114	15-185			
2-Butanone (MEK)	59.8	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	45.9	5.00	ug/L	50.0		91.7	70-130			
Carbon tetrachloride	48.5	5.00	ug/L	50.0		97.1	70-130			
Chlorobenzene	47.5	5.00	ug/L	50.0		94.9	65-135			
Chloroethane (Ethyl chloride)	47.2	5.00	ug/L	50.0		94.4	40-160			
Chloroform	47.6	4.00	ug/L	50.0		95.2	70-135			
Chloromethane	38.8	5.00	ug/L	50.0		77.6	1-205			
Dibromochloromethane	47.7	5.00	ug/L	50.0		95.3	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Dibromomethane (Methylene bromide)	47.1	5.00	ug/L	50.0		94.2	76-126			
1,2-Dichlorobenzene	48.2	5.00	ug/L	50.0		96.3	65-135			
1,3-Dichlorobenzene	47.2	5.00	ug/L	50.0		94.3	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.7	65-135			
Dichlorodifluoromethane (Freon-12)	39.8	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	50.0	5.00	ug/L	50.0		100	70-130			
1,1-Dichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
cis-1,2-Dichloroethene	49.3	5.00	ug/L	50.0		98.7	82-137			
1,1-Dichloroethene	47.9	5.00	ug/L	50.0		95.9	50-150			
trans-1,2-Dichloroethene	48.4	4.00	ug/L	50.0		96.7	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.4	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	48.3	5.00	ug/L	50.0		96.5	50-150			
Ethylbenzene	45.8	5.00	ug/L	50.0		91.6	60-140			
2-Hexanone (MBK)	54.5	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	63.7	5.00	ug/L	50.0		127	81-140			
Methylene chloride (Dichloromethane)	44.0	5.00	ug/L	50.0		88.0	60-140			
4-Methyl-2-pentanone (MIBK)	53.4	10.0	ug/L	50.0		107	73-142			
Styrene	48.4	5.00	ug/L	50.0		96.9	82-125			
1,1,2,2-Tetrachloroethane	51.8	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	45.1	5.00	ug/L	50.0		90.2	70-130			
Toluene	47.3	5.00	ug/L	50.0		94.6	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.4	70-130			
1,1,1-Trichloroethane	50.1	5.00	ug/L	50.0		100	70-130			
Trichloroethene	47.9	5.00	ug/L	50.0		95.9	65-135			
Trichlorofluoromethane (Freon 11)	53.6	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	48.5	5.00	ug/L	50.0		97.0	5-195			
m,p-Xylene	92.4	10.0	ug/L	100		92.4	80-122			
o-Xylene	47.7	5.00	ug/L	50.0		95.5	81-125			
Vinyl acetate	55.3	5.00	ug/L	50.0		111	60-140			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS2)	**Source: D9D1677-01**			Prepared & Analyzed: 04/17/2019						
Acetone	56.0	10.0	ug/L	50.0	ND	112	0-200			
Acrylonitrile	55.0	20.0	ug/L	50.0	ND	110	40-160			
Benzene	53.8	5.00	ug/L	50.0	ND	108	37-151			
Bromodichloromethane	50.8	5.00	ug/L	50.0	ND	102	35-155			
Bromoform	45.4	5.00	ug/L	50.0	ND	90.7	45-169			
Bromomethane	68.0	5.00	ug/L	50.0	ND	136	1-242			
2-Butanone (MEK)	58.5	10.0	ug/L	50.0	ND	117	0-200			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike (DD91146-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Carbon disulfide	52.1	5.00	ug/L	50.0	ND	104	0-200			
Carbon tetrachloride	55.7	5.00	ug/L	50.0	ND	111	70-140			
Chlorobenzene	50.2	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	63.0	5.00	ug/L	50.0	ND	126	14-230			
Chloroform	52.1	4.00	ug/L	50.0	ND	104	51-138			
Chloromethane	45.5	5.00	ug/L	50.0	ND	91.0	1-273			
Dibromochloromethane	49.2	5.00	ug/L	50.0	ND	98.5	53-149			
Dibromomethane (Methylene bromide)	50.6	5.00	ug/L	50.0	ND	101	0-200			
1,2-Dichlorobenzene	49.8	5.00	ug/L	50.0	ND	99.6	18-190			
1,3-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	97.1	59-156			
1,4-Dichlorobenzene	48.3	5.00	ug/L	50.0	ND	96.6	18-190			
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.6	0-200			
1,2-Dichloroethane	53.1	5.00	ug/L	50.0	ND	106	49-155			
1,1-Dichloroethane	54.7	5.00	ug/L	50.0	ND	109	59-155			
cis-1,2-Dichloroethene	53.0	5.00	ug/L	50.0	ND	106	0-200			
1,1-Dichloroethene	56.1	5.00	ug/L	50.0	ND	112	1-234			
trans-1,2-Dichloroethene	54.0	4.00	ug/L	50.0	ND	108	54-156			
1,2-Dichloropropane	56.6	5.00	ug/L	50.0	ND	113	1-210			
cis-1,3-Dichloropropene	51.6	5.00	ug/L	50.0	ND	103	1-227			
trans-1,3-Dichloropropene	47.9	5.00	ug/L	50.0	ND	95.8	17-183			
Ethylbenzene	50.0	5.00	ug/L	50.0	ND	99.9	37-162			
2-Hexanone (MBK)	53.0	10.0	ug/L	50.0	ND	106	0-200			
Methyl tert-butyl ether (MTBE)	67.0	5.00	ug/L	50.0	ND	134	0-200			
Methylene chloride (Dichloromethane)	48.4	5.00	ug/L	50.0	ND	96.7	1-221			
4-Methyl-2-pentanone (MIBK)	53.7	10.0	ug/L	50.0	ND	107	0-200			
Styrene	50.4	5.00	ug/L	50.0	ND	101	0-200			
1,1,2,2-Tetrachloroethane	50.6	5.00	ug/L	50.0	ND	101	46-157			
Tetrachloroethene	48.4	5.00	ug/L	50.0	ND	96.7	64-148			
Toluene	51.4	5.00	ug/L	50.0	ND	103	47-150			
1,1,2-Trichloroethane	48.5	5.00	ug/L	50.0	ND	97.0	52-150			
1,1,1-Trichloroethane	57.1	5.00	ug/L	50.0	ND	114	52-162			
Trichloroethene	52.8	5.00	ug/L	50.0	ND	106	70-157			
Trichlorofluoromethane (Freon 11)	64.7	5.00	ug/L	50.0	ND	129	17-181			
Vinyl chloride	57.1	5.00	ug/L	50.0	ND	114	1-251			
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200			
o-Xylene	51.0	5.00	ug/L	50.0	ND	102	0-200			
Vinyl acetate	56.1	5.00	ug/L	50.0	ND	112	60-140			
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acetone	54.2	10.0	ug/L	50.0	ND	108	0-200	3.14	200	
Acrylonitrile	54.3	20.0	ug/L	50.0	ND	109	40-160	1.35	60	
Benzene	50.6	5.00	ug/L	50.0	ND	101	37-151	6.13	61	
Bromodichloromethane	48.0	5.00	ug/L	50.0	ND	96.0	35-155	5.65	56	
Bromoform	45.9	5.00	ug/L	50.0	ND	91.7	45-169	1.12	42	
Bromomethane	64.0	5.00	ug/L	50.0	ND	128	1-242	6.17	61	
2-Butanone (MEK)	57.0	10.0	ug/L	50.0	ND	114	0-200	2.68	200	
Carbon disulfide	48.7	5.00	ug/L	50.0	ND	97.4	0-200	6.80	200	
Carbon tetrachloride	51.8	5.00	ug/L	50.0	ND	104	70-140	7.35	41	
Chlorobenzene	50.1	5.00	ug/L	50.0	ND	100	37-160	0.239	53	
Chloroethane (Ethyl chloride)	57.6	5.00	ug/L	50.0	ND	115	14-230	8.87	78	
Chloroform	49.2	4.00	ug/L	50.0	ND	98.5	51-138	5.74	54	
Chloromethane	42.1	5.00	ug/L	50.0	ND	84.2	1-273	7.79	60	
Dibromochloromethane	47.9	5.00	ug/L	50.0	ND	95.7	53-149	2.82	50	
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0	ND	95.0	0-200	6.44	200	
1,2-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.5	18-190	1.15	57	
1,3-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.2	59-156	2.97	43	
1,4-Dichlorobenzene	46.6	5.00	ug/L	50.0	ND	93.2	18-190	3.60	57	
Dichlorodifluoromethane (Freon-12)	41.6	5.00	ug/L	50.0	ND	83.2	0-200	7.34	200	
1,2-Dichloroethane	50.6	5.00	ug/L	50.0	ND	101	49-155	4.90	49	
1,1-Dichloroethane	50.5	5.00	ug/L	50.0	ND	101	59-155	7.92	40	
cis-1,2-Dichloroethene	50.3	5.00	ug/L	50.0	ND	101	0-200	5.40	200	
1,1-Dichloroethene	51.5	5.00	ug/L	50.0	ND	103	1-234	8.52	32	
trans-1,2-Dichloroethene	50.3	4.00	ug/L	50.0	ND	101	54-156	7.04	45	
1,2-Dichloropropane	53.6	5.00	ug/L	50.0	ND	107	1-210	5.43	55	
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0	ND	103	1-227	0.135	58	
trans-1,3-Dichloropropene	47.7	5.00	ug/L	50.0	ND	95.3	17-183	0.460	86	
Ethylbenzene	49.4	5.00	ug/L	50.0	ND	98.8	37-162	1.09	63	
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0	ND	109	0-200	2.37	200	
Methyl tert-butyl ether (MTBE)	63.6	5.00	ug/L	50.0	ND	127	0-200	5.15	200	
Methylene chloride (Dichloromethane)	46.5	5.00	ug/L	50.0	ND	93.0	1-221	3.92	28	
4-Methyl-2-pentanone (MIBK)	54.4	10.0	ug/L	50.0	ND	109	0-200	1.30	200	
Styrene	50.3	5.00	ug/L	50.0	ND	101	0-200	0.219	200	
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0	ND	102	46-157	0.454	61	
Tetrachloroethene	47.8	5.00	ug/L	50.0	ND	95.6	64-148	1.21	39	
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150	1.27	41	
1,1,2-Trichloroethane	49.0	5.00	ug/L	50.0	ND	98.1	52-150	1.05	45	
1,1,1-Trichloroethane	52.8	5.00	ug/L	50.0	ND	106	52-162	7.90	36	
Trichloroethene	49.7	5.00	ug/L	50.0	ND	99.3	70-157	6.17	48	
Trichlorofluoromethane (Freon 11)	59.6	5.00	ug/L	50.0	ND	119	17-181	8.22	84	
Vinyl chloride	52.4	5.00	ug/L	50.0	ND	105	1-251	8.70	66	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
m,p-Xylene	98.2	10.0	ug/L	100	ND	98.2	0-200	1.94	200	
o-Xylene	50.2	5.00	ug/L	50.0	ND	100	0-200	1.50	200	
Vinyl acetate	52.7	5.00	ug/L	50.0	ND	105	60-140	6.32	25	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acrolein	46.2	20.0	ug/L	50.0		92.5	60-140			
2-Chloroethyl vinyl ether	57.0	20.0	ug/L	50.0		114	1-305			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	48.0	20.0	ug/L	50.0	ND	95.9	40-160			
2-Chloroethyl vinyl ether	47.5	20.0	ug/L	50.0	ND	94.9	1-305			
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.3*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Matrix Spike Dup (DD91146-MSD1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	44.9	20.0	ug/L	50.0	ND	89.9	40-160	6.48	60	
2-Chloroethyl vinyl ether	46.6	20.0	ug/L	50.0	ND	93.2	1-305	1.79	71	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.7*		ug/L	*50.0*		*101*	*70-130*			

CERTIFICATE OF ANALYSIS

D9D1679

Definitions

A21:	Sample was filtered in the laboratory before analysis.
D1:	Dilution was performed due to matrix interference.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R1:	Duplicate RPD is outside acceptance criteria.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 04/23/2019 12:48

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D 9 D 1 6 7 9

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A8 (250 mL)	4/16/2019	12:40		X	WW	1	X	X											X			
Well # A8 (250 mL)	4/16/2019			X	WW	1			X	X								X				
Well # A8 (250 mL)(filtered)	4/16/2019			X	WW	1					X							X				
Well # A8 (250 mL)	4/16/2019			X	WW	1						X						X				
Well # A8 (250 mL)	4/16/2019			X	WW	1							X					X				
Well # A8 (250 mL)	4/16/2019			X	WW	1								X	X	X					X	
Well # A8 (40 mL vial)	4/16/2019			X	WW	2											X	X				
Well # A8 (40 mL vial)	4/16/2019			X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials MPV

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-16-19	
RECEIVED:		
RELINQUISHED:	4-16-19	1328
CEIVED:	4/16/19	1338
LINQUISHED:	4/16/19	1625
CEIVED:	4.16.19	1625

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX	☐	HARD COPY	☐	E-MAIL	☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED	☐	AMBIENT	☐	COMPLIANT	☐

4.4°C MPV

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1682

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, April 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1682

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/16/2019
Reported: 04/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A10	D9D1682-01	Wastewater	Grab		04/16/19 12:00	04/16/19 16:25
Well #A10 (filtered)	D9D1682-02	Wastewater	Grab		04/16/19 12:00	04/16/19 16:25

CERTIFICATE OF ANALYSIS

D9D1682

Analytical Testing Parameters

Client Sample ID:	Well #A10		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1682-01	**Collection Date:**	04/16/2019 12:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	**0.450**	0.200	mg/L		04/18/19 1833	04/19/19 0957	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0138**	0.0106	mg/L		04/19/19 1819	04/19/19 2320	DCH
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**24.3**	1.00	mg/L			04/17/19 1607	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**175**	8.00	mg/L			04/22/19 1503	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**2.23**	0.0500	mg/L			04/16/19 2358	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/16/19 2358	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0314**	0.0050	mg/L	**Y1**	04/18/19 1402	04/18/19 2007	DLO
Copper	<0.0020	0.0020	mg/L		04/18/19 1402	04/18/19 2007	DLO
Sodium	**91.9**	1.00	mg/L		04/18/19 1402	04/18/19 2007	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/17/19 1704	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/17/19 1704	JAN
Benzene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
Bromoform	<5.00	5.00	ug/L			04/17/19 1704	JAN
Bromomethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/17/19 1704	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/17/19 1704	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/17/19 1704	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/17/19 1704	JAN
Chloroform	<4.00	4.00	ug/L			04/17/19 1704	JAN
Chloromethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/17/19 1704	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1704	JAN

CERTIFICATE OF ANALYSIS

D9D1682

Client Sample ID: Well #A10
Sample Matrix: Wastewater
Lab Sample ID: D9D1682-01
Collected By: Customer
Collection Date: 04/16/2019 12:00

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1704	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/17/19 1704	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/17/19 1704	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/17/19 1704	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1704	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/17/19 1704	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/17/19 1704	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/17/19 1704	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/17/19 1704	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Toluene	<5.00	5.00	ug/L			04/17/19 1704	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1704	JAN
Trichloroethene	<5.00	5.00	ug/L			04/17/19 1704	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/17/19 1704	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/17/19 1704	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/17/19 1704	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/17/19 1704	JAN
Surrogate: 4-Bromofluorobenzene	93.7	Limit: 70-130	% Rec			04/17/19 1704	JAN
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 70-130	% Rec			04/17/19 1704	JAN
Surrogate: Toluene-d8	99.0	Limit: 70-130	% Rec			04/17/19 1704	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/17/19 1455	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/17/19 1455	JAN
Surrogate: 4-Bromofluorobenzene	93.7	Limit: 70-130	% Rec			04/17/19 1455	JAN
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 70-130	% Rec			04/17/19 1455	JAN
Surrogate: Toluene-d8	98.8	Limit: 70-130	% Rec			04/17/19 1455	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1682

Client Sample ID:	Well #A10 (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1682-02	**Collection Date:**	04/16/2019 12:00

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0460**	0.0100	mg/L		04/16/19 1930	04/17/19 0044	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91016 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD91016-BLK1)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD91016-BS1)			Prepared & Analyzed: 04/16/2019							
Nitrate as N	4.94	0.0500	mg/L	5.00		98.8	90-110			
LCS (DD91016-BS2)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DD91016-DUP1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	0.101	0.0100	mg/L		0.105			3.21	20	A21
Nitrate as N	5.05	0.0500	mg/L		5.10			1.12	20	A21
Matrix Spike (DD91016-MS1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.105	99.4	75-125			A21
Nitrate as N	9.70	0.100	mg/L	5.00	5.10	91.9	75-125			A21
Matrix Spike Dup (DD91016-MSD1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.12	0.0100	mg/L	1.00	0.105	102	75-125	2.39	20	A21
Nitrate as N	9.62	0.100	mg/L	5.00	5.10	90.4	75-125	0.766	20	A21
Batch DD91019 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD91019-BLK1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD91019-BS1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DD91019-DUP1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0310			21.4	20	R1
Matrix Spike (DD91019-MS1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0310	104	90-110			
Batch DD91092 - Wet Chem - W - SM2320 B-2011										
Blank (DD91092-BLK1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD91092-BS1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD91092-DUP1)		**Source: D9D1679-01**	Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	102	1.00	mg/L		99.7			2.67	20	
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
Blank (DD91191-BLK1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
LCS (DD91191-BS1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DD91191-DUP1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		0.201			25.7	20	R3
Matrix Spike (DD91191-MS1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.2	0.200	mg/L	10.0	0.201	99.9	90-110			
Matrix Spike (DD91191-MS2)		**Source: D9D1615-02**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.8	0.200	mg/L	10.0	0.987	98.5	90-110			
Batch DD91282 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DD91282-BLK1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD91282-BS1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DD91282-DUP1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	0.0956	0.0106	mg/L		0.0935			2.25	20	
Matrix Spike (DD91282-MS1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.26	0.0106	mg/L	1.25	0.0935	92.8	90-110			
Matrix Spike (DD91282-MS2)		**Source: D9D1695-02**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.30	0.0106	mg/L	1.25	0.120	93.9	90-110			
Batch DD91301 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD91301-BLK1)			Prepared & Analyzed: 04/22/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD91301-BS1)			Prepared & Analyzed: 04/22/2019							
Chloride	19.7	2.00	mg/L	20.0		98.5	90-110			
Duplicate (DD91301-DUP1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	112	4.00	mg/L		113			0.507	20	
Matrix Spike (DD91301-MS1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	128	4.00	mg/L	20.0	113	72.6	75-125			M6
Matrix Spike Dup (DD91301-MSD1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	129	4.00	mg/L	20.0	113	82.0	75-125	1.46	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD91147-BLK1)			Prepared & Analyzed: 04/18/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD91147-BS1)			Prepared & Analyzed: 04/18/2019							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DD91147-BS1)				Prepared & Analyzed: 04/18/2019						
Boron	0.502	0.0050	mg/L	0.500		100	85-115			
Copper	0.512	0.0020	mg/L	0.500		102	85-115			
Sodium	10.2	1.00	mg/L	10.5		97.6	85-115			
Duplicate (DD91147-DUP1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.204	0.0050	mg/L		0.198			2.92	20	
Copper	0.0154	0.0020	mg/L		0.0156			1.28	20	
Sodium	121	1.00	mg/L		120			0.964	20	
Matrix Spike (DD91147-MS1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.703	0.0050	mg/L	0.500	0.198	101	70-130			
Copper	0.535	0.0020	mg/L	0.500	0.0156	104	70-130			
Sodium	129	1.00	mg/L	10.5	120	91.1	70-130			
Matrix Spike (DD91147-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.530	0.0050	mg/L	0.500	0.0231	101	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0008	104	70-130			
Sodium	67.9	1.00	mg/L	10.5	56.2	111	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)			Prepared & Analyzed: 04/17/2019							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)			Prepared & Analyzed: 04/17/2019							
Acetone	52.0	10.0	ug/L	50.0		104	65-133			
Acrylonitrile	53.6	20.0	ug/L	50.0		107	60-140			
Benzene	48.4	5.00	ug/L	50.0		96.8	65-135			
Bromodichloromethane	46.2	5.00	ug/L	50.0		92.5	65-135			
Bromoform	45.3	5.00	ug/L	50.0		90.6	70-130			
Bromomethane	57.0	5.00	ug/L	50.0		114	15-185			
2-Butanone (MEK)	59.8	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	45.9	5.00	ug/L	50.0		91.7	70-130			
Carbon tetrachloride	48.5	5.00	ug/L	50.0		97.1	70-130			
Chlorobenzene	47.5	5.00	ug/L	50.0		94.9	65-135			
Chloroethane (Ethyl chloride)	47.2	5.00	ug/L	50.0		94.4	40-160			
Chloroform	47.6	4.00	ug/L	50.0		95.2	70-135			
Chloromethane	38.8	5.00	ug/L	50.0		77.6	1-205			
Dibromochloromethane	47.7	5.00	ug/L	50.0		95.3	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Dibromomethane (Methylene bromide)	47.1	5.00	ug/L	50.0		94.2	76-126			
1,2-Dichlorobenzene	48.2	5.00	ug/L	50.0		96.3	65-135			
1,3-Dichlorobenzene	47.2	5.00	ug/L	50.0		94.3	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.7	65-135			
Dichlorodifluoromethane (Freon-12)	39.8	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	50.0	5.00	ug/L	50.0		100	70-130			
1,1-Dichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
cis-1,2-Dichloroethene	49.3	5.00	ug/L	50.0		98.7	82-137			
1,1-Dichloroethene	47.9	5.00	ug/L	50.0		95.9	50-150			
trans-1,2-Dichloroethene	48.4	4.00	ug/L	50.0		96.7	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.4	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	48.3	5.00	ug/L	50.0		96.5	50-150			
Ethylbenzene	45.8	5.00	ug/L	50.0		91.6	60-140			
2-Hexanone (MBK)	54.5	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	63.7	5.00	ug/L	50.0		127	81-140			
Methylene chloride (Dichloromethane)	44.0	5.00	ug/L	50.0		88.0	60-140			
4-Methyl-2-pentanone (MIBK)	53.4	10.0	ug/L	50.0		107	73-142			
Styrene	48.4	5.00	ug/L	50.0		96.9	82-125			
1,1,2,2-Tetrachloroethane	51.8	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	45.1	5.00	ug/L	50.0		90.2	70-130			
Toluene	47.3	5.00	ug/L	50.0		94.6	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.4	70-130			
1,1,1-Trichloroethane	50.1	5.00	ug/L	50.0		100	70-130			
Trichloroethene	47.9	5.00	ug/L	50.0		95.9	65-135			
Trichlorofluoromethane (Freon 11)	53.6	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	48.5	5.00	ug/L	50.0		97.0	5-195			
m,p-Xylene	92.4	10.0	ug/L	100		92.4	80-122			
o-Xylene	47.7	5.00	ug/L	50.0		95.5	81-125			
Vinyl acetate	55.3	5.00	ug/L	50.0		111	60-140			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS2)	**Source: D9D1677-01**			Prepared & Analyzed: 04/17/2019						
Acetone	56.0	10.0	ug/L	50.0	ND	112	0-200			
Acrylonitrile	55.0	20.0	ug/L	50.0	ND	110	40-160			
Benzene	53.8	5.00	ug/L	50.0	ND	108	37-151			
Bromodichloromethane	50.8	5.00	ug/L	50.0	ND	102	35-155			
Bromoform	45.4	5.00	ug/L	50.0	ND	90.7	45-169			
Bromomethane	68.0	5.00	ug/L	50.0	ND	136	1-242			
2-Butanone (MEK)	58.5	10.0	ug/L	50.0	ND	117	0-200			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike (DD91146-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Carbon disulfide	52.1	5.00	ug/L	50.0	ND	104	0-200			
Carbon tetrachloride	55.7	5.00	ug/L	50.0	ND	111	70-140			
Chlorobenzene	50.2	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	63.0	5.00	ug/L	50.0	ND	126	14-230			
Chloroform	52.1	4.00	ug/L	50.0	ND	104	51-138			
Chloromethane	45.5	5.00	ug/L	50.0	ND	91.0	1-273			
Dibromochloromethane	49.2	5.00	ug/L	50.0	ND	98.5	53-149			
Dibromomethane (Methylene bromide)	50.6	5.00	ug/L	50.0	ND	101	0-200			
1,2-Dichlorobenzene	49.8	5.00	ug/L	50.0	ND	99.6	18-190			
1,3-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	97.1	59-156			
1,4-Dichlorobenzene	48.3	5.00	ug/L	50.0	ND	96.6	18-190			
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.6	0-200			
1,2-Dichloroethane	53.1	5.00	ug/L	50.0	ND	106	49-155			
1,1-Dichloroethane	54.7	5.00	ug/L	50.0	ND	109	59-155			
cis-1,2-Dichloroethene	53.0	5.00	ug/L	50.0	ND	106	0-200			
1,1-Dichloroethene	56.1	5.00	ug/L	50.0	ND	112	1-234			
trans-1,2-Dichloroethene	54.0	4.00	ug/L	50.0	ND	108	54-156			
1,2-Dichloropropane	56.6	5.00	ug/L	50.0	ND	113	1-210			
cis-1,3-Dichloropropene	51.6	5.00	ug/L	50.0	ND	103	1-227			
trans-1,3-Dichloropropene	47.9	5.00	ug/L	50.0	ND	95.8	17-183			
Ethylbenzene	50.0	5.00	ug/L	50.0	ND	99.9	37-162			
2-Hexanone (MBK)	53.0	10.0	ug/L	50.0	ND	106	0-200			
Methyl tert-butyl ether (MTBE)	67.0	5.00	ug/L	50.0	ND	134	0-200			
Methylene chloride (Dichloromethane)	48.4	5.00	ug/L	50.0	ND	96.7	1-221			
4-Methyl-2-pentanone (MIBK)	53.7	10.0	ug/L	50.0	ND	107	0-200			
Styrene	50.4	5.00	ug/L	50.0	ND	101	0-200			
1,1,2,2-Tetrachloroethane	50.6	5.00	ug/L	50.0	ND	101	46-157			
Tetrachloroethene	48.4	5.00	ug/L	50.0	ND	96.7	64-148			
Toluene	51.4	5.00	ug/L	50.0	ND	103	47-150			
1,1,2-Trichloroethane	48.5	5.00	ug/L	50.0	ND	97.0	52-150			
1,1,1-Trichloroethane	57.1	5.00	ug/L	50.0	ND	114	52-162			
Trichloroethene	52.8	5.00	ug/L	50.0	ND	106	70-157			
Trichlorofluoromethane (Freon 11)	64.7	5.00	ug/L	50.0	ND	129	17-181			
Vinyl chloride	57.1	5.00	ug/L	50.0	ND	114	1-251			
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200			
o-Xylene	51.0	5.00	ug/L	50.0	ND	102	0-200			
Vinyl acetate	56.1	5.00	ug/L	50.0	ND	112	60-140			
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acetone	54.2	10.0	ug/L	50.0	ND	108	0-200	3.14	200	
Acrylonitrile	54.3	20.0	ug/L	50.0	ND	109	40-160	1.35	60	
Benzene	50.6	5.00	ug/L	50.0	ND	101	37-151	6.13	61	
Bromodichloromethane	48.0	5.00	ug/L	50.0	ND	96.0	35-155	5.65	56	
Bromoform	45.9	5.00	ug/L	50.0	ND	91.7	45-169	1.12	42	
Bromomethane	64.0	5.00	ug/L	50.0	ND	128	1-242	6.17	61	
2-Butanone (MEK)	57.0	10.0	ug/L	50.0	ND	114	0-200	2.68	200	
Carbon disulfide	48.7	5.00	ug/L	50.0	ND	97.4	0-200	6.80	200	
Carbon tetrachloride	51.8	5.00	ug/L	50.0	ND	104	70-140	7.35	41	
Chlorobenzene	50.1	5.00	ug/L	50.0	ND	100	37-160	0.239	53	
Chloroethane (Ethyl chloride)	57.6	5.00	ug/L	50.0	ND	115	14-230	8.87	78	
Chloroform	49.2	4.00	ug/L	50.0	ND	98.5	51-138	5.74	54	
Chloromethane	42.1	5.00	ug/L	50.0	ND	84.2	1-273	7.79	60	
Dibromochloromethane	47.9	5.00	ug/L	50.0	ND	95.7	53-149	2.82	50	
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0	ND	95.0	0-200	6.44	200	
1,2-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.5	18-190	1.15	57	
1,3-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.2	59-156	2.97	43	
1,4-Dichlorobenzene	46.6	5.00	ug/L	50.0	ND	93.2	18-190	3.60	57	
Dichlorodifluoromethane (Freon-12)	41.6	5.00	ug/L	50.0	ND	83.2	0-200	7.34	200	
1,2-Dichloroethane	50.6	5.00	ug/L	50.0	ND	101	49-155	4.90	49	
1,1-Dichloroethane	50.5	5.00	ug/L	50.0	ND	101	59-155	7.92	40	
cis-1,2-Dichloroethene	50.3	5.00	ug/L	50.0	ND	101	0-200	5.40	200	
1,1-Dichloroethene	51.5	5.00	ug/L	50.0	ND	103	1-234	8.52	32	
trans-1,2-Dichloroethene	50.3	4.00	ug/L	50.0	ND	101	54-156	7.04	45	
1,2-Dichloropropane	53.6	5.00	ug/L	50.0	ND	107	1-210	5.43	55	
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0	ND	103	1-227	0.135	58	
trans-1,3-Dichloropropene	47.7	5.00	ug/L	50.0	ND	95.3	17-183	0.460	86	
Ethylbenzene	49.4	5.00	ug/L	50.0	ND	98.8	37-162	1.09	63	
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0	ND	109	0-200	2.37	200	
Methyl tert-butyl ether (MTBE)	63.6	5.00	ug/L	50.0	ND	127	0-200	5.15	200	
Methylene chloride (Dichloromethane)	46.5	5.00	ug/L	50.0	ND	93.0	1-221	3.92	28	
4-Methyl-2-pentanone (MIBK)	54.4	10.0	ug/L	50.0	ND	109	0-200	1.30	200	
Styrene	50.3	5.00	ug/L	50.0	ND	101	0-200	0.219	200	
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0	ND	102	46-157	0.454	61	
Tetrachloroethene	47.8	5.00	ug/L	50.0	ND	95.6	64-148	1.21	39	
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150	1.27	41	
1,1,2-Trichloroethane	49.0	5.00	ug/L	50.0	ND	98.1	52-150	1.05	45	
1,1,1-Trichloroethane	52.8	5.00	ug/L	50.0	ND	106	52-162	7.90	36	
Trichloroethene	49.7	5.00	ug/L	50.0	ND	99.3	70-157	6.17	48	
Trichlorofluoromethane (Freon 11)	59.6	5.00	ug/L	50.0	ND	119	17-181	8.22	84	
Vinyl chloride	52.4	5.00	ug/L	50.0	ND	105	1-251	8.70	66	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
m,p-Xylene	98.2	10.0	ug/L	100	ND	98.2	0-200	1.94	200	
o-Xylene	50.2	5.00	ug/L	50.0	ND	100	0-200	1.50	200	
Vinyl acetate	52.7	5.00	ug/L	50.0	ND	105	60-140	6.32	25	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acrolein	46.2	20.0	ug/L	50.0		92.5	60-140			
2-Chloroethyl vinyl ether	57.0	20.0	ug/L	50.0		114	1-305			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	48.0	20.0	ug/L	50.0	ND	95.9	40-160			
2-Chloroethyl vinyl ether	47.5	20.0	ug/L	50.0	ND	94.9	1-305			
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.3*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Matrix Spike Dup (DD91146-MSD1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	44.9	20.0	ug/L	50.0	ND	89.9	40-160	6.48	60	
2-Chloroethyl vinyl ether	46.6	20.0	ug/L	50.0	ND	93.2	1-305	1.79	71	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.7*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R1:	Duplicate RPD is outside acceptance criteria.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall

Project Manager

Reported: 04/23/2019 12:49

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Microbac Laboratories, Inc.

D 9 D 1 6 8 2

Veolia - Plymouth

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A10 (250 mL)	4/16/2019	12:00		X	WW	1	X	X											X			
Well # A10 (250 mL)	4/16/2019			X	WW	1			X	X								X				
Well # A10 (250 mL)(filtered)	4/16/2019			X	WW	1					X							X				
Well # A10 (250 mL)	4/16/2019			X	WW	1						X						X				
Well # A10 (250 mL)	4/16/2019			X	WW	1							X					X				
Well # A10 (250 mL)	4/16/2019			X	WW	1								X	X	X					X	
Well # A10 (40 mL vial)	4/16/2019			X	WW	2											X	X				
Well # A10 (40 mL vial)	4/16/2019			X	WW	2											X			X		
													PRESERVATIVE VERIFIED Initials LM									

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	4-16-19	
RECEIVED:		
RELINQUISHED:	4-16-19	13:38
CEIVED:	4/16/19	1338
LINQUISHED:	4/16/19	1625
CEIVED:	4/16/19	1625

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 9.4°C LMV

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1683

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, April 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1683

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/16/2019
Reported: 04/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A9	D9D1683-01	Wastewater	Grab		04/16/19 11:15	04/16/19 16:25
Well #A9 (filtered)	D9D1683-02	Wastewater	Grab		04/16/19 11:15	04/16/19 16:25

CERTIFICATE OF ANALYSIS

D9D1683

Analytical Testing Parameters

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9D1683-01
Collected By: Customer
Collection Date: 04/16/2019 11:15

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1		**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	<0.400	0.400	mg/L		04/18/19 1833	04/19/19 1000	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0244**	0.0106	mg/L		04/19/19 1819	04/19/19 2320	DCH
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**27.0**	1.00	mg/L			04/17/19 1607	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**384**	10.0	mg/L			04/22/19 1503	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**3.37**	0.0500	mg/L			04/16/19 2359	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/16/19 2359	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.120**	0.0050	mg/L	**Y1**	04/18/19 1402	04/18/19 2011	DLO
Copper	<0.0020	0.0020	mg/L		04/18/19 1402	04/18/19 2011	DLO
Sodium	**263**	1.00	mg/L		04/18/19 1402	04/18/19 2011	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/17/19 1730	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/17/19 1730	JAN
Benzene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
Bromoform	<5.00	5.00	ug/L			04/17/19 1730	JAN
Bromomethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/17/19 1730	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/17/19 1730	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/17/19 1730	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/17/19 1730	JAN
Chloroform	<4.00	4.00	ug/L			04/17/19 1730	JAN
Chloromethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/17/19 1730	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1730	JAN

CERTIFICATE OF ANALYSIS

D9D1683

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9D1683-01
Collected By: Customer
Collection Date: 04/16/2019 11:15

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1730	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/17/19 1730	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/17/19 1730	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/17/19 1730	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1730	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/17/19 1730	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/17/19 1730	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/17/19 1730	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/17/19 1730	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Toluene	<5.00	5.00	ug/L			04/17/19 1730	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1730	JAN
Trichloroethene	<5.00	5.00	ug/L			04/17/19 1730	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/17/19 1730	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/17/19 1730	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/17/19 1730	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/17/19 1730	JAN
Surrogate: 4-Bromofluorobenzene	93.4	Limit: 70-130	% Rec			04/17/19 1730	JAN
Surrogate: 1,2-Dichloroethane-d4	109	Limit: 70-130	% Rec			04/17/19 1730	JAN
Surrogate: Toluene-d8	99.4	Limit: 70-130	% Rec			04/17/19 1730	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/17/19 1521	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/17/19 1521	JAN
Surrogate: 4-Bromofluorobenzene	94.8	Limit: 70-130	% Rec			04/17/19 1521	JAN
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 70-130	% Rec			04/17/19 1521	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			04/17/19 1521	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1683

Client Sample ID:	Well #A9 (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1683-02	**Collection Date:**	04/16/2019 11:15

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0270**	0.0100	mg/L		04/16/19 1930	04/17/19 0045	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91016 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD91016-BLK1)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD91016-BS1)			Prepared & Analyzed: 04/16/2019							
Nitrate as N	4.94	0.0500	mg/L	5.00		98.8	90-110			
LCS (DD91016-BS2)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DD91016-DUP1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	0.101	0.0100	mg/L		0.105			3.21	20	A21
Nitrate as N	5.05	0.0500	mg/L		5.10			1.12	20	A21
Matrix Spike (DD91016-MS1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.105	99.4	75-125			A21
Nitrate as N	9.70	0.100	mg/L	5.00	5.10	91.9	75-125			A21
Matrix Spike Dup (DD91016-MSD1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.12	0.0100	mg/L	1.00	0.105	102	75-125	2.39	20	A21
Nitrate as N	9.62	0.100	mg/L	5.00	5.10	90.4	75-125	0.766	20	A21
Batch DD91019 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD91019-BLK1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD91019-BS1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DD91019-DUP1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0310			21.4	20	R1
Matrix Spike (DD91019-MS1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0310	104	90-110			
Batch DD91092 - Wet Chem - W - SM2320 B-2011										
Blank (DD91092-BLK1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD91092-BS1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD91092-DUP1)		**Source: D9D1679-01**	Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	102	1.00	mg/L		99.7			2.67	20	
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
Blank (DD91191-BLK1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91191 - Wet-Digestion-W - EPA 351.1										
LCS (DD91191-BS1)			Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DD91191-DUP1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		0.201			25.7	20	R3
Matrix Spike (DD91191-MS1)		**Source: D9D1511-01**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.2	0.200	mg/L	10.0	0.201	99.9	90-110			
Matrix Spike (DD91191-MS2)		**Source: D9D1615-02**	Prepared: 04/18/2019 Analyzed: 04/19/2019							
Total Kjeldahl Nitrogen (TKN)	10.8	0.200	mg/L	10.0	0.987	98.5	90-110			
Batch DD91282 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DD91282-BLK1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD91282-BS1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DD91282-DUP1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	0.0956	0.0106	mg/L		0.0935			2.25	20	
Matrix Spike (DD91282-MS1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.26	0.0106	mg/L	1.25	0.0935	92.8	90-110			
Matrix Spike (DD91282-MS2)		**Source: D9D1695-02**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.30	0.0106	mg/L	1.25	0.120	93.9	90-110			
Batch DD91301 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD91301-BLK1)			Prepared & Analyzed: 04/22/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD91301-BS1)			Prepared & Analyzed: 04/22/2019							
Chloride	19.7	2.00	mg/L	20.0		98.5	90-110			
Duplicate (DD91301-DUP1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	112	4.00	mg/L		113			0.507	20	
Matrix Spike (DD91301-MS1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	128	4.00	mg/L	20.0	113	72.6	75-125			M6
Matrix Spike Dup (DD91301-MSD1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	129	4.00	mg/L	20.0	113	82.0	75-125	1.46	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD91147-BLK1)			Prepared & Analyzed: 04/18/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD91147-BS1)			Prepared & Analyzed: 04/18/2019							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DD91147-BS1)				Prepared & Analyzed: 04/18/2019						
Boron	0.502	0.0050	mg/L	0.500		100	85-115			
Copper	0.512	0.0020	mg/L	0.500		102	85-115			
Sodium	10.2	1.00	mg/L	10.5		97.6	85-115			
Duplicate (DD91147-DUP1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.204	0.0050	mg/L		0.198			2.92	20	
Copper	0.0154	0.0020	mg/L		0.0156			1.28	20	
Sodium	121	1.00	mg/L		120			0.964	20	
Matrix Spike (DD91147-MS1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.703	0.0050	mg/L	0.500	0.198	101	70-130			
Copper	0.535	0.0020	mg/L	0.500	0.0156	104	70-130			
Sodium	129	1.00	mg/L	10.5	120	91.1	70-130			
Matrix Spike (DD91147-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.530	0.0050	mg/L	0.500	0.0231	101	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0008	104	70-130			
Sodium	67.9	1.00	mg/L	10.5	56.2	111	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)			Prepared & Analyzed: 04/17/2019							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)			Prepared & Analyzed: 04/17/2019							
Acetone	52.0	10.0	ug/L	50.0		104	65-133			
Acrylonitrile	53.6	20.0	ug/L	50.0		107	60-140			
Benzene	48.4	5.00	ug/L	50.0		96.8	65-135			
Bromodichloromethane	46.2	5.00	ug/L	50.0		92.5	65-135			
Bromoform	45.3	5.00	ug/L	50.0		90.6	70-130			
Bromomethane	57.0	5.00	ug/L	50.0		114	15-185			
2-Butanone (MEK)	59.8	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	45.9	5.00	ug/L	50.0		91.7	70-130			
Carbon tetrachloride	48.5	5.00	ug/L	50.0		97.1	70-130			
Chlorobenzene	47.5	5.00	ug/L	50.0		94.9	65-135			
Chloroethane (Ethyl chloride)	47.2	5.00	ug/L	50.0		94.4	40-160			
Chloroform	47.6	4.00	ug/L	50.0		95.2	70-135			
Chloromethane	38.8	5.00	ug/L	50.0		77.6	1-205			
Dibromochloromethane	47.7	5.00	ug/L	50.0		95.3	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Dibromomethane (Methylene bromide)	47.1	5.00	ug/L	50.0		94.2	76-126			
1,2-Dichlorobenzene	48.2	5.00	ug/L	50.0		96.3	65-135			
1,3-Dichlorobenzene	47.2	5.00	ug/L	50.0		94.3	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.7	65-135			
Dichlorodifluoromethane (Freon-12)	39.8	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	50.0	5.00	ug/L	50.0		100	70-130			
1,1-Dichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
cis-1,2-Dichloroethene	49.3	5.00	ug/L	50.0		98.7	82-137			
1,1-Dichloroethene	47.9	5.00	ug/L	50.0		95.9	50-150			
trans-1,2-Dichloroethene	48.4	4.00	ug/L	50.0		96.7	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.4	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	48.3	5.00	ug/L	50.0		96.5	50-150			
Ethylbenzene	45.8	5.00	ug/L	50.0		91.6	60-140			
2-Hexanone (MBK)	54.5	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	63.7	5.00	ug/L	50.0		127	81-140			
Methylene chloride (Dichloromethane)	44.0	5.00	ug/L	50.0		88.0	60-140			
4-Methyl-2-pentanone (MIBK)	53.4	10.0	ug/L	50.0		107	73-142			
Styrene	48.4	5.00	ug/L	50.0		96.9	82-125			
1,1,2,2-Tetrachloroethane	51.8	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	45.1	5.00	ug/L	50.0		90.2	70-130			
Toluene	47.3	5.00	ug/L	50.0		94.6	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.4	70-130			
1,1,1-Trichloroethane	50.1	5.00	ug/L	50.0		100	70-130			
Trichloroethene	47.9	5.00	ug/L	50.0		95.9	65-135			
Trichlorofluoromethane (Freon 11)	53.6	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	48.5	5.00	ug/L	50.0		97.0	5-195			
m,p-Xylene	92.4	10.0	ug/L	100		92.4	80-122			
o-Xylene	47.7	5.00	ug/L	50.0		95.5	81-125			
Vinyl acetate	55.3	5.00	ug/L	50.0		111	60-140			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS2)	**Source: D9D1677-01**			Prepared & Analyzed: 04/17/2019						
Acetone	56.0	10.0	ug/L	50.0	ND	112	0-200			
Acrylonitrile	55.0	20.0	ug/L	50.0	ND	110	40-160			
Benzene	53.8	5.00	ug/L	50.0	ND	108	37-151			
Bromodichloromethane	50.8	5.00	ug/L	50.0	ND	102	35-155			
Bromoform	45.4	5.00	ug/L	50.0	ND	90.7	45-169			
Bromomethane	68.0	5.00	ug/L	50.0	ND	136	1-242			
2-Butanone (MEK)	58.5	10.0	ug/L	50.0	ND	117	0-200			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike (DD91146-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Carbon disulfide	52.1	5.00	ug/L	50.0	ND	104	0-200			
Carbon tetrachloride	55.7	5.00	ug/L	50.0	ND	111	70-140			
Chlorobenzene	50.2	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	63.0	5.00	ug/L	50.0	ND	126	14-230			
Chloroform	52.1	4.00	ug/L	50.0	ND	104	51-138			
Chloromethane	45.5	5.00	ug/L	50.0	ND	91.0	1-273			
Dibromochloromethane	49.2	5.00	ug/L	50.0	ND	98.5	53-149			
Dibromomethane (Methylene bromide)	50.6	5.00	ug/L	50.0	ND	101	0-200			
1,2-Dichlorobenzene	49.8	5.00	ug/L	50.0	ND	99.6	18-190			
1,3-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	97.1	59-156			
1,4-Dichlorobenzene	48.3	5.00	ug/L	50.0	ND	96.6	18-190			
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.6	0-200			
1,2-Dichloroethane	53.1	5.00	ug/L	50.0	ND	106	49-155			
1,1-Dichloroethane	54.7	5.00	ug/L	50.0	ND	109	59-155			
cis-1,2-Dichloroethene	53.0	5.00	ug/L	50.0	ND	106	0-200			
1,1-Dichloroethene	56.1	5.00	ug/L	50.0	ND	112	1-234			
trans-1,2-Dichloroethene	54.0	4.00	ug/L	50.0	ND	108	54-156			
1,2-Dichloropropane	56.6	5.00	ug/L	50.0	ND	113	1-210			
cis-1,3-Dichloropropene	51.6	5.00	ug/L	50.0	ND	103	1-227			
trans-1,3-Dichloropropene	47.9	5.00	ug/L	50.0	ND	95.8	17-183			
Ethylbenzene	50.0	5.00	ug/L	50.0	ND	99.9	37-162			
2-Hexanone (MBK)	53.0	10.0	ug/L	50.0	ND	106	0-200			
Methyl tert-butyl ether (MTBE)	67.0	5.00	ug/L	50.0	ND	134	0-200			
Methylene chloride (Dichloromethane)	48.4	5.00	ug/L	50.0	ND	96.7	1-221			
4-Methyl-2-pentanone (MIBK)	53.7	10.0	ug/L	50.0	ND	107	0-200			
Styrene	50.4	5.00	ug/L	50.0	ND	101	0-200			
1,1,2,2-Tetrachloroethane	50.6	5.00	ug/L	50.0	ND	101	46-157			
Tetrachloroethene	48.4	5.00	ug/L	50.0	ND	96.7	64-148			
Toluene	51.4	5.00	ug/L	50.0	ND	103	47-150			
1,1,2-Trichloroethane	48.5	5.00	ug/L	50.0	ND	97.0	52-150			
1,1,1-Trichloroethane	57.1	5.00	ug/L	50.0	ND	114	52-162			
Trichloroethene	52.8	5.00	ug/L	50.0	ND	106	70-157			
Trichlorofluoromethane (Freon 11)	64.7	5.00	ug/L	50.0	ND	129	17-181			
Vinyl chloride	57.1	5.00	ug/L	50.0	ND	114	1-251			
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200			
o-Xylene	51.0	5.00	ug/L	50.0	ND	102	0-200			
Vinyl acetate	56.1	5.00	ug/L	50.0	ND	112	60-140			
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acetone	54.2	10.0	ug/L	50.0	ND	108	0-200	3.14	200	
Acrylonitrile	54.3	20.0	ug/L	50.0	ND	109	40-160	1.35	60	
Benzene	50.6	5.00	ug/L	50.0	ND	101	37-151	6.13	61	
Bromodichloromethane	48.0	5.00	ug/L	50.0	ND	96.0	35-155	5.65	56	
Bromoform	45.9	5.00	ug/L	50.0	ND	91.7	45-169	1.12	42	
Bromomethane	64.0	5.00	ug/L	50.0	ND	128	1-242	6.17	61	
2-Butanone (MEK)	57.0	10.0	ug/L	50.0	ND	114	0-200	2.68	200	
Carbon disulfide	48.7	5.00	ug/L	50.0	ND	97.4	0-200	6.80	200	
Carbon tetrachloride	51.8	5.00	ug/L	50.0	ND	104	70-140	7.35	41	
Chlorobenzene	50.1	5.00	ug/L	50.0	ND	100	37-160	0.239	53	
Chloroethane (Ethyl chloride)	57.6	5.00	ug/L	50.0	ND	115	14-230	8.87	78	
Chloroform	49.2	4.00	ug/L	50.0	ND	98.5	51-138	5.74	54	
Chloromethane	42.1	5.00	ug/L	50.0	ND	84.2	1-273	7.79	60	
Dibromochloromethane	47.9	5.00	ug/L	50.0	ND	95.7	53-149	2.82	50	
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0	ND	95.0	0-200	6.44	200	
1,2-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.5	18-190	1.15	57	
1,3-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.2	59-156	2.97	43	
1,4-Dichlorobenzene	46.6	5.00	ug/L	50.0	ND	93.2	18-190	3.60	57	
Dichlorodifluoromethane (Freon-12)	41.6	5.00	ug/L	50.0	ND	83.2	0-200	7.34	200	
1,2-Dichloroethane	50.6	5.00	ug/L	50.0	ND	101	49-155	4.90	49	
1,1-Dichloroethane	50.5	5.00	ug/L	50.0	ND	101	59-155	7.92	40	
cis-1,2-Dichloroethene	50.3	5.00	ug/L	50.0	ND	101	0-200	5.40	200	
1,1-Dichloroethene	51.5	5.00	ug/L	50.0	ND	103	1-234	8.52	32	
trans-1,2-Dichloroethene	50.3	4.00	ug/L	50.0	ND	101	54-156	7.04	45	
1,2-Dichloropropane	53.6	5.00	ug/L	50.0	ND	107	1-210	5.43	55	
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0	ND	103	1-227	0.135	58	
trans-1,3-Dichloropropene	47.7	5.00	ug/L	50.0	ND	95.3	17-183	0.460	86	
Ethylbenzene	49.4	5.00	ug/L	50.0	ND	98.8	37-162	1.09	63	
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0	ND	109	0-200	2.37	200	
Methyl tert-butyl ether (MTBE)	63.6	5.00	ug/L	50.0	ND	127	0-200	5.15	200	
Methylene chloride (Dichloromethane)	46.5	5.00	ug/L	50.0	ND	93.0	1-221	3.92	28	
4-Methyl-2-pentanone (MIBK)	54.4	10.0	ug/L	50.0	ND	109	0-200	1.30	200	
Styrene	50.3	5.00	ug/L	50.0	ND	101	0-200	0.219	200	
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0	ND	102	46-157	0.454	61	
Tetrachloroethene	47.8	5.00	ug/L	50.0	ND	95.6	64-148	1.21	39	
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150	1.27	41	
1,1,2-Trichloroethane	49.0	5.00	ug/L	50.0	ND	98.1	52-150	1.05	45	
1,1,1-Trichloroethane	52.8	5.00	ug/L	50.0	ND	106	52-162	7.90	36	
Trichloroethene	49.7	5.00	ug/L	50.0	ND	99.3	70-157	6.17	48	
Trichlorofluoromethane (Freon 11)	59.6	5.00	ug/L	50.0	ND	119	17-181	8.22	84	
Vinyl chloride	52.4	5.00	ug/L	50.0	ND	105	1-251	8.70	66	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
m,p-Xylene	98.2	10.0	ug/L	100	ND	98.2	0-200	1.94	200	
o-Xylene	50.2	5.00	ug/L	50.0	ND	100	0-200	1.50	200	
Vinyl acetate	52.7	5.00	ug/L	50.0	ND	105	60-140	6.32	25	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acrolein	46.2	20.0	ug/L	50.0		92.5	60-140			
2-Chloroethyl vinyl ether	57.0	20.0	ug/L	50.0		114	1-305			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	48.0	20.0	ug/L	50.0	ND	95.9	40-160			
2-Chloroethyl vinyl ether	47.5	20.0	ug/L	50.0	ND	94.9	1-305			
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.3*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Matrix Spike Dup (DD91146-MSD1)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acrolein	44.9	20.0	ug/L	50.0	ND	89.9	40-160	6.48	60	
2-Chloroethyl vinyl ether	46.6	20.0	ug/L	50.0	ND	93.2	1-305	1.79	71	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.7*		ug/L	*50.0*		*101*	*70-130*			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1683

Definitions

A21:	Sample was filtered in the laboratory before analysis.
D1:	Dilution was performed due to matrix interference.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R1:	Duplicate RPD is outside acceptance criteria.
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 04/23/2019 12:50

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Microbac Laboratories, Inc.

D 9 D 1 6 8 3

Veolia - Plymouth

FOR LAB USE ONLY	
Lab WO#	
Project Manager	

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A9 (250 mL)	4/16/2019	11:15		X	WW	1	X	X											X			
Well # A9 (250 mL)	4/16/2019			X	WW	1			X	X								X				
Well # A9 (250 mL)(filtered)	4/16/2019			X	WW	1					X							X				
Well # A9 (250 mL)	4/16/2019			X	WW	1						X						X				
Well # A9 (250 mL)	4/16/2019			X	WW	1							X					X				
Well # A9 (250 mL)	4/16/2019			X	WW	1								X	X	X					X	
Well # A9 (40 mL vial)	4/16/2019			X	WW	2											X	X				
Well # A9 (40 mL vial)	4/16/2019			X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials MRV

CUSTODY TRANSFER	DATE	TIME
SAMPLER: Ruth Muz	4-16-19	
RECEIVED:		
RELINQUISHED:	4-6-19	13:38
CEIVED:	4/16/19	1338
LINQUISHED:	4/16/19	1625
CEIVED:	4.16.19	1625

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX	☐	HARD COPY	☐	E-MAIL	☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED	☐	AMBIENT	☐	COMPLIANT	☐

4.4° MRV

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1687

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, April 23, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9D1687

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 04/16/2019
Reported: 04/23/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9D1687-01	Wastewater	Grab		04/16/19 10:12	04/16/19 16:25
Well #1S (filtered)	D9D1687-02	Wastewater	Grab		04/16/19 10:12	04/16/19 16:25

CERTIFICATE OF ANALYSIS

D9D1687

Analytical Testing Parameters

Client Sample ID: Well #1S
Sample Matrix: Wastewater
Lab Sample ID: D9D1687-01
Collected By: Customer
Collection Date: 04/16/2019 10:12

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 351.1							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		04/19/19 0939	04/22/19 1046	CLW
Method: EPA 365.1, Rv 2.0							
Phosphorus - Total as P	**0.0276**	0.0106	mg/L		04/19/19 1819	04/19/19 2322	DCH
Method: Wet Chem - W/SM2320 B-2011							
Alkalinity to pH 4.5	**3.00**	1.00	mg/L			04/17/19 1607	CCM
Method: Wet Chem - W/SM4500-Cl E-2011							
Chloride	**15.7**	2.00	mg/L			04/22/19 1504	CLW
Method: Wet Chem - W/SM4500-NO3 F-2011							
Nitrate as N	**0.0758**	0.0500	mg/L			04/17/19 0000	DCH
Nitrite as N	<0.0100	0.0100	mg/L			04/17/19 0000	DCH

Metals, Total	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 200.7, Rv. 4.4							
Boron	**0.0115**	0.0050	mg/L	**Y1**	04/18/19 1402	04/18/19 2014	DLO
Copper	<0.0020	0.0020	mg/L		04/18/19 1402	04/18/19 2014	DLO
Sodium	**8.91**	1.00	mg/L		04/18/19 1402	04/18/19 2014	DLO

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acetone	<10.0	10.0	ug/L	**Y1**		04/17/19 1756	JAN
Acrylonitrile	<20.0	20.0	ug/L			04/17/19 1756	JAN
Benzene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Bromodichloromethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
Bromoform	<5.00	5.00	ug/L			04/17/19 1756	JAN
Bromomethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	**Y1**		04/17/19 1756	JAN
Carbon disulfide	<5.00	5.00	ug/L	**Y1**		04/17/19 1756	JAN
Carbon tetrachloride	<5.00	5.00	ug/L			04/17/19 1756	JAN
Chlorobenzene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L			04/17/19 1756	JAN
Chloroform	<4.00	4.00	ug/L			04/17/19 1756	JAN
Chloromethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
Dibromochloromethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	**Y1**		04/17/19 1756	JAN
1,2-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1756	JAN

CERTIFICATE OF ANALYSIS

D9D1687

Client Sample ID:	Well #1S		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1687-01	**Collection Date:**	04/16/2019 10:12

Volatile Organic Compounds - GC/MS	Result	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1756	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L			04/17/19 1756	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L			04/17/19 1756	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L			04/17/19 1756	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1756	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Ethylbenzene	<5.00	5.00	ug/L			04/17/19 1756	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	Y1		04/17/19 1756	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L			04/17/19 1756	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	Y1		04/17/19 1756	JAN
Styrene	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
Tetrachloroethene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Toluene	<5.00	5.00	ug/L			04/17/19 1756	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L			04/17/19 1756	JAN
Trichloroethene	<5.00	5.00	ug/L			04/17/19 1756	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L			04/17/19 1756	JAN
Vinyl chloride	<5.00	5.00	ug/L			04/17/19 1756	JAN
m,p-Xylene	<10.0	10.0	ug/L	Y1		04/17/19 1756	JAN
o-Xylene	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
Vinyl acetate	<5.00	5.00	ug/L	Y1		04/17/19 1756	JAN
Surrogate: 4-Bromofluorobenzene	93.6	Limit: 70-130	% Rec			04/17/19 1756	JAN
Surrogate: 1,2-Dichloroethane-d4	105	Limit: 70-130	% Rec			04/17/19 1756	JAN
Surrogate: Toluene-d8	97.3	Limit: 70-130	% Rec			04/17/19 1756	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 624.1							
Acrolein	<20.0	20.0	ug/L			04/17/19 1547	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L			04/17/19 1547	JAN
Surrogate: 4-Bromofluorobenzene	95.5	Limit: 70-130	% Rec			04/17/19 1547	JAN
Surrogate: 1,2-Dichloroethane-d4	108	Limit: 70-130	% Rec			04/17/19 1547	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec			04/17/19 1547	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9D1687

Client Sample ID:	Well #1S (filtered)		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9D1687-02	**Collection Date:**	04/16/2019 10:12

Inorganics	Result	RL	Units	Note	Prepared	Analyzed	Analyst
Method: Wet Chem - W/EPA 365.1, Rv 2.0							
Ortho-phosphate as P	**0.0180**	0.0100	mg/L		04/16/19 1930	04/17/19 0045	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91016 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DD91016-BLK1)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DD91016-BS1)			Prepared & Analyzed: 04/16/2019							
Nitrate as N	4.94	0.0500	mg/L	5.00		98.8	90-110			
LCS (DD91016-BS2)			Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DD91016-DUP1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	0.101	0.0100	mg/L		0.105			3.21	20	A21
Nitrate as N	5.05	0.0500	mg/L		5.10			1.12	20	A21
Matrix Spike (DD91016-MS1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.105	99.4	75-125			A21
Nitrate as N	9.70	0.100	mg/L	5.00	5.10	91.9	75-125			A21
Matrix Spike Dup (DD91016-MSD1)		**Source: D9D1694-02**	Prepared & Analyzed: 04/16/2019							
Nitrite as N	1.12	0.0100	mg/L	1.00	0.105	102	75-125	2.39	20	A21
Nitrate as N	9.62	0.100	mg/L	5.00	5.10	90.4	75-125	0.766	20	A21
Batch DD91019 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DD91019-BLK1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DD91019-BS1)			Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DD91019-DUP1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	0.0250	0.0100	mg/L		0.0310			21.4	20	R1
Matrix Spike (DD91019-MS1)		**Source: D9D1600-06**	Prepared: 04/16/2019 Analyzed: 04/17/2019							
Ortho-phosphate as P	1.07	0.0100	mg/L	1.00	0.0310	104	90-110			
Batch DD91092 - Wet Chem - W - SM2320 B-2011										
Blank (DD91092-BLK1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DD91092-BS1)			Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	53.9	1.00	mg/L	50.0		108	90-110			
Duplicate (DD91092-DUP1)		**Source: D9D1679-01**	Prepared & Analyzed: 04/17/2019							
Alkalinity to pH 4.5	102	1.00	mg/L		99.7			2.67	20	
Batch DD91210 - Wet-Digestion-W - EPA 351.1										
Blank (DD91210-BLK1)			Prepared: 04/19/2019 Analyzed: 04/22/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91210 - Wet-Digestion-W - EPA 351.1										
LCS (DD91210-BS1)			Prepared: 04/19/2019 Analyzed: 04/22/2019							
Total Kjeldahl Nitrogen (TKN)	4.76	0.200	mg/L	5.00		95.1	90-110			
Duplicate (DD91210-DUP1)		**Source: D9D1746-01**	Prepared: 04/19/2019 Analyzed: 04/22/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DD91210-MS1)		**Source: D9D1746-01**	Prepared: 04/19/2019 Analyzed: 04/22/2019							
Total Kjeldahl Nitrogen (TKN)	10.2	0.200	mg/L	10.0	ND	102	90-110			
Matrix Spike (DD91210-MS2)		**Source: D9D1748-01**	Prepared: 04/19/2019 Analyzed: 04/22/2019							
Total Kjeldahl Nitrogen (TKN)	11.9	0.200	mg/L	10.0	1.99	98.7	90-110			
Batch DD91282 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DD91282-BLK1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DD91282-BS1)			Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DD91282-DUP1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	0.0956	0.0106	mg/L		0.0935			2.25	20	
Matrix Spike (DD91282-MS1)		**Source: D9D1600-04**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.26	0.0106	mg/L	1.25	0.0935	92.8	90-110			
Matrix Spike (DD91282-MS2)		**Source: D9D1695-02**	Prepared & Analyzed: 04/19/2019							
Phosphorus - Total as P	1.30	0.0106	mg/L	1.25	0.120	93.9	90-110			
Batch DD91301 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DD91301-BLK1)			Prepared & Analyzed: 04/22/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DD91301-BS1)			Prepared & Analyzed: 04/22/2019							
Chloride	19.7	2.00	mg/L	20.0		98.5	90-110			
Duplicate (DD91301-DUP1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	112	4.00	mg/L		113			0.507	20	
Matrix Spike (DD91301-MS1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	128	4.00	mg/L	20.0	113	72.6	75-125			M6
Matrix Spike Dup (DD91301-MSD1)		**Source: D9D1677-01**	Prepared & Analyzed: 04/22/2019							
Chloride	129	4.00	mg/L	20.0	113	82.0	75-125	1.46	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DD91147-BLK1)			Prepared & Analyzed: 04/18/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DD91147-BS1)			Prepared & Analyzed: 04/18/2019							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91147 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DD91147-BS1)				Prepared & Analyzed: 04/18/2019						
Boron	0.502	0.0050	mg/L	0.500		100	85-115			
Copper	0.512	0.0020	mg/L	0.500		102	85-115			
Sodium	10.2	1.00	mg/L	10.5		97.6	85-115			
Duplicate (DD91147-DUP1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.204	0.0050	mg/L		0.198			2.92	20	
Copper	0.0154	0.0020	mg/L		0.0156			1.28	20	
Sodium	121	1.00	mg/L		120			0.964	20	
Matrix Spike (DD91147-MS1)		**Source: D9D1614-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.703	0.0050	mg/L	0.500	0.198	101	70-130			
Copper	0.535	0.0020	mg/L	0.500	0.0156	104	70-130			
Sodium	129	1.00	mg/L	10.5	120	91.1	70-130			
Matrix Spike (DD91147-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/18/2019						
Boron	0.530	0.0050	mg/L	0.500	0.0231	101	70-130			
Copper	0.518	0.0020	mg/L	0.500	0.0008	104	70-130			
Sodium	67.9	1.00	mg/L	10.5	56.2	111	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)				Prepared & Analyzed: 04/17/2019						
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Acetone	52.0	10.0	ug/L	50.0		104	65-133			
Acrylonitrile	53.6	20.0	ug/L	50.0		107	60-140			
Benzene	48.4	5.00	ug/L	50.0		96.8	65-135			
Bromodichloromethane	46.2	5.00	ug/L	50.0		92.5	65-135			
Bromoform	45.3	5.00	ug/L	50.0		90.6	70-130			
Bromomethane	57.0	5.00	ug/L	50.0		114	15-185			
2-Butanone (MEK)	59.8	10.0	ug/L	50.0		120	77-140			
Carbon disulfide	45.9	5.00	ug/L	50.0		91.7	70-130			
Carbon tetrachloride	48.5	5.00	ug/L	50.0		97.1	70-130			
Chlorobenzene	47.5	5.00	ug/L	50.0		94.9	65-135			
Chloroethane (Ethyl chloride)	47.2	5.00	ug/L	50.0		94.4	40-160			
Chloroform	47.6	4.00	ug/L	50.0		95.2	70-135			
Chloromethane	38.8	5.00	ug/L	50.0		77.6	1-205			
Dibromochloromethane	47.7	5.00	ug/L	50.0		95.3	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
LCS (DD91146-BS1)				Prepared & Analyzed: 04/17/2019						
Dibromomethane (Methylene bromide)	47.1	5.00	ug/L	50.0		94.2	76-126			
1,2-Dichlorobenzene	48.2	5.00	ug/L	50.0		96.3	65-135			
1,3-Dichlorobenzene	47.2	5.00	ug/L	50.0		94.3	70-130			
1,4-Dichlorobenzene	46.9	5.00	ug/L	50.0		93.7	65-135			
Dichlorodifluoromethane (Freon-12)	39.8	5.00	ug/L	50.0		79.5	1-205			
1,2-Dichloroethane	50.0	5.00	ug/L	50.0		100	70-130			
1,1-Dichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
cis-1,2-Dichloroethene	49.3	5.00	ug/L	50.0		98.7	82-137			
1,1-Dichloroethene	47.9	5.00	ug/L	50.0		95.9	50-150			
trans-1,2-Dichloroethene	48.4	4.00	ug/L	50.0		96.7	70-130			
1,2-Dichloropropane	50.5	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	51.4	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	48.3	5.00	ug/L	50.0		96.5	50-150			
Ethylbenzene	45.8	5.00	ug/L	50.0		91.6	60-140			
2-Hexanone (MBK)	54.5	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	63.7	5.00	ug/L	50.0		127	81-140			
Methylene chloride (Dichloromethane)	44.0	5.00	ug/L	50.0		88.0	60-140			
4-Methyl-2-pentanone (MIBK)	53.4	10.0	ug/L	50.0		107	73-142			
Styrene	48.4	5.00	ug/L	50.0		96.9	82-125			
1,1,2,2-Tetrachloroethane	51.8	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	45.1	5.00	ug/L	50.0		90.2	70-130			
Toluene	47.3	5.00	ug/L	50.0		94.6	70-130			
1,1,2-Trichloroethane	47.7	5.00	ug/L	50.0		95.4	70-130			
1,1,1-Trichloroethane	50.1	5.00	ug/L	50.0		100	70-130			
Trichloroethene	47.9	5.00	ug/L	50.0		95.9	65-135			
Trichlorofluoromethane (Freon 11)	53.6	5.00	ug/L	50.0		107	50-150			
Vinyl chloride	48.5	5.00	ug/L	50.0		97.0	5-195			
m,p-Xylene	92.4	10.0	ug/L	100		92.4	80-122			
o-Xylene	47.7	5.00	ug/L	50.0		95.5	81-125			
Vinyl acetate	55.3	5.00	ug/L	50.0		111	60-140			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS2)	**Source: D9D1677-01**			Prepared & Analyzed: 04/17/2019						
Acetone	56.0	10.0	ug/L	50.0	ND	112	0-200			
Acrylonitrile	55.0	20.0	ug/L	50.0	ND	110	40-160			
Benzene	53.8	5.00	ug/L	50.0	ND	108	37-151			
Bromodichloromethane	50.8	5.00	ug/L	50.0	ND	102	35-155			
Bromoform	45.4	5.00	ug/L	50.0	ND	90.7	45-169			
Bromomethane	68.0	5.00	ug/L	50.0	ND	136	1-242			
2-Butanone (MEK)	58.5	10.0	ug/L	50.0	ND	117	0-200			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike (DD91146-MS2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Carbon disulfide	52.1	5.00	ug/L	50.0	ND	104	0-200			
Carbon tetrachloride	55.7	5.00	ug/L	50.0	ND	111	70-140			
Chlorobenzene	50.2	5.00	ug/L	50.0	ND	100	37-160			
Chloroethane (Ethyl chloride)	63.0	5.00	ug/L	50.0	ND	126	14-230			
Chloroform	52.1	4.00	ug/L	50.0	ND	104	51-138			
Chloromethane	45.5	5.00	ug/L	50.0	ND	91.0	1-273			
Dibromochloromethane	49.2	5.00	ug/L	50.0	ND	98.5	53-149			
Dibromomethane (Methylene bromide)	50.6	5.00	ug/L	50.0	ND	101	0-200			
1,2-Dichlorobenzene	49.8	5.00	ug/L	50.0	ND	99.6	18-190			
1,3-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	97.1	59-156			
1,4-Dichlorobenzene	48.3	5.00	ug/L	50.0	ND	96.6	18-190			
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.6	0-200			
1,2-Dichloroethane	53.1	5.00	ug/L	50.0	ND	106	49-155			
1,1-Dichloroethane	54.7	5.00	ug/L	50.0	ND	109	59-155			
cis-1,2-Dichloroethene	53.0	5.00	ug/L	50.0	ND	106	0-200			
1,1-Dichloroethene	56.1	5.00	ug/L	50.0	ND	112	1-234			
trans-1,2-Dichloroethene	54.0	4.00	ug/L	50.0	ND	108	54-156			
1,2-Dichloropropane	56.6	5.00	ug/L	50.0	ND	113	1-210			
cis-1,3-Dichloropropene	51.6	5.00	ug/L	50.0	ND	103	1-227			
trans-1,3-Dichloropropene	47.9	5.00	ug/L	50.0	ND	95.8	17-183			
Ethylbenzene	50.0	5.00	ug/L	50.0	ND	99.9	37-162			
2-Hexanone (MBK)	53.0	10.0	ug/L	50.0	ND	106	0-200			
Methyl tert-butyl ether (MTBE)	67.0	5.00	ug/L	50.0	ND	134	0-200			
Methylene chloride (Dichloromethane)	48.4	5.00	ug/L	50.0	ND	96.7	1-221			
4-Methyl-2-pentanone (MIBK)	53.7	10.0	ug/L	50.0	ND	107	0-200			
Styrene	50.4	5.00	ug/L	50.0	ND	101	0-200			
1,1,2,2-Tetrachloroethane	50.6	5.00	ug/L	50.0	ND	101	46-157			
Tetrachloroethene	48.4	5.00	ug/L	50.0	ND	96.7	64-148			
Toluene	51.4	5.00	ug/L	50.0	ND	103	47-150			
1,1,2-Trichloroethane	48.5	5.00	ug/L	50.0	ND	97.0	52-150			
1,1,1-Trichloroethane	57.1	5.00	ug/L	50.0	ND	114	52-162			
Trichloroethene	52.8	5.00	ug/L	50.0	ND	106	70-157			
Trichlorofluoromethane (Freon 11)	64.7	5.00	ug/L	50.0	ND	129	17-181			
Vinyl chloride	57.1	5.00	ug/L	50.0	ND	114	1-251			
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200			
o-Xylene	51.0	5.00	ug/L	50.0	ND	102	0-200			
Vinyl acetate	56.1	5.00	ug/L	50.0	ND	112	60-140			
Surrogate: 4-Bromofluorobenzene	*48.1*		ug/L	*50.0*		*96.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)		**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019						
Acetone	54.2	10.0	ug/L	50.0	ND	108	0-200	3.14	200	
Acrylonitrile	54.3	20.0	ug/L	50.0	ND	109	40-160	1.35	60	
Benzene	50.6	5.00	ug/L	50.0	ND	101	37-151	6.13	61	
Bromodichloromethane	48.0	5.00	ug/L	50.0	ND	96.0	35-155	5.65	56	
Bromoform	45.9	5.00	ug/L	50.0	ND	91.7	45-169	1.12	42	
Bromomethane	64.0	5.00	ug/L	50.0	ND	128	1-242	6.17	61	
2-Butanone (MEK)	57.0	10.0	ug/L	50.0	ND	114	0-200	2.68	200	
Carbon disulfide	48.7	5.00	ug/L	50.0	ND	97.4	0-200	6.80	200	
Carbon tetrachloride	51.8	5.00	ug/L	50.0	ND	104	70-140	7.35	41	
Chlorobenzene	50.1	5.00	ug/L	50.0	ND	100	37-160	0.239	53	
Chloroethane (Ethyl chloride)	57.6	5.00	ug/L	50.0	ND	115	14-230	8.87	78	
Chloroform	49.2	4.00	ug/L	50.0	ND	98.5	51-138	5.74	54	
Chloromethane	42.1	5.00	ug/L	50.0	ND	84.2	1-273	7.79	60	
Dibromochloromethane	47.9	5.00	ug/L	50.0	ND	95.7	53-149	2.82	50	
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0	ND	95.0	0-200	6.44	200	
1,2-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.5	18-190	1.15	57	
1,3-Dichlorobenzene	47.1	5.00	ug/L	50.0	ND	94.2	59-156	2.97	43	
1,4-Dichlorobenzene	46.6	5.00	ug/L	50.0	ND	93.2	18-190	3.60	57	
Dichlorodifluoromethane (Freon-12)	41.6	5.00	ug/L	50.0	ND	83.2	0-200	7.34	200	
1,2-Dichloroethane	50.6	5.00	ug/L	50.0	ND	101	49-155	4.90	49	
1,1-Dichloroethane	50.5	5.00	ug/L	50.0	ND	101	59-155	7.92	40	
cis-1,2-Dichloroethene	50.3	5.00	ug/L	50.0	ND	101	0-200	5.40	200	
1,1-Dichloroethene	51.5	5.00	ug/L	50.0	ND	103	1-234	8.52	32	
trans-1,2-Dichloroethene	50.3	4.00	ug/L	50.0	ND	101	54-156	7.04	45	
1,2-Dichloropropane	53.6	5.00	ug/L	50.0	ND	107	1-210	5.43	55	
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0	ND	103	1-227	0.135	58	
trans-1,3-Dichloropropene	47.7	5.00	ug/L	50.0	ND	95.3	17-183	0.460	86	
Ethylbenzene	49.4	5.00	ug/L	50.0	ND	98.8	37-162	1.09	63	
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0	ND	109	0-200	2.37	200	
Methyl tert-butyl ether (MTBE)	63.6	5.00	ug/L	50.0	ND	127	0-200	5.15	200	
Methylene chloride (Dichloromethane)	46.5	5.00	ug/L	50.0	ND	93.0	1-221	3.92	28	
4-Methyl-2-pentanone (MIBK)	54.4	10.0	ug/L	50.0	ND	109	0-200	1.30	200	
Styrene	50.3	5.00	ug/L	50.0	ND	101	0-200	0.219	200	
1,1,2,2-Tetrachloroethane	50.8	5.00	ug/L	50.0	ND	102	46-157	0.454	61	
Tetrachloroethene	47.8	5.00	ug/L	50.0	ND	95.6	64-148	1.21	39	
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150	1.27	41	
1,1,2-Trichloroethane	49.0	5.00	ug/L	50.0	ND	98.1	52-150	1.05	45	
1,1,1-Trichloroethane	52.8	5.00	ug/L	50.0	ND	106	52-162	7.90	36	
Trichloroethene	49.7	5.00	ug/L	50.0	ND	99.3	70-157	6.17	48	
Trichlorofluoromethane (Freon 11)	59.6	5.00	ug/L	50.0	ND	119	17-181	8.22	84	
Vinyl chloride	52.4	5.00	ug/L	50.0	ND	105	1-251	8.70	66	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Matrix Spike Dup (DD91146-MSD2)	**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019							
m,p-Xylene	98.2	10.0	ug/L	100	ND	98.2	0-200	1.94	200	
o-Xylene	50.2	5.00	ug/L	50.0	ND	100	0-200	1.50	200	
Vinyl acetate	52.7	5.00	ug/L	50.0	ND	105	60-140	6.32	25	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.3*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.2*		ug/L	*50.0*		*100*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DD91146 - 624.1 - EPA 624.1										
Blank (DD91146-BLK1)			Prepared & Analyzed: 04/17/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
LCS (DD91146-BS1)			Prepared & Analyzed: 04/17/2019							
Acrolein	46.2	20.0	ug/L	50.0		92.5	60-140			
2-Chloroethyl vinyl ether	57.0	20.0	ug/L	50.0		114	1-305			
Surrogate: 4-Bromofluorobenzene	*47.6*		ug/L	*50.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*50.4*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DD91146-MS1)	**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019							
Acrolein	48.0	20.0	ug/L	50.0	ND	95.9	40-160			
2-Chloroethyl vinyl ether	47.5	20.0	ug/L	50.0	ND	94.9	1-305			
Surrogate: 4-Bromofluorobenzene	*47.0*		ug/L	*50.0*		*94.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*55.3*		ug/L	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8	*49.8*		ug/L	*50.0*		*99.6*	*70-130*			
Matrix Spike Dup (DD91146-MSD1)	**Source: D9D1677-01**		Prepared & Analyzed: 04/17/2019							
Acrolein	44.9	20.0	ug/L	50.0	ND	89.9	40-160	6.48	60	
2-Chloroethyl vinyl ether	46.6	20.0	ug/L	50.0	ND	93.2	1-305	1.79	71	
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*		ug/L	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*50.7*		ug/L	*50.0*		*101*	*70-130*			

Definitions

A21:	Sample was filtered in the laboratory before analysis.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
R1:	Duplicate RPD is outside acceptance criteria.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 04/23/2019 12:52

MICROBAC

Microbac Laboratories, Inc.

D 9 D 1 6 8 7

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 1S (250 mL)	4/16/2019	13:12		X	WW	1	X	X											X			
Well # 1S (250 mL)	4/16/2019			X	WW	1			X	X								X				
Well # 1S (250 mL)(filtered)	4/16/2019			X	WW	1					X							X				
Well # 1S (250 mL)	4/16/2019			X	WW	1						X						X				
Well # 1S (250 mL)	4/16/2019			X	WW	1							X					X				
Well # 1S (250 mL)	4/16/2019			X	WW	1								X	X	X					X	
Well # 1S (40 mL vial)	4/16/2019			X	WW	2											X	X		X		
Well # 1S (40 mL vial)	4/16/2019			X	WW	2											X					

PRESERVATIVE VERIFIED [illegible]

CUSTODY TRANSFER

	DATE	TIME
SAMPLER:	4-16-19	
RECEIVED:		
RELINQUISHED:	4-16-19	13:38
RECEIVED:	4/16/19	1338
RELINQUISHED:	4/16/19	1625
RECEIVED:	4/16/19	1625

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☐ AMBIENT ☐ COMPLIANT ☐

4.4 @ 1625

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2782

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2782

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/25/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 1S	D9G2782-01	Groundwater	Grab		07/25/19 09:50	07/25/19 17:20
Well # 1S (filtered)	D9G2782-02	Groundwater	Grab		07/25/19 09:50	07/25/19 17:20

CERTIFICATE OF ANALYSIS

D9G2782

Analytical Testing Parameters

Client Sample ID:	Well # 1S		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2782-01	**Collection Date:**	07/25/2019 9:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	**16.7**	0.200	mg/L	1		07/27/19 1347	07/30/19 1118	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0138**	0.0106	mg/L	1		07/29/19 2042	07/30/19 1121	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**3.00**	1.00	mg/L	1			07/26/19 1700	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**15.2**	2.00	mg/L	1			07/29/19 1212	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.0851**	0.0500	mg/L	1			07/26/19 0042	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/26/19 0042	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0068**	0.0050	mg/L	1	**Y1**	07/26/19 1330	08/05/19 2107	NJP
Copper	**0.0036**	0.0020	mg/L	1		07/26/19 1330	08/05/19 2107	NJP
Sodium	**8.63**	1.00	mg/L	1		07/26/19 1330	08/05/19 2107	NJP

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1838	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			07/29/19 1838	JAN
Benzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Bromoform	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Bromomethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1838	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1838	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Chloroform	<4.00	4.00	ug/L	1			07/29/19 1838	JAN
Chloromethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1838	JAN

CERTIFICATE OF ANALYSIS

D9G2782

Client Sample ID:	Well # 1S		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2782-01	**Collection Date:**	07/25/2019 9:50

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			07/29/19 1838	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1838	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1838	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Toluene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Trichloroethene	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			07/29/19 1838	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		07/29/19 1838	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		07/29/19 1838	JAN
Surrogate: 4-Bromofluorobenzene	98.0	Limit: 70-130	% Rec	1			07/29/19 1838	JAN
Surrogate: 1,2-Dichloroethane-d4	93.4	Limit: 70-130	% Rec	1			07/29/19 1838	JAN
Surrogate: Toluene-d8	97.4	Limit: 70-130	% Rec	1			07/29/19 1838	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			07/26/19 1727	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			07/26/19 1727	JAN
Surrogate: 4-Bromofluorobenzene	95.8	Limit: 70-130	% Rec	1			07/26/19 1727	JAN
Surrogate: 1,2-Dichloroethane-d4	91.1	Limit: 70-130	% Rec	1			07/26/19 1727	JAN
Surrogate: Toluene-d8	100	Limit: 70-130	% Rec	1			07/26/19 1727	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2782

Client Sample ID:	Well # 1S (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2782-02	**Collection Date:**	07/25/2019 9:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0180**	0.0100	mg/L	1		07/25/19 1846	07/25/19 1939	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91743 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG91743-BLK1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG91743-BS1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DG91743-BS2)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DG91743-DUP1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	0.122	0.0100	mg/L		0.127			4.34	20	
Nitrate as N	0.304	0.0500	mg/L		0.337			10.0	20	
Matrix Spike (DG91743-MS1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.11	0.0100	mg/L	1.00	0.127	98.6	75-125			
Nitrate as N	5.16	0.0500	mg/L	5.00	0.337	96.4	75-125			
Matrix Spike Dup (DG91743-MSD1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.127	97.3	75-125	1.17	20	
Nitrate as N	5.18	0.0500	mg/L	5.00	0.337	96.8	75-125	0.377	20	
Batch DG91752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG91752-BLK1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DG91752-BS1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DG91752-DUP1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	0.0480	0.0100	mg/L		0.0480			0.00	20	
Matrix Spike (DG91752-MS1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00	0.0480	95.3	90-110			
Matrix Spike (DG91752-MS2)		**Source: D9G2797-04**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.27	0.0100	mg/L	1.00	0.228	104	90-110			
Batch DG91870 - Wet Chem - W - SM2320 B-2011										
Blank (DG91870-BLK1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DG91870-BS1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DG91870-DUP1)		**Source: D9G2783-01**	Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	27.5	1.00	mg/L		27.5			0.00	20	
Batch DG91878 - Wet-Digestion-W - EPA 351.1										

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91878 - Wet-Digestion-W - EPA 351.1										
Blank (DG91878-BLK1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DG91878-BS1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DG91878-DUP1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	2.75	0.200	mg/L		2.80			1.95	20	
Matrix Spike (DG91878-MS1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.80	99.1	90-110			
Matrix Spike (DG91878-MS2)		**Source: D9G2777-05**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.71	99.8	90-110			
Batch DG91890 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DG91890-BLK1)			Prepared & Analyzed: 07/29/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DG91890-BS1)			Prepared & Analyzed: 07/29/2019							
Chloride	20.8	2.00	mg/L	20.0		104	90-110			
Duplicate (DG91890-DUP1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	21.7	2.00	mg/L		22.3			2.53	20	
Matrix Spike (DG91890-MS1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	43.1	2.00	mg/L	20.0	22.3	104	75-125			
Matrix Spike Dup (DG91890-MSD1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	42.1	2.00	mg/L	20.0	22.3	99.2	75-125	2.24	20	
Batch DG92011 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DG92011-BLK1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DG92011-BS1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.975	0.0106	mg/L	1.00		97.5	90-110			
Duplicate (DG92011-DUP1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.0393	0.0106	mg/L		0.0563			35.6	20	R3
Matrix Spike (DG92011-MS1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	1.21	0.0106	mg/L	1.25	0.0563	92.3	90-110			
Matrix Spike (DG92011-MS2)		**Source: D9G2923-03**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	5.67	0.0425	mg/L	1.25	4.41	100	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DG91828-BS1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.529	0.0050	mg/L	0.500		106	85-115			
Copper	0.517	0.0020	mg/L	0.500		103	85-115			
Sodium	10.7	1.00	mg/L	10.5		101	85-115			
Duplicate (DG91828-DUP1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.0090	0.0050	mg/L		0.0091			1.07	20	
Copper	<0.0020	0.0020	mg/L		0.0027			78.0	20	R3
Sodium	8.35	1.00	mg/L		8.33			0.230	20	
Matrix Spike (DG91828-MS1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.537	0.0050	mg/L	0.500	0.0091	106	70-130			
Copper	0.516	0.0020	mg/L	0.500	0.0027	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.33	100	70-130			
Matrix Spike (DG91828-MS2)		**Source: D9G2782-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.533	0.0050	mg/L	0.500	0.0068	105	70-130			
Copper	0.511	0.0020	mg/L	0.500	0.0036	102	70-130			
Sodium	19.0	1.00	mg/L	10.5	8.63	98.4	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)			Prepared & Analyzed: 07/29/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)				Prepared & Analyzed: 07/29/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Acetone	44.7	10.0	ug/L	50.0		89.3	65-133			
Acrylonitrile	53.7	20.0	ug/L	50.0		107	60-140			
Benzene	53.4	5.00	ug/L	50.0		107	65-135			
Bromodichloromethane	47.2	5.00	ug/L	50.0		94.4	65-135			
Bromoform	45.7	5.00	ug/L	50.0		91.3	70-130			
Bromomethane	52.4	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	50.7	10.0	ug/L	50.0		101	77-140			
Carbon disulfide	49.3	5.00	ug/L	50.0		98.6	70-130			
Carbon tetrachloride	48.0	5.00	ug/L	50.0		96.0	70-130			
Chlorobenzene	53.5	5.00	ug/L	50.0		107	65-135			
Chloroethane (Ethyl chloride)	42.0	5.00	ug/L	50.0		84.0	40-160			
Chloroform	49.9	4.00	ug/L	50.0		99.7	70-135			
Chloromethane	52.1	5.00	ug/L	50.0		104	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Dibromochloromethane	48.6	5.00	ug/L	50.0		97.2	70-135			
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0		95.1	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.8	5.00	ug/L	50.0		102	65-135			
Dichlorodifluoromethane (Freon-12)	48.0	5.00	ug/L	50.0		96.0	1-205			
1,2-Dichloroethane	45.7	5.00	ug/L	50.0		91.3	70-130			
1,1-Dichloroethane	51.1	5.00	ug/L	50.0		102	70-130			
cis-1,2-Dichloroethene	53.2	5.00	ug/L	50.0		106	82-137			
1,1-Dichloroethene	58.1	5.00	ug/L	50.0		116	50-150			
trans-1,2-Dichloroethene	51.7	4.00	ug/L	50.0		103	70-130			
1,2-Dichloropropane	50.7	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	50.8	5.00	ug/L	50.0		102	25-175			
trans-1,3-Dichloropropene	45.9	5.00	ug/L	50.0		91.8	50-150			
Ethylbenzene	51.1	5.00	ug/L	50.0		102	60-140			
2-Hexanone (MBK)	49.9	10.0	ug/L	50.0		99.7	74-134			
Methyl tert-butyl ether (MTBE)	60.3	5.00	ug/L	50.0		121	81-140			
Methylene chloride (Dichloromethane)	56.6	5.00	ug/L	50.0		113	60-140			
4-Methyl-2-pentanone (MIBK)	47.9	10.0	ug/L	50.0		95.8	73-142			
Styrene	50.0	5.00	ug/L	50.0		99.9	82-125			
1,1,2,2-Tetrachloroethane	49.3	5.00	ug/L	50.0		98.5	60-140			
Tetrachloroethene	52.2	5.00	ug/L	50.0		104	70-130			
Toluene	53.8	5.00	ug/L	50.0		108	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0		98.7	70-130			
Trichloroethene	53.7	5.00	ug/L	50.0		107	65-135			
Trichlorofluoromethane (Freon 11)	50.5	5.00	ug/L	50.0		101	50-150			
Vinyl chloride	53.2	5.00	ug/L	50.0		106	5-195			
m,p-Xylene	103	10.0	ug/L	100		103	80-122			
o-Xylene	51.4	5.00	ug/L	50.0		103	81-125			
Vinyl acetate	53.1	5.00	ug/L	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/L	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**			Prepared & Analyzed: 07/29/2019						
Acetone	37.6	10.0	ug/L	50.0	ND	75.2	0-200			
Acrylonitrile	45.4	20.0	ug/L	50.0	ND	90.7	40-160			
Benzene	45.1	5.00	ug/L	50.0	ND	90.2	37-151			
Bromodichloromethane	40.0	5.00	ug/L	50.0	ND	79.9	35-155			
Bromoform	38.5	5.00	ug/L	50.0	ND	77.0	45-169			
Bromomethane	44.8	5.00	ug/L	50.0	ND	89.5	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
2-Butanone (MEK)	42.1	10.0	ug/L	50.0	ND	84.2	0-200			
Carbon disulfide	41.5	5.00	ug/L	50.0	ND	82.9	0-200			
Carbon tetrachloride	42.2	5.00	ug/L	50.0	ND	84.3	70-140			
Chlorobenzene	44.5	5.00	ug/L	50.0	ND	89.1	37-160			
Chloroethane (Ethyl chloride)	37.7	5.00	ug/L	50.0	ND	75.4	14-230			
Chloroform	44.7	4.00	ug/L	50.0	1.40	86.6	51-138			
Chloromethane	44.0	5.00	ug/L	50.0	ND	88.0	1-273			
Dibromochloromethane	41.4	5.00	ug/L	50.0	ND	82.7	53-149			
Dibromomethane (Methylene bromide)	40.4	5.00	ug/L	50.0	ND	80.8	0-200			
1,2-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.1	18-190			
1,3-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.1	59-156			
1,4-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.0	18-190			
Dichlorodifluoromethane (Freon-12)	40.9	5.00	ug/L	50.0	ND	81.8	0-200			
1,2-Dichloroethane	40.2	5.00	ug/L	50.0	ND	80.5	49-155			
1,1-Dichloroethane	45.5	5.00	ug/L	50.0	ND	90.9	59-155			
cis-1,2-Dichloroethene	46.4	5.00	ug/L	50.0	ND	92.7	0-200			
1,1-Dichloroethene	51.7	5.00	ug/L	50.0	ND	103	1-234			
trans-1,2-Dichloroethene	45.0	4.00	ug/L	50.0	ND	89.9	54-156			
1,2-Dichloropropane	44.1	5.00	ug/L	50.0	ND	88.2	1-210			
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.0	ND	83.8	1-227			
trans-1,3-Dichloropropene	37.7	5.00	ug/L	50.0	ND	75.3	17-183			
Ethylbenzene	43.8	5.00	ug/L	50.0	ND	87.6	37-162			
2-Hexanone (MBK)	41.2	10.0	ug/L	50.0	ND	82.4	0-200			
Methyl tert-butyl ether (MTBE)	53.0	5.00	ug/L	50.0	ND	106	0-200			
Methylene chloride (Dichloromethane)	48.8	5.00	ug/L	50.0	ND	97.5	1-221			
4-Methyl-2-pentanone (MIBK)	40.9	10.0	ug/L	50.0	ND	81.8	0-200			
Styrene	42.6	5.00	ug/L	50.0	ND	85.1	0-200			
1,1,2,2-Tetrachloroethane	43.4	5.00	ug/L	50.0	ND	86.7	46-157			
Tetrachloroethene	44.2	5.00	ug/L	50.0	ND	88.4	64-148			
Toluene	46.0	5.00	ug/L	50.0	ND	92.1	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	42.4	5.00	ug/L	50.0	ND	84.7	52-162			
Trichloroethene	45.5	5.00	ug/L	50.0	ND	90.9	70-157			
Trichlorofluoromethane (Freon 11)	43.3	5.00	ug/L	50.0	ND	86.7	17-181			
Vinyl chloride	45.8	5.00	ug/L	50.0	ND	91.6	1-251			
m,p-Xylene	87.9	10.0	ug/L	100	ND	87.9	0-200			
o-Xylene	43.5	5.00	ug/L	50.0	ND	86.9	0-200			
Vinyl acetate	46.0	5.00	ug/L	50.0	ND	92.0	60-140			
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/L	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
Acetone	41.2	10.0	ug/L	50.0	ND	82.4	0-200	9.11	200	
Acrylonitrile	50.8	20.0	ug/L	50.0	ND	102	40-160	11.3	60	
Benzene	51.0	5.00	ug/L	50.0	ND	102	37-151	12.3	61	
Bromodichloromethane	45.3	5.00	ug/L	50.0	ND	90.6	35-155	12.5	56	
Bromoform	43.2	5.00	ug/L	50.0	ND	86.3	45-169	11.4	42	
Bromomethane	49.6	5.00	ug/L	50.0	ND	99.2	1-242	10.2	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.7	0-200	12.8	200	
Carbon disulfide	45.5	5.00	ug/L	50.0	ND	91.1	0-200	9.36	200	
Carbon tetrachloride	46.2	5.00	ug/L	50.0	ND	92.4	70-140	9.15	41	
Chlorobenzene	49.3	5.00	ug/L	50.0	ND	98.7	37-160	10.2	53	
Chloroethane (Ethyl chloride)	40.9	5.00	ug/L	50.0	ND	81.8	14-230	8.11	78	
Chloroform	50.5	4.00	ug/L	50.0	1.40	98.2	51-138	12.1	54	
Chloromethane	48.7	5.00	ug/L	50.0	ND	97.4	1-273	10.2	60	
Dibromochloromethane	45.5	5.00	ug/L	50.0	ND	91.0	53-149	9.58	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	10.8	200	
1,2-Dichlorobenzene	47.3	5.00	ug/L	50.0	ND	94.6	18-190	9.48	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	10.6	43	
1,4-Dichlorobenzene	48.1	5.00	ug/L	50.0	ND	96.1	18-190	8.89	57	
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.5	0-200	9.06	200	
1,2-Dichloroethane	45.1	5.00	ug/L	50.0	ND	90.1	49-155	11.3	49	
1,1-Dichloroethane	49.7	5.00	ug/L	50.0	ND	99.3	59-155	8.83	40	
cis-1,2-Dichloroethene	51.4	5.00	ug/L	50.0	ND	103	0-200	10.3	200	
1,1-Dichloroethene	54.9	5.00	ug/L	50.0	ND	110	1-234	6.04	32	
trans-1,2-Dichloroethene	48.8	4.00	ug/L	50.0	ND	97.7	54-156	8.25	45	
1,2-Dichloropropane	49.8	5.00	ug/L	50.0	ND	99.6	1-210	12.2	55	
cis-1,3-Dichloropropene	45.8	5.00	ug/L	50.0	ND	91.5	1-227	8.85	58	
trans-1,3-Dichloropropene	41.6	5.00	ug/L	50.0	ND	83.1	17-183	9.87	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	95.0	37-162	8.13	63	
2-Hexanone (MBK)	47.1	10.0	ug/L	50.0	ND	94.3	0-200	13.5	200	
Methyl tert-butyl ether (MTBE)	60.0	5.00	ug/L	50.0	ND	120	0-200	12.4	200	
Methylene chloride (Dichloromethane)	54.2	5.00	ug/L	50.0	ND	108	1-221	10.5	28	
4-Methyl-2-pentanone (MIBK)	45.8	10.0	ug/L	50.0	ND	91.7	0-200	11.4	200	
Styrene	47.6	5.00	ug/L	50.0	ND	95.1	0-200	11.1	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	99.0	46-157	13.3	61	
Tetrachloroethene	46.9	5.00	ug/L	50.0	ND	93.8	64-148	5.93	39	
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150	7.85	41	
1,1,2-Trichloroethane	48.7	5.00	ug/L	50.0	ND	97.4	52-150	6.66	45	
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.3	52-162	11.8	36	
Trichloroethene	50.2	5.00	ug/L	50.0	ND	100	70-157	9.99	48	
Trichlorofluoromethane (Freon 11)	47.1	5.00	ug/L	50.0	ND	94.1	17-181	8.27	84	
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251	9.07	66	
m,p-Xylene	96.6	10.0	ug/L	100	ND	96.6	0-200	9.40	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
o-Xylene	47.8	5.00	ug/L	50.0	ND	95.6	0-200	9.51	200	
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140	10.3	25	
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/L	*50.0*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.0*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*96.9*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92035 - 624.1 - EPA 624.1										
Blank (DG92035-BLK1)			Prepared & Analyzed: 07/26/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.0*		ug/L	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (DG92035-MS1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	54.2	20.0	ug/L	50.0	ND	108	40-160			
2-Chloroethyl vinyl ether	40.5	20.0	ug/L	50.0	ND	81.0	1-305			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.0*		*92.7*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike Dup (DG92035-MSD1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	53.6	20.0	ug/L	50.0	ND	107	40-160	0.983	60	
2-Chloroethyl vinyl ether	38.7	20.0	ug/L	50.0	ND	77.4	1-305	4.57	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2782

Definitions

MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

M Montgomery

Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 12:12

MICROBAC

Microbac Laboratories, Inc.

CHAIN

61 Louisa Vi
Tel: (860)77

D 9 G 2 7 8 2

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 15 (250 mL)	7/24/19	0950		X	WW	1	X	X											X			
Well # 15 (250 mL)				X	WW	1			X	X								X				
Well # 15 (250 mL)(filtered)				X	WW	1					X							X				
Well # 15 (250 mL)				X	WW	1						X						X				
Well # 15 (250 mL)				X	WW	1							X					X				
Well # 15 (250 mL)				X	WW	1								X	X	X					X	
Well # 15 (40 mL vial)				X	WW	2											X	X				
Well # 15 (40 mL vial)				X	WW	2											X			X		

PRESERVATIVE VERIFIED

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	7-25-19	
RECEIVED:		
RELINQUISHED:	7-25-19	14:22
RECEIVED:	7-25-19	14:22
RELINQUISHED:	7-25-19	17:20
RECEIVED:	7-25-19	1720

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☒ AMBIENT ☐ COMPLIANT ☐

3.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2783

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9G2783

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/25/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A10	D9G2783-01	Groundwater	Grab		07/25/19 11:50	07/25/19 17:20
Well # A10 (filtered)	D9G2783-02	Groundwater	Grab		07/25/19 11:50	07/25/19 17:20

CERTIFICATE OF ANALYSIS

D9G2783

Analytical Testing Parameters

Client Sample ID:	Well # A10		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2783-01	**Collection Date:**	07/25/2019 11:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	**0.348**	0.200	mg/L	1		07/27/19 1347	07/30/19 1119	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0117**	0.0106	mg/L	1		07/29/19 2042	07/30/19 1122	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**27.5**	1.00	mg/L	1			07/26/19 1700	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**273**	10.0	mg/L	5			07/29/19 1213	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**2.21**	0.0500	mg/L	1			07/26/19 0043	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/26/19 0043	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0878**	0.0050	mg/L	1	**Y1**	07/26/19 1330	08/05/19 2133	NJP
Copper	<0.0020	0.0020	mg/L	1		07/26/19 1330	08/05/19 2133	NJP
Sodium	**168**	1.00	mg/L	1		07/26/19 1330	08/05/19 2133	NJP

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1904	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			07/29/19 1904	JAN
Benzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Bromoform	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Bromomethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1904	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1904	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Chloroform	<4.00	4.00	ug/L	1			07/29/19 1904	JAN
Chloromethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1904	JAN

CERTIFICATE OF ANALYSIS

D9G2783

Client Sample ID:	Well # A10		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2783-01	**Collection Date:**	07/25/2019 11:50

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			07/29/19 1904	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1904	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1904	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Toluene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Trichloroethene	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			07/29/19 1904	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		07/29/19 1904	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		07/29/19 1904	JAN
Surrogate: 4-Bromofluorobenzene	95.2	Limit: 70-130	% Rec	1			07/29/19 1904	JAN
Surrogate: 1,2-Dichloroethane-d4	91.5	Limit: 70-130	% Rec	1			07/29/19 1904	JAN
Surrogate: Toluene-d8	97.6	Limit: 70-130	% Rec	1			07/29/19 1904	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			07/26/19 1753	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			07/26/19 1753	JAN
Surrogate: 4-Bromofluorobenzene	96.1	Limit: 70-130	% Rec	1			07/26/19 1753	JAN
Surrogate: 1,2-Dichloroethane-d4	91.6	Limit: 70-130	% Rec	1			07/26/19 1753	JAN
Surrogate: Toluene-d8	98.3	Limit: 70-130	% Rec	1			07/26/19 1753	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2783

Client Sample ID:	Well # A10 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2783-02	**Collection Date:**	07/25/2019 11:50

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		07/25/19 1846	07/25/19 1940	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91743 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG91743-BLK1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG91743-BS1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DG91743-BS2)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DG91743-DUP1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	0.122	0.0100	mg/L		0.127			4.34	20	
Nitrate as N	0.304	0.0500	mg/L		0.337			10.0	20	
Matrix Spike (DG91743-MS1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.11	0.0100	mg/L	1.00	0.127	98.6	75-125			
Nitrate as N	5.16	0.0500	mg/L	5.00	0.337	96.4	75-125			
Matrix Spike Dup (DG91743-MSD1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.127	97.3	75-125	1.17	20	
Nitrate as N	5.18	0.0500	mg/L	5.00	0.337	96.8	75-125	0.377	20	
Batch DG91752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG91752-BLK1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DG91752-BS1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DG91752-DUP1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	0.0480	0.0100	mg/L		0.0480			0.00	20	
Matrix Spike (DG91752-MS1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00	0.0480	95.3	90-110			
Matrix Spike (DG91752-MS2)		**Source: D9G2797-04**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.27	0.0100	mg/L	1.00	0.228	104	90-110			
Batch DG91870 - Wet Chem - W - SM2320 B-2011										
Blank (DG91870-BLK1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DG91870-BS1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DG91870-DUP1)		**Source: D9G2783-01**	Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	27.5	1.00	mg/L		27.5			0.00	20	
Batch DG91878 - Wet-Digestion-W - EPA 351.1										

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91878 - Wet-Digestion-W - EPA 351.1										
Blank (DG91878-BLK1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DG91878-BS1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DG91878-DUP1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	2.75	0.200	mg/L		2.80			1.95	20	
Matrix Spike (DG91878-MS1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.80	99.1	90-110			
Matrix Spike (DG91878-MS2)		**Source: D9G2777-05**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.71	99.8	90-110			
Batch DG91890 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DG91890-BLK1)			Prepared & Analyzed: 07/29/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DG91890-BS1)			Prepared & Analyzed: 07/29/2019							
Chloride	20.8	2.00	mg/L	20.0		104	90-110			
Duplicate (DG91890-DUP1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	21.7	2.00	mg/L		22.3			2.53	20	
Matrix Spike (DG91890-MS1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	43.1	2.00	mg/L	20.0	22.3	104	75-125			
Matrix Spike Dup (DG91890-MSD1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	42.1	2.00	mg/L	20.0	22.3	99.2	75-125	2.24	20	
Batch DG92011 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DG92011-BLK1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DG92011-BS1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.975	0.0106	mg/L	1.00		97.5	90-110			
Duplicate (DG92011-DUP1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.0393	0.0106	mg/L		0.0563			35.6	20	R3
Matrix Spike (DG92011-MS1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	1.21	0.0106	mg/L	1.25	0.0563	92.3	90-110			
Matrix Spike (DG92011-MS2)		**Source: D9G2923-03**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	5.67	0.0425	mg/L	1.25	4.41	100	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DG91828-BS1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.529	0.0050	mg/L	0.500		106	85-115			
Copper	0.517	0.0020	mg/L	0.500		103	85-115			
Sodium	10.7	1.00	mg/L	10.5		101	85-115			
Duplicate (DG91828-DUP1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.0090	0.0050	mg/L		0.0091			1.07	20	
Copper	<0.0020	0.0020	mg/L		0.0027			78.0	20	R3
Sodium	8.35	1.00	mg/L		8.33			0.230	20	
Matrix Spike (DG91828-MS1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.537	0.0050	mg/L	0.500	0.0091	106	70-130			
Copper	0.516	0.0020	mg/L	0.500	0.0027	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.33	100	70-130			
Matrix Spike (DG91828-MS2)		**Source: D9G2782-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.533	0.0050	mg/L	0.500	0.0068	105	70-130			
Copper	0.511	0.0020	mg/L	0.500	0.0036	102	70-130			
Sodium	19.0	1.00	mg/L	10.5	8.63	98.4	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)			Prepared & Analyzed: 07/29/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)				Prepared & Analyzed: 07/29/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Acetone	44.7	10.0	ug/L	50.0		89.3	65-133			
Acrylonitrile	53.7	20.0	ug/L	50.0		107	60-140			
Benzene	53.4	5.00	ug/L	50.0		107	65-135			
Bromodichloromethane	47.2	5.00	ug/L	50.0		94.4	65-135			
Bromoform	45.7	5.00	ug/L	50.0		91.3	70-130			
Bromomethane	52.4	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	50.7	10.0	ug/L	50.0		101	77-140			
Carbon disulfide	49.3	5.00	ug/L	50.0		98.6	70-130			
Carbon tetrachloride	48.0	5.00	ug/L	50.0		96.0	70-130			
Chlorobenzene	53.5	5.00	ug/L	50.0		107	65-135			
Chloroethane (Ethyl chloride)	42.0	5.00	ug/L	50.0		84.0	40-160			
Chloroform	49.9	4.00	ug/L	50.0		99.7	70-135			
Chloromethane	52.1	5.00	ug/L	50.0		104	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Dibromochloromethane	48.6	5.00	ug/L	50.0		97.2	70-135			
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0		95.1	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.8	5.00	ug/L	50.0		102	65-135			
Dichlorodifluoromethane (Freon-12)	48.0	5.00	ug/L	50.0		96.0	1-205			
1,2-Dichloroethane	45.7	5.00	ug/L	50.0		91.3	70-130			
1,1-Dichloroethane	51.1	5.00	ug/L	50.0		102	70-130			
cis-1,2-Dichloroethene	53.2	5.00	ug/L	50.0		106	82-137			
1,1-Dichloroethene	58.1	5.00	ug/L	50.0		116	50-150			
trans-1,2-Dichloroethene	51.7	4.00	ug/L	50.0		103	70-130			
1,2-Dichloropropane	50.7	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	50.8	5.00	ug/L	50.0		102	25-175			
trans-1,3-Dichloropropene	45.9	5.00	ug/L	50.0		91.8	50-150			
Ethylbenzene	51.1	5.00	ug/L	50.0		102	60-140			
2-Hexanone (MBK)	49.9	10.0	ug/L	50.0		99.7	74-134			
Methyl tert-butyl ether (MTBE)	60.3	5.00	ug/L	50.0		121	81-140			
Methylene chloride (Dichloromethane)	56.6	5.00	ug/L	50.0		113	60-140			
4-Methyl-2-pentanone (MIBK)	47.9	10.0	ug/L	50.0		95.8	73-142			
Styrene	50.0	5.00	ug/L	50.0		99.9	82-125			
1,1,2,2-Tetrachloroethane	49.3	5.00	ug/L	50.0		98.5	60-140			
Tetrachloroethene	52.2	5.00	ug/L	50.0		104	70-130			
Toluene	53.8	5.00	ug/L	50.0		108	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0		98.7	70-130			
Trichloroethene	53.7	5.00	ug/L	50.0		107	65-135			
Trichlorofluoromethane (Freon 11)	50.5	5.00	ug/L	50.0		101	50-150			
Vinyl chloride	53.2	5.00	ug/L	50.0		106	5-195			
m,p-Xylene	103	10.0	ug/L	100		103	80-122			
o-Xylene	51.4	5.00	ug/L	50.0		103	81-125			
Vinyl acetate	53.1	5.00	ug/L	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/L	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**			Prepared & Analyzed: 07/29/2019						
Acetone	37.6	10.0	ug/L	50.0	ND	75.2	0-200			
Acrylonitrile	45.4	20.0	ug/L	50.0	ND	90.7	40-160			
Benzene	45.1	5.00	ug/L	50.0	ND	90.2	37-151			
Bromodichloromethane	40.0	5.00	ug/L	50.0	ND	79.9	35-155			
Bromoform	38.5	5.00	ug/L	50.0	ND	77.0	45-169			
Bromomethane	44.8	5.00	ug/L	50.0	ND	89.5	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
2-Butanone (MEK)	42.1	10.0	ug/L	50.0	ND	84.2	0-200			
Carbon disulfide	41.5	5.00	ug/L	50.0	ND	82.9	0-200			
Carbon tetrachloride	42.2	5.00	ug/L	50.0	ND	84.3	70-140			
Chlorobenzene	44.5	5.00	ug/L	50.0	ND	89.1	37-160			
Chloroethane (Ethyl chloride)	37.7	5.00	ug/L	50.0	ND	75.4	14-230			
Chloroform	44.7	4.00	ug/L	50.0	1.40	86.6	51-138			
Chloromethane	44.0	5.00	ug/L	50.0	ND	88.0	1-273			
Dibromochloromethane	41.4	5.00	ug/L	50.0	ND	82.7	53-149			
Dibromomethane (Methylene bromide)	40.4	5.00	ug/L	50.0	ND	80.8	0-200			
1,2-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.1	18-190			
1,3-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.1	59-156			
1,4-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.0	18-190			
Dichlorodifluoromethane (Freon-12)	40.9	5.00	ug/L	50.0	ND	81.8	0-200			
1,2-Dichloroethane	40.2	5.00	ug/L	50.0	ND	80.5	49-155			
1,1-Dichloroethane	45.5	5.00	ug/L	50.0	ND	90.9	59-155			
cis-1,2-Dichloroethene	46.4	5.00	ug/L	50.0	ND	92.7	0-200			
1,1-Dichloroethene	51.7	5.00	ug/L	50.0	ND	103	1-234			
trans-1,2-Dichloroethene	45.0	4.00	ug/L	50.0	ND	89.9	54-156			
1,2-Dichloropropane	44.1	5.00	ug/L	50.0	ND	88.2	1-210			
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.0	ND	83.8	1-227			
trans-1,3-Dichloropropene	37.7	5.00	ug/L	50.0	ND	75.3	17-183			
Ethylbenzene	43.8	5.00	ug/L	50.0	ND	87.6	37-162			
2-Hexanone (MBK)	41.2	10.0	ug/L	50.0	ND	82.4	0-200			
Methyl tert-butyl ether (MTBE)	53.0	5.00	ug/L	50.0	ND	106	0-200			
Methylene chloride (Dichloromethane)	48.8	5.00	ug/L	50.0	ND	97.5	1-221			
4-Methyl-2-pentanone (MIBK)	40.9	10.0	ug/L	50.0	ND	81.8	0-200			
Styrene	42.6	5.00	ug/L	50.0	ND	85.1	0-200			
1,1,2,2-Tetrachloroethane	43.4	5.00	ug/L	50.0	ND	86.7	46-157			
Tetrachloroethene	44.2	5.00	ug/L	50.0	ND	88.4	64-148			
Toluene	46.0	5.00	ug/L	50.0	ND	92.1	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	42.4	5.00	ug/L	50.0	ND	84.7	52-162			
Trichloroethene	45.5	5.00	ug/L	50.0	ND	90.9	70-157			
Trichlorofluoromethane (Freon 11)	43.3	5.00	ug/L	50.0	ND	86.7	17-181			
Vinyl chloride	45.8	5.00	ug/L	50.0	ND	91.6	1-251			
m,p-Xylene	87.9	10.0	ug/L	100	ND	87.9	0-200			
o-Xylene	43.5	5.00	ug/L	50.0	ND	86.9	0-200			
Vinyl acetate	46.0	5.00	ug/L	50.0	ND	92.0	60-140			
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/L	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
Acetone	41.2	10.0	ug/L	50.0	ND	82.4	0-200	9.11	200	
Acrylonitrile	50.8	20.0	ug/L	50.0	ND	102	40-160	11.3	60	
Benzene	51.0	5.00	ug/L	50.0	ND	102	37-151	12.3	61	
Bromodichloromethane	45.3	5.00	ug/L	50.0	ND	90.6	35-155	12.5	56	
Bromoform	43.2	5.00	ug/L	50.0	ND	86.3	45-169	11.4	42	
Bromomethane	49.6	5.00	ug/L	50.0	ND	99.2	1-242	10.2	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.7	0-200	12.8	200	
Carbon disulfide	45.5	5.00	ug/L	50.0	ND	91.1	0-200	9.36	200	
Carbon tetrachloride	46.2	5.00	ug/L	50.0	ND	92.4	70-140	9.15	41	
Chlorobenzene	49.3	5.00	ug/L	50.0	ND	98.7	37-160	10.2	53	
Chloroethane (Ethyl chloride)	40.9	5.00	ug/L	50.0	ND	81.8	14-230	8.11	78	
Chloroform	50.5	4.00	ug/L	50.0	1.40	98.2	51-138	12.1	54	
Chloromethane	48.7	5.00	ug/L	50.0	ND	97.4	1-273	10.2	60	
Dibromochloromethane	45.5	5.00	ug/L	50.0	ND	91.0	53-149	9.58	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	10.8	200	
1,2-Dichlorobenzene	47.3	5.00	ug/L	50.0	ND	94.6	18-190	9.48	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	10.6	43	
1,4-Dichlorobenzene	48.1	5.00	ug/L	50.0	ND	96.1	18-190	8.89	57	
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.5	0-200	9.06	200	
1,2-Dichloroethane	45.1	5.00	ug/L	50.0	ND	90.1	49-155	11.3	49	
1,1-Dichloroethane	49.7	5.00	ug/L	50.0	ND	99.3	59-155	8.83	40	
cis-1,2-Dichloroethene	51.4	5.00	ug/L	50.0	ND	103	0-200	10.3	200	
1,1-Dichloroethene	54.9	5.00	ug/L	50.0	ND	110	1-234	6.04	32	
trans-1,2-Dichloroethene	48.8	4.00	ug/L	50.0	ND	97.7	54-156	8.25	45	
1,2-Dichloropropane	49.8	5.00	ug/L	50.0	ND	99.6	1-210	12.2	55	
cis-1,3-Dichloropropene	45.8	5.00	ug/L	50.0	ND	91.5	1-227	8.85	58	
trans-1,3-Dichloropropene	41.6	5.00	ug/L	50.0	ND	83.1	17-183	9.87	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	95.0	37-162	8.13	63	
2-Hexanone (MBK)	47.1	10.0	ug/L	50.0	ND	94.3	0-200	13.5	200	
Methyl tert-butyl ether (MTBE)	60.0	5.00	ug/L	50.0	ND	120	0-200	12.4	200	
Methylene chloride (Dichloromethane)	54.2	5.00	ug/L	50.0	ND	108	1-221	10.5	28	
4-Methyl-2-pentanone (MIBK)	45.8	10.0	ug/L	50.0	ND	91.7	0-200	11.4	200	
Styrene	47.6	5.00	ug/L	50.0	ND	95.1	0-200	11.1	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	99.0	46-157	13.3	61	
Tetrachloroethene	46.9	5.00	ug/L	50.0	ND	93.8	64-148	5.93	39	
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150	7.85	41	
1,1,2-Trichloroethane	48.7	5.00	ug/L	50.0	ND	97.4	52-150	6.66	45	
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.3	52-162	11.8	36	
Trichloroethene	50.2	5.00	ug/L	50.0	ND	100	70-157	9.99	48	
Trichlorofluoromethane (Freon 11)	47.1	5.00	ug/L	50.0	ND	94.1	17-181	8.27	84	
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251	9.07	66	
m,p-Xylene	96.6	10.0	ug/L	100	ND	96.6	0-200	9.40	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
o-Xylene	47.8	5.00	ug/L	50.0	ND	95.6	0-200	9.51	200	
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140	10.3	25	
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/L	*50.0*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.0*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*96.9*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92035 - 624.1 - EPA 624.1										
Blank (DG92035-BLK1)			Prepared & Analyzed: 07/26/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.0*		ug/L	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (DG92035-MS1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	54.2	20.0	ug/L	50.0	ND	108	40-160			
2-Chloroethyl vinyl ether	40.5	20.0	ug/L	50.0	ND	81.0	1-305			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.0*		*92.7*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike Dup (DG92035-MSD1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	53.6	20.0	ug/L	50.0	ND	107	40-160	0.983	60	
2-Chloroethyl vinyl ether	38.7	20.0	ug/L	50.0	ND	77.4	1-305	4.57	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			

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CERTIFICATE OF ANALYSIS

D9G2783

Definitions

MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

M Montgomery

Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 12:12

MICROBAC®

CHAIN OF C

61 Louisa Viens Dri
Tel: (860)774-681

D 9 G 2 7 8 3

Veolia - Plymouth

LAB USE ONLY

WO#

ct Manager

Microbac Laboratories, Inc.

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A1a (250 mL)	7/25/19	11:50		X	WW	1	X	X											X			
Well # A1a (250 mL)				X	WW	1			X	X								X				
Well # A1a (250 mL)(filtered)				X	WW	1					X							X				
Well # A12 (250 mL)				X	WW	1						X						X				
Well # A10 (250 mL)				X	WW	1							X					X				
Well # A1a (250 mL)				X	WW	1								X	X	X					X	
Well # A1a (40 mL vial)				X	WW	2											X	X				
Well # A1a (40 mL vial)				X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	7-25-19	
RECEIVED:		
ELINQUISHED:	7-25-19	1422
ECEIVED:	7-25-19	14:22
ELINQUISHED:	7-25-19	17:20
ECEIVED:	7:25:19	1720

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☒ AMBIENT ☐ COMPLIANT ☐

3.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2784

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2784

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/25/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A9	D9G2784-01	Groundwater	Grab		07/25/19 11:00	07/25/19 17:20
Well # A9 (filtered)	D9G2784-02	Groundwater	Grab		07/25/19 11:00	07/25/19 17:20

CERTIFICATE OF ANALYSIS

D9G2784

Analytical Testing Parameters

Client Sample ID:	Well # A9		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2784-01	**Collection Date:**	07/25/2019 11:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	**0.570**	0.400	mg/L	1		07/27/19 1347	07/30/19 1120	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0234**	0.0106	mg/L	1		07/29/19 2042	07/30/19 1122	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**27.5**	1.00	mg/L	1			07/26/19 1700	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**376**	10.0	mg/L	5			07/29/19 1214	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**3.31**	0.0500	mg/L	1			07/26/19 0045	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/26/19 0045	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.124**	0.0050	mg/L	1	**Y1**	07/26/19 1330	08/05/19 2136	NJP
Copper	<0.0020	0.0020	mg/L	1		07/26/19 1330	08/05/19 2136	NJP
Sodium	**256**	1.00	mg/L	1		07/26/19 1330	08/05/19 2136	NJP

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1930	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			07/29/19 1930	JAN
Benzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Bromoform	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Bromomethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1930	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1930	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Chloroform	**4.19**	4.00	ug/L	1			07/29/19 1930	JAN
Chloromethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1930	JAN

CERTIFICATE OF ANALYSIS

D9G2784

Client Sample ID:	Well # A9		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2784-01	**Collection Date:**	07/25/2019 11:00

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			07/29/19 1930	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1930	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1930	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Toluene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Trichloroethene	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			07/29/19 1930	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		07/29/19 1930	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		07/29/19 1930	JAN
Surrogate: 4-Bromofluorobenzene	96.5	Limit: 70-130	% Rec	1			07/29/19 1930	JAN
Surrogate: 1,2-Dichloroethane-d4	94.0	Limit: 70-130	% Rec	1			07/29/19 1930	JAN
Surrogate: Toluene-d8	97.1	Limit: 70-130	% Rec	1			07/29/19 1930	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			07/26/19 1819	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			07/26/19 1819	JAN
Surrogate: 4-Bromofluorobenzene	96.9	Limit: 70-130	% Rec	1			07/26/19 1819	JAN
Surrogate: 1,2-Dichloroethane-d4	93.7	Limit: 70-130	% Rec	1			07/26/19 1819	JAN
Surrogate: Toluene-d8	99.6	Limit: 70-130	% Rec	1			07/26/19 1819	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2784

Client Sample ID:	Well # A9 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2784-02	**Collection Date:**	07/25/2019 11:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0240**	0.0100	mg/L	1		07/25/19 1846	07/25/19 1941	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91743 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG91743-BLK1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG91743-BS1)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		99.9	90-110			
LCS (DG91743-BS2)			Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DG91743-DUP1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	0.122	0.0100	mg/L		0.127			4.34	20	
Nitrate as N	0.304	0.0500	mg/L		0.337			10.0	20	
Matrix Spike (DG91743-MS1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.11	0.0100	mg/L	1.00	0.127	98.6	75-125			
Nitrate as N	5.16	0.0500	mg/L	5.00	0.337	96.4	75-125			
Matrix Spike Dup (DG91743-MSD1)		**Source: D9G2822-01**	Prepared: 07/30/2019 Analyzed: 07/25/2019							
Nitrite as N	1.10	0.0100	mg/L	1.00	0.127	97.3	75-125	1.17	20	
Nitrate as N	5.18	0.0500	mg/L	5.00	0.337	96.8	75-125	0.377	20	
Batch DG91752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG91752-BLK1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DG91752-BS1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DG91752-DUP1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	0.0480	0.0100	mg/L		0.0480			0.00	20	
Matrix Spike (DG91752-MS1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00	0.0480	95.3	90-110			
Matrix Spike (DG91752-MS2)		**Source: D9G2797-04**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.27	0.0100	mg/L	1.00	0.228	104	90-110			
Batch DG91870 - Wet Chem - W - SM2320 B-2011										
Blank (DG91870-BLK1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DG91870-BS1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DG91870-DUP1)		**Source: D9G2783-01**	Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	27.5	1.00	mg/L		27.5			0.00	20	
Batch DG91878 - Wet-Digestion-W - EPA 351.1										

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91878 - Wet-Digestion-W - EPA 351.1										
Blank (DG91878-BLK1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DG91878-BS1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DG91878-DUP1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	2.75	0.200	mg/L		2.80			1.95	20	
Matrix Spike (DG91878-MS1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.80	99.1	90-110			
Matrix Spike (DG91878-MS2)		**Source: D9G2777-05**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.71	99.8	90-110			
Batch DG91890 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DG91890-BLK1)			Prepared & Analyzed: 07/29/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DG91890-BS1)			Prepared & Analyzed: 07/29/2019							
Chloride	20.8	2.00	mg/L	20.0		104	90-110			
Duplicate (DG91890-DUP1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	21.7	2.00	mg/L		22.3			2.53	20	
Matrix Spike (DG91890-MS1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	43.1	2.00	mg/L	20.0	22.3	104	75-125			
Matrix Spike Dup (DG91890-MSD1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	42.1	2.00	mg/L	20.0	22.3	99.2	75-125	2.24	20	
Batch DG92011 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DG92011-BLK1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DG92011-BS1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.975	0.0106	mg/L	1.00		97.5	90-110			
Duplicate (DG92011-DUP1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.0393	0.0106	mg/L		0.0563			35.6	20	R3
Matrix Spike (DG92011-MS1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	1.21	0.0106	mg/L	1.25	0.0563	92.3	90-110			
Matrix Spike (DG92011-MS2)		**Source: D9G2923-03**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	5.67	0.0425	mg/L	1.25	4.41	100	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DG91828-BS1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.529	0.0050	mg/L	0.500		106	85-115			
Copper	0.517	0.0020	mg/L	0.500		103	85-115			
Sodium	10.7	1.00	mg/L	10.5		101	85-115			
Duplicate (DG91828-DUP1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.0090	0.0050	mg/L		0.0091			1.07	20	
Copper	<0.0020	0.0020	mg/L		0.0027			78.0	20	R3
Sodium	8.35	1.00	mg/L		8.33			0.230	20	
Matrix Spike (DG91828-MS1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.537	0.0050	mg/L	0.500	0.0091	106	70-130			
Copper	0.516	0.0020	mg/L	0.500	0.0027	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.33	100	70-130			
Matrix Spike (DG91828-MS2)		**Source: D9G2782-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.533	0.0050	mg/L	0.500	0.0068	105	70-130			
Copper	0.511	0.0020	mg/L	0.500	0.0036	102	70-130			
Sodium	19.0	1.00	mg/L	10.5	8.63	98.4	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)			Prepared & Analyzed: 07/29/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)				Prepared & Analyzed: 07/29/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Acetone	44.7	10.0	ug/L	50.0		89.3	65-133			
Acrylonitrile	53.7	20.0	ug/L	50.0		107	60-140			
Benzene	53.4	5.00	ug/L	50.0		107	65-135			
Bromodichloromethane	47.2	5.00	ug/L	50.0		94.4	65-135			
Bromoform	45.7	5.00	ug/L	50.0		91.3	70-130			
Bromomethane	52.4	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	50.7	10.0	ug/L	50.0		101	77-140			
Carbon disulfide	49.3	5.00	ug/L	50.0		98.6	70-130			
Carbon tetrachloride	48.0	5.00	ug/L	50.0		96.0	70-130			
Chlorobenzene	53.5	5.00	ug/L	50.0		107	65-135			
Chloroethane (Ethyl chloride)	42.0	5.00	ug/L	50.0		84.0	40-160			
Chloroform	49.9	4.00	ug/L	50.0		99.7	70-135			
Chloromethane	52.1	5.00	ug/L	50.0		104	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Dibromochloromethane	48.6	5.00	ug/L	50.0		97.2	70-135			
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0		95.1	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.8	5.00	ug/L	50.0		102	65-135			
Dichlorodifluoromethane (Freon-12)	48.0	5.00	ug/L	50.0		96.0	1-205			
1,2-Dichloroethane	45.7	5.00	ug/L	50.0		91.3	70-130			
1,1-Dichloroethane	51.1	5.00	ug/L	50.0		102	70-130			
cis-1,2-Dichloroethene	53.2	5.00	ug/L	50.0		106	82-137			
1,1-Dichloroethene	58.1	5.00	ug/L	50.0		116	50-150			
trans-1,2-Dichloroethene	51.7	4.00	ug/L	50.0		103	70-130			
1,2-Dichloropropane	50.7	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	50.8	5.00	ug/L	50.0		102	25-175			
trans-1,3-Dichloropropene	45.9	5.00	ug/L	50.0		91.8	50-150			
Ethylbenzene	51.1	5.00	ug/L	50.0		102	60-140			
2-Hexanone (MBK)	49.9	10.0	ug/L	50.0		99.7	74-134			
Methyl tert-butyl ether (MTBE)	60.3	5.00	ug/L	50.0		121	81-140			
Methylene chloride (Dichloromethane)	56.6	5.00	ug/L	50.0		113	60-140			
4-Methyl-2-pentanone (MIBK)	47.9	10.0	ug/L	50.0		95.8	73-142			
Styrene	50.0	5.00	ug/L	50.0		99.9	82-125			
1,1,2,2-Tetrachloroethane	49.3	5.00	ug/L	50.0		98.5	60-140			
Tetrachloroethene	52.2	5.00	ug/L	50.0		104	70-130			
Toluene	53.8	5.00	ug/L	50.0		108	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0		98.7	70-130			
Trichloroethene	53.7	5.00	ug/L	50.0		107	65-135			
Trichlorofluoromethane (Freon 11)	50.5	5.00	ug/L	50.0		101	50-150			
Vinyl chloride	53.2	5.00	ug/L	50.0		106	5-195			
m,p-Xylene	103	10.0	ug/L	100		103	80-122			
o-Xylene	51.4	5.00	ug/L	50.0		103	81-125			
Vinyl acetate	53.1	5.00	ug/L	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/L	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**			Prepared & Analyzed: 07/29/2019						
Acetone	37.6	10.0	ug/L	50.0	ND	75.2	0-200			
Acrylonitrile	45.4	20.0	ug/L	50.0	ND	90.7	40-160			
Benzene	45.1	5.00	ug/L	50.0	ND	90.2	37-151			
Bromodichloromethane	40.0	5.00	ug/L	50.0	ND	79.9	35-155			
Bromoform	38.5	5.00	ug/L	50.0	ND	77.0	45-169			
Bromomethane	44.8	5.00	ug/L	50.0	ND	89.5	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
2-Butanone (MEK)	42.1	10.0	ug/L	50.0	ND	84.2	0-200			
Carbon disulfide	41.5	5.00	ug/L	50.0	ND	82.9	0-200			
Carbon tetrachloride	42.2	5.00	ug/L	50.0	ND	84.3	70-140			
Chlorobenzene	44.5	5.00	ug/L	50.0	ND	89.1	37-160			
Chloroethane (Ethyl chloride)	37.7	5.00	ug/L	50.0	ND	75.4	14-230			
Chloroform	44.7	4.00	ug/L	50.0	1.40	86.6	51-138			
Chloromethane	44.0	5.00	ug/L	50.0	ND	88.0	1-273			
Dibromochloromethane	41.4	5.00	ug/L	50.0	ND	82.7	53-149			
Dibromomethane (Methylene bromide)	40.4	5.00	ug/L	50.0	ND	80.8	0-200			
1,2-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.1	18-190			
1,3-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.1	59-156			
1,4-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.0	18-190			
Dichlorodifluoromethane (Freon-12)	40.9	5.00	ug/L	50.0	ND	81.8	0-200			
1,2-Dichloroethane	40.2	5.00	ug/L	50.0	ND	80.5	49-155			
1,1-Dichloroethane	45.5	5.00	ug/L	50.0	ND	90.9	59-155			
cis-1,2-Dichloroethene	46.4	5.00	ug/L	50.0	ND	92.7	0-200			
1,1-Dichloroethene	51.7	5.00	ug/L	50.0	ND	103	1-234			
trans-1,2-Dichloroethene	45.0	4.00	ug/L	50.0	ND	89.9	54-156			
1,2-Dichloropropane	44.1	5.00	ug/L	50.0	ND	88.2	1-210			
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.0	ND	83.8	1-227			
trans-1,3-Dichloropropene	37.7	5.00	ug/L	50.0	ND	75.3	17-183			
Ethylbenzene	43.8	5.00	ug/L	50.0	ND	87.6	37-162			
2-Hexanone (MBK)	41.2	10.0	ug/L	50.0	ND	82.4	0-200			
Methyl tert-butyl ether (MTBE)	53.0	5.00	ug/L	50.0	ND	106	0-200			
Methylene chloride (Dichloromethane)	48.8	5.00	ug/L	50.0	ND	97.5	1-221			
4-Methyl-2-pentanone (MIBK)	40.9	10.0	ug/L	50.0	ND	81.8	0-200			
Styrene	42.6	5.00	ug/L	50.0	ND	85.1	0-200			
1,1,2,2-Tetrachloroethane	43.4	5.00	ug/L	50.0	ND	86.7	46-157			
Tetrachloroethene	44.2	5.00	ug/L	50.0	ND	88.4	64-148			
Toluene	46.0	5.00	ug/L	50.0	ND	92.1	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	42.4	5.00	ug/L	50.0	ND	84.7	52-162			
Trichloroethene	45.5	5.00	ug/L	50.0	ND	90.9	70-157			
Trichlorofluoromethane (Freon 11)	43.3	5.00	ug/L	50.0	ND	86.7	17-181			
Vinyl chloride	45.8	5.00	ug/L	50.0	ND	91.6	1-251			
m,p-Xylene	87.9	10.0	ug/L	100	ND	87.9	0-200			
o-Xylene	43.5	5.00	ug/L	50.0	ND	86.9	0-200			
Vinyl acetate	46.0	5.00	ug/L	50.0	ND	92.0	60-140			
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/L	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
Acetone	41.2	10.0	ug/L	50.0	ND	82.4	0-200	9.11	200	
Acrylonitrile	50.8	20.0	ug/L	50.0	ND	102	40-160	11.3	60	
Benzene	51.0	5.00	ug/L	50.0	ND	102	37-151	12.3	61	
Bromodichloromethane	45.3	5.00	ug/L	50.0	ND	90.6	35-155	12.5	56	
Bromoform	43.2	5.00	ug/L	50.0	ND	86.3	45-169	11.4	42	
Bromomethane	49.6	5.00	ug/L	50.0	ND	99.2	1-242	10.2	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.7	0-200	12.8	200	
Carbon disulfide	45.5	5.00	ug/L	50.0	ND	91.1	0-200	9.36	200	
Carbon tetrachloride	46.2	5.00	ug/L	50.0	ND	92.4	70-140	9.15	41	
Chlorobenzene	49.3	5.00	ug/L	50.0	ND	98.7	37-160	10.2	53	
Chloroethane (Ethyl chloride)	40.9	5.00	ug/L	50.0	ND	81.8	14-230	8.11	78	
Chloroform	50.5	4.00	ug/L	50.0	1.40	98.2	51-138	12.1	54	
Chloromethane	48.7	5.00	ug/L	50.0	ND	97.4	1-273	10.2	60	
Dibromochloromethane	45.5	5.00	ug/L	50.0	ND	91.0	53-149	9.58	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	10.8	200	
1,2-Dichlorobenzene	47.3	5.00	ug/L	50.0	ND	94.6	18-190	9.48	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	10.6	43	
1,4-Dichlorobenzene	48.1	5.00	ug/L	50.0	ND	96.1	18-190	8.89	57	
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.5	0-200	9.06	200	
1,2-Dichloroethane	45.1	5.00	ug/L	50.0	ND	90.1	49-155	11.3	49	
1,1-Dichloroethane	49.7	5.00	ug/L	50.0	ND	99.3	59-155	8.83	40	
cis-1,2-Dichloroethene	51.4	5.00	ug/L	50.0	ND	103	0-200	10.3	200	
1,1-Dichloroethene	54.9	5.00	ug/L	50.0	ND	110	1-234	6.04	32	
trans-1,2-Dichloroethene	48.8	4.00	ug/L	50.0	ND	97.7	54-156	8.25	45	
1,2-Dichloropropane	49.8	5.00	ug/L	50.0	ND	99.6	1-210	12.2	55	
cis-1,3-Dichloropropene	45.8	5.00	ug/L	50.0	ND	91.5	1-227	8.85	58	
trans-1,3-Dichloropropene	41.6	5.00	ug/L	50.0	ND	83.1	17-183	9.87	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	95.0	37-162	8.13	63	
2-Hexanone (MBK)	47.1	10.0	ug/L	50.0	ND	94.3	0-200	13.5	200	
Methyl tert-butyl ether (MTBE)	60.0	5.00	ug/L	50.0	ND	120	0-200	12.4	200	
Methylene chloride (Dichloromethane)	54.2	5.00	ug/L	50.0	ND	108	1-221	10.5	28	
4-Methyl-2-pentanone (MIBK)	45.8	10.0	ug/L	50.0	ND	91.7	0-200	11.4	200	
Styrene	47.6	5.00	ug/L	50.0	ND	95.1	0-200	11.1	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	99.0	46-157	13.3	61	
Tetrachloroethene	46.9	5.00	ug/L	50.0	ND	93.8	64-148	5.93	39	
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150	7.85	41	
1,1,2-Trichloroethane	48.7	5.00	ug/L	50.0	ND	97.4	52-150	6.66	45	
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.3	52-162	11.8	36	
Trichloroethene	50.2	5.00	ug/L	50.0	ND	100	70-157	9.99	48	
Trichlorofluoromethane (Freon 11)	47.1	5.00	ug/L	50.0	ND	94.1	17-181	8.27	84	
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251	9.07	66	
m,p-Xylene	96.6	10.0	ug/L	100	ND	96.6	0-200	9.40	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
o-Xylene	47.8	5.00	ug/L	50.0	ND	95.6	0-200	9.51	200	
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140	10.3	25	
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/L	*50.0*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.0*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*96.9*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92035 - 624.1 - EPA 624.1										
Blank (DG92035-BLK1)			Prepared & Analyzed: 07/26/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.0*		ug/L	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (DG92035-MS1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	54.2	20.0	ug/L	50.0	ND	108	40-160			
2-Chloroethyl vinyl ether	40.5	20.0	ug/L	50.0	ND	81.0	1-305			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.0*		*92.7*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike Dup (DG92035-MSD1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	53.6	20.0	ug/L	50.0	ND	107	40-160	0.983	60	
2-Chloroethyl vinyl ether	38.7	20.0	ug/L	50.0	ND	77.4	1-305	4.57	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

D9G2784

Definitions

D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

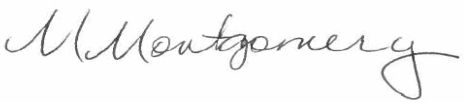
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 12:13

MICROBAC

CHAIN O

61 Louisa Viens
Tel: (860)774-6

D 9 G 2 7 8 4

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager HKD

Microbac Laboratories, Inc.

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A9 (250 mL)	7/25/19	11 00		X	WW	1	X	X											X			
Well # A6 (250 mL)	↓	↓		X	WW	1			X	X								X				
Well # A9 (250 mL)(filtered)				X	WW	1					X							X				
Well # A9 (250 mL)				X	WW	1						X						X				
Well # A9 (250 mL)				X	WW	1							X					X				
Well # A11 (250 mL)				X	WW	1								X	X	X					X	
Well # A9 (40 mL vial)				X	WW	2											X	X				
Well # A9 (40 mL vial)	↓	↓		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	7-25-19	
RECEIVED:		
RELINQUISHED:	7-25-19	1422
RECEIVED:	7-25-19	14:28
RELINQUISHED:	7-25-19	17:20
RECEIVED:	7-25-19	1720

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☒ AMBIENT ☐ COMPLIANT ☐

3.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2785

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9G2785

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/25/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A16	D9G2785-01	Groundwater	Grab		07/25/19 13:20	07/25/19 17:20
Well # A16 (filtered)	D9G2785-02	Groundwater	Grab		07/25/19 13:20	07/25/19 17:20

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2785

Analytical Testing Parameters

Client Sample ID:	Well # A16		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2785-01	**Collection Date:**	07/25/2019 13:20

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		07/27/19 1347	07/30/19 1121	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0128**	0.0106	mg/L	1		07/29/19 2042	07/30/19 1124	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**11.0**	1.00	mg/L	1			07/26/19 1700	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**112**	4.00	mg/L	2			07/29/19 1216	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**1.43**	0.0500	mg/L	1			07/26/19 0059	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/26/19 0059	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0298**	0.0050	mg/L	1	**Y1**	07/26/19 1330	08/07/19 1753	NJP
Copper	<0.0020	0.0020	mg/L	1		07/26/19 1330	08/05/19 2139	NJP
Sodium	**60.3**	1.00	mg/L	1		07/26/19 1330	08/05/19 2139	NJP

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1956	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			07/29/19 1956	JAN
Benzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Bromoform	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Bromomethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		07/29/19 1956	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1956	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Chloroform	<4.00	4.00	ug/L	1			07/29/19 1956	JAN
Chloromethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		07/29/19 1956	JAN

CERTIFICATE OF ANALYSIS

D9G2785

Client Sample ID:	Well # A16		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2785-01	**Collection Date:**	07/25/2019 13:20

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			07/29/19 1956	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1956	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 1956	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Toluene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Trichloroethene	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			07/29/19 1956	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		07/29/19 1956	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		07/29/19 1956	JAN
Surrogate: 4-Bromofluorobenzene	97.7	Limit: 70-130	% Rec	1			07/29/19 1956	JAN
Surrogate: 1,2-Dichloroethane-d4	94.2	Limit: 70-130	% Rec	1			07/29/19 1956	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			07/29/19 1956	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			07/26/19 1845	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			07/26/19 1845	JAN
Surrogate: 4-Bromofluorobenzene	96.8	Limit: 70-130	% Rec	1			07/26/19 1845	JAN
Surrogate: 1,2-Dichloroethane-d4	94.6	Limit: 70-130	% Rec	1			07/26/19 1845	JAN
Surrogate: Toluene-d8	97.4	Limit: 70-130	% Rec	1			07/26/19 1845	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2785

Client Sample ID:	Well # A16 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2785-02	**Collection Date:**	07/25/2019 13:20

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0440**	0.0100	mg/L	1		07/25/19 1846	07/25/19 1941	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG91752-BLK1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DG91752-BS1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DG91752-DUP1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	0.0480	0.0100	mg/L		0.0480			0.00	20	
Matrix Spike (DG91752-MS1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00	0.0480	95.3	90-110			
Matrix Spike (DG91752-MS2)		**Source: D9G2797-04**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.27	0.0100	mg/L	1.00	0.228	104	90-110			
Batch DG91754 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG91754-BLK1)			Prepared & Analyzed: 07/26/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG91754-BS1)			Prepared & Analyzed: 07/26/2019							
Nitrate as N	4.95	0.0500	mg/L	5.00		98.9	90-110			
LCS (DG91754-BS2)			Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DG91754-DUP1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	0.205	0.0100	mg/L		0.211			3.07	20	
Nitrate as N	0.111	0.0500	mg/L		0.138			21.4	20	R3
Matrix Spike (DG91754-MS1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.13	0.0100	mg/L	1.00	0.211	92.2	75-125			
Nitrate as N	4.97	0.0500	mg/L	5.00	0.138	96.5	75-125			
Matrix Spike Dup (DG91754-MSD1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.13	0.0100	mg/L	1.00	0.211	92.3	75-125	0.0882	20	
Nitrate as N	4.93	0.0500	mg/L	5.00	0.138	95.8	75-125	0.728	20	
Batch DG91870 - Wet Chem - W - SM2320 B-2011										
Blank (DG91870-BLK1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DG91870-BS1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DG91870-DUP1)		**Source: D9G2783-01**	Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	27.5	1.00	mg/L		27.5			0.00	20	
Batch DG91878 - Wet-Digestion-W - EPA 351.1										

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91878 - Wet-Digestion-W - EPA 351.1										
Blank (DG91878-BLK1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DG91878-BS1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DG91878-DUP1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	2.75	0.200	mg/L		2.80			1.95	20	
Matrix Spike (DG91878-MS1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.80	99.1	90-110			
Matrix Spike (DG91878-MS2)		**Source: D9G2777-05**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.71	99.8	90-110			
Batch DG91890 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DG91890-BLK1)			Prepared & Analyzed: 07/29/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DG91890-BS1)			Prepared & Analyzed: 07/29/2019							
Chloride	20.8	2.00	mg/L	20.0		104	90-110			
Duplicate (DG91890-DUP1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	21.7	2.00	mg/L		22.3			2.53	20	
Matrix Spike (DG91890-MS1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	43.1	2.00	mg/L	20.0	22.3	104	75-125			
Matrix Spike Dup (DG91890-MSD1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	42.1	2.00	mg/L	20.0	22.3	99.2	75-125	2.24	20	
Batch DG92011 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DG92011-BLK1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DG92011-BS1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.975	0.0106	mg/L	1.00		97.5	90-110			
Duplicate (DG92011-DUP1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.0393	0.0106	mg/L		0.0563			35.6	20	R3
Matrix Spike (DG92011-MS1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	1.21	0.0106	mg/L	1.25	0.0563	92.3	90-110			
Matrix Spike (DG92011-MS2)		**Source: D9G2923-03**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	5.67	0.0425	mg/L	1.25	4.41	100	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DG91828-BS1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.529	0.0050	mg/L	0.500		106	85-115			
Copper	0.517	0.0020	mg/L	0.500		103	85-115			
Sodium	10.7	1.00	mg/L	10.5		101	85-115			
Duplicate (DG91828-DUP1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.0090	0.0050	mg/L		0.0091			1.07	20	
Copper	<0.0020	0.0020	mg/L		0.0027			78.0	20	R3
Sodium	8.35	1.00	mg/L		8.33			0.230	20	
Matrix Spike (DG91828-MS1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.537	0.0050	mg/L	0.500	0.0091	106	70-130			
Copper	0.516	0.0020	mg/L	0.500	0.0027	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.33	100	70-130			
Matrix Spike (DG91828-MS2)		**Source: D9G2782-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.533	0.0050	mg/L	0.500	0.0068	105	70-130			
Copper	0.511	0.0020	mg/L	0.500	0.0036	102	70-130			
Sodium	19.0	1.00	mg/L	10.5	8.63	98.4	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)			Prepared & Analyzed: 07/29/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)				Prepared & Analyzed: 07/29/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Acetone	44.7	10.0	ug/L	50.0		89.3	65-133			
Acrylonitrile	53.7	20.0	ug/L	50.0		107	60-140			
Benzene	53.4	5.00	ug/L	50.0		107	65-135			
Bromodichloromethane	47.2	5.00	ug/L	50.0		94.4	65-135			
Bromoform	45.7	5.00	ug/L	50.0		91.3	70-130			
Bromomethane	52.4	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	50.7	10.0	ug/L	50.0		101	77-140			
Carbon disulfide	49.3	5.00	ug/L	50.0		98.6	70-130			
Carbon tetrachloride	48.0	5.00	ug/L	50.0		96.0	70-130			
Chlorobenzene	53.5	5.00	ug/L	50.0		107	65-135			
Chloroethane (Ethyl chloride)	42.0	5.00	ug/L	50.0		84.0	40-160			
Chloroform	49.9	4.00	ug/L	50.0		99.7	70-135			
Chloromethane	52.1	5.00	ug/L	50.0		104	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Dibromochloromethane	48.6	5.00	ug/L	50.0		97.2	70-135			
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0		95.1	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.8	5.00	ug/L	50.0		102	65-135			
Dichlorodifluoromethane (Freon-12)	48.0	5.00	ug/L	50.0		96.0	1-205			
1,2-Dichloroethane	45.7	5.00	ug/L	50.0		91.3	70-130			
1,1-Dichloroethane	51.1	5.00	ug/L	50.0		102	70-130			
cis-1,2-Dichloroethene	53.2	5.00	ug/L	50.0		106	82-137			
1,1-Dichloroethene	58.1	5.00	ug/L	50.0		116	50-150			
trans-1,2-Dichloroethene	51.7	4.00	ug/L	50.0		103	70-130			
1,2-Dichloropropane	50.7	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	50.8	5.00	ug/L	50.0		102	25-175			
trans-1,3-Dichloropropene	45.9	5.00	ug/L	50.0		91.8	50-150			
Ethylbenzene	51.1	5.00	ug/L	50.0		102	60-140			
2-Hexanone (MBK)	49.9	10.0	ug/L	50.0		99.7	74-134			
Methyl tert-butyl ether (MTBE)	60.3	5.00	ug/L	50.0		121	81-140			
Methylene chloride (Dichloromethane)	56.6	5.00	ug/L	50.0		113	60-140			
4-Methyl-2-pentanone (MIBK)	47.9	10.0	ug/L	50.0		95.8	73-142			
Styrene	50.0	5.00	ug/L	50.0		99.9	82-125			
1,1,2,2-Tetrachloroethane	49.3	5.00	ug/L	50.0		98.5	60-140			
Tetrachloroethene	52.2	5.00	ug/L	50.0		104	70-130			
Toluene	53.8	5.00	ug/L	50.0		108	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0		98.7	70-130			
Trichloroethene	53.7	5.00	ug/L	50.0		107	65-135			
Trichlorofluoromethane (Freon 11)	50.5	5.00	ug/L	50.0		101	50-150			
Vinyl chloride	53.2	5.00	ug/L	50.0		106	5-195			
m,p-Xylene	103	10.0	ug/L	100		103	80-122			
o-Xylene	51.4	5.00	ug/L	50.0		103	81-125			
Vinyl acetate	53.1	5.00	ug/L	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/L	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**			Prepared & Analyzed: 07/29/2019						
Acetone	37.6	10.0	ug/L	50.0	ND	75.2	0-200			
Acrylonitrile	45.4	20.0	ug/L	50.0	ND	90.7	40-160			
Benzene	45.1	5.00	ug/L	50.0	ND	90.2	37-151			
Bromodichloromethane	40.0	5.00	ug/L	50.0	ND	79.9	35-155			
Bromoform	38.5	5.00	ug/L	50.0	ND	77.0	45-169			
Bromomethane	44.8	5.00	ug/L	50.0	ND	89.5	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
2-Butanone (MEK)	42.1	10.0	ug/L	50.0	ND	84.2	0-200			
Carbon disulfide	41.5	5.00	ug/L	50.0	ND	82.9	0-200			
Carbon tetrachloride	42.2	5.00	ug/L	50.0	ND	84.3	70-140			
Chlorobenzene	44.5	5.00	ug/L	50.0	ND	89.1	37-160			
Chloroethane (Ethyl chloride)	37.7	5.00	ug/L	50.0	ND	75.4	14-230			
Chloroform	44.7	4.00	ug/L	50.0	1.40	86.6	51-138			
Chloromethane	44.0	5.00	ug/L	50.0	ND	88.0	1-273			
Dibromochloromethane	41.4	5.00	ug/L	50.0	ND	82.7	53-149			
Dibromomethane (Methylene bromide)	40.4	5.00	ug/L	50.0	ND	80.8	0-200			
1,2-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.1	18-190			
1,3-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.1	59-156			
1,4-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.0	18-190			
Dichlorodifluoromethane (Freon-12)	40.9	5.00	ug/L	50.0	ND	81.8	0-200			
1,2-Dichloroethane	40.2	5.00	ug/L	50.0	ND	80.5	49-155			
1,1-Dichloroethane	45.5	5.00	ug/L	50.0	ND	90.9	59-155			
cis-1,2-Dichloroethene	46.4	5.00	ug/L	50.0	ND	92.7	0-200			
1,1-Dichloroethene	51.7	5.00	ug/L	50.0	ND	103	1-234			
trans-1,2-Dichloroethene	45.0	4.00	ug/L	50.0	ND	89.9	54-156			
1,2-Dichloropropane	44.1	5.00	ug/L	50.0	ND	88.2	1-210			
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.0	ND	83.8	1-227			
trans-1,3-Dichloropropene	37.7	5.00	ug/L	50.0	ND	75.3	17-183			
Ethylbenzene	43.8	5.00	ug/L	50.0	ND	87.6	37-162			
2-Hexanone (MBK)	41.2	10.0	ug/L	50.0	ND	82.4	0-200			
Methyl tert-butyl ether (MTBE)	53.0	5.00	ug/L	50.0	ND	106	0-200			
Methylene chloride (Dichloromethane)	48.8	5.00	ug/L	50.0	ND	97.5	1-221			
4-Methyl-2-pentanone (MIBK)	40.9	10.0	ug/L	50.0	ND	81.8	0-200			
Styrene	42.6	5.00	ug/L	50.0	ND	85.1	0-200			
1,1,2,2-Tetrachloroethane	43.4	5.00	ug/L	50.0	ND	86.7	46-157			
Tetrachloroethene	44.2	5.00	ug/L	50.0	ND	88.4	64-148			
Toluene	46.0	5.00	ug/L	50.0	ND	92.1	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	42.4	5.00	ug/L	50.0	ND	84.7	52-162			
Trichloroethene	45.5	5.00	ug/L	50.0	ND	90.9	70-157			
Trichlorofluoromethane (Freon 11)	43.3	5.00	ug/L	50.0	ND	86.7	17-181			
Vinyl chloride	45.8	5.00	ug/L	50.0	ND	91.6	1-251			
m,p-Xylene	87.9	10.0	ug/L	100	ND	87.9	0-200			
o-Xylene	43.5	5.00	ug/L	50.0	ND	86.9	0-200			
Vinyl acetate	46.0	5.00	ug/L	50.0	ND	92.0	60-140			
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/L	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
Acetone	41.2	10.0	ug/L	50.0	ND	82.4	0-200	9.11	200	
Acrylonitrile	50.8	20.0	ug/L	50.0	ND	102	40-160	11.3	60	
Benzene	51.0	5.00	ug/L	50.0	ND	102	37-151	12.3	61	
Bromodichloromethane	45.3	5.00	ug/L	50.0	ND	90.6	35-155	12.5	56	
Bromoform	43.2	5.00	ug/L	50.0	ND	86.3	45-169	11.4	42	
Bromomethane	49.6	5.00	ug/L	50.0	ND	99.2	1-242	10.2	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.7	0-200	12.8	200	
Carbon disulfide	45.5	5.00	ug/L	50.0	ND	91.1	0-200	9.36	200	
Carbon tetrachloride	46.2	5.00	ug/L	50.0	ND	92.4	70-140	9.15	41	
Chlorobenzene	49.3	5.00	ug/L	50.0	ND	98.7	37-160	10.2	53	
Chloroethane (Ethyl chloride)	40.9	5.00	ug/L	50.0	ND	81.8	14-230	8.11	78	
Chloroform	50.5	4.00	ug/L	50.0	1.40	98.2	51-138	12.1	54	
Chloromethane	48.7	5.00	ug/L	50.0	ND	97.4	1-273	10.2	60	
Dibromochloromethane	45.5	5.00	ug/L	50.0	ND	91.0	53-149	9.58	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	10.8	200	
1,2-Dichlorobenzene	47.3	5.00	ug/L	50.0	ND	94.6	18-190	9.48	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	10.6	43	
1,4-Dichlorobenzene	48.1	5.00	ug/L	50.0	ND	96.1	18-190	8.89	57	
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.5	0-200	9.06	200	
1,2-Dichloroethane	45.1	5.00	ug/L	50.0	ND	90.1	49-155	11.3	49	
1,1-Dichloroethane	49.7	5.00	ug/L	50.0	ND	99.3	59-155	8.83	40	
cis-1,2-Dichloroethene	51.4	5.00	ug/L	50.0	ND	103	0-200	10.3	200	
1,1-Dichloroethene	54.9	5.00	ug/L	50.0	ND	110	1-234	6.04	32	
trans-1,2-Dichloroethene	48.8	4.00	ug/L	50.0	ND	97.7	54-156	8.25	45	
1,2-Dichloropropane	49.8	5.00	ug/L	50.0	ND	99.6	1-210	12.2	55	
cis-1,3-Dichloropropene	45.8	5.00	ug/L	50.0	ND	91.5	1-227	8.85	58	
trans-1,3-Dichloropropene	41.6	5.00	ug/L	50.0	ND	83.1	17-183	9.87	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	95.0	37-162	8.13	63	
2-Hexanone (MBK)	47.1	10.0	ug/L	50.0	ND	94.3	0-200	13.5	200	
Methyl tert-butyl ether (MTBE)	60.0	5.00	ug/L	50.0	ND	120	0-200	12.4	200	
Methylene chloride (Dichloromethane)	54.2	5.00	ug/L	50.0	ND	108	1-221	10.5	28	
4-Methyl-2-pentanone (MIBK)	45.8	10.0	ug/L	50.0	ND	91.7	0-200	11.4	200	
Styrene	47.6	5.00	ug/L	50.0	ND	95.1	0-200	11.1	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	99.0	46-157	13.3	61	
Tetrachloroethene	46.9	5.00	ug/L	50.0	ND	93.8	64-148	5.93	39	
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150	7.85	41	
1,1,2-Trichloroethane	48.7	5.00	ug/L	50.0	ND	97.4	52-150	6.66	45	
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.3	52-162	11.8	36	
Trichloroethene	50.2	5.00	ug/L	50.0	ND	100	70-157	9.99	48	
Trichlorofluoromethane (Freon 11)	47.1	5.00	ug/L	50.0	ND	94.1	17-181	8.27	84	
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251	9.07	66	
m,p-Xylene	96.6	10.0	ug/L	100	ND	96.6	0-200	9.40	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
o-Xylene	47.8	5.00	ug/L	50.0	ND	95.6	0-200	9.51	200	
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140	10.3	25	
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/L	*50.0*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.0*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*96.9*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92035 - 624.1 - EPA 624.1										
Blank (DG92035-BLK1)			Prepared & Analyzed: 07/26/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.0*		ug/L	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (DG92035-MS1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	54.2	20.0	ug/L	50.0	ND	108	40-160			
2-Chloroethyl vinyl ether	40.5	20.0	ug/L	50.0	ND	81.0	1-305			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.0*		*92.7*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike Dup (DG92035-MSD1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	53.6	20.0	ug/L	50.0	ND	107	40-160	0.983	60	
2-Chloroethyl vinyl ether	38.7	20.0	ug/L	50.0	ND	77.4	1-305	4.57	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2785

Definitions

MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

M Montgomery

Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 16:23

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Microbac Laboratories, Inc.

CHAIN OF

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Tel: (860)774-6

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Lab WO#

Project Manager

Copy of Report To

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ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A1L (250 mL)	7/25/19	1320		X	WW	1	X	X											X			
Well # A16 (250 mL)	↓	↓		X	WW	1			X	X								X				
Well # A16 (250 mL)(filtered)				X	WW	1					X							X				
Well # A1K (250 mL)				X	WW	1						X						X				
Well # A16 (250 mL)				X	WW	1							X					X				
Well # A16 (250 mL)				X	WW	1								X	X	X					X	
Well # A16 (40 mL vial)				X	WW	2											X	X				
Well # A1K (40 mL vial)				X	WW	2											X			X		
											PRESERVATIVE VERIFIED Initials											

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	7-25-19	
RECEIVED:		
RELINQUISHED:	7-25-19	1422
RECEIVED:	7-25-19	14:22
RELINQUISHED:	7-25-19	17:20
RECEIVED:	7-25-19	1720

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐

3.1°C DZ

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2787

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9G2787

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/25/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # A8	D9G2787-01	Groundwater	Grab		07/25/19 12:40	07/25/19 17:20
Well # A8 (filtered)	D9G2787-02	Groundwater	Grab		07/25/19 12:40	07/25/19 17:20

CERTIFICATE OF ANALYSIS

D9G2787

Analytical Testing Parameters

Client Sample ID:	Well # A8		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2787-01	**Collection Date:**	07/25/2019 12:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	<0.800	0.800	mg/L	1		07/27/19 1347	07/30/19 1121	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**3.90**	0.0425	mg/L	4		07/29/19 2042	07/30/19 1214	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**85.0**	1.00	mg/L	1			07/26/19 1700	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**421**	10.0	mg/L	5			07/29/19 1217	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**4.98**	0.0500	mg/L	1			07/26/19 0100	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/26/19 0100	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.158**	0.0050	mg/L	1	**Y1**	07/26/19 1330	08/05/19 2143	NJP
Copper	**0.0053**	0.0020	mg/L	1		07/26/19 1330	08/05/19 2143	NJP
Sodium	**300**	1.00	mg/L	1		07/26/19 1330	08/05/19 2143	NJP

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		07/29/19 2022	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			07/29/19 2022	JAN
Benzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Bromoform	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Bromomethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		07/29/19 2022	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		07/29/19 2022	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Chloroform	**6.35**	4.00	ug/L	1			07/29/19 2022	JAN
Chloromethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		07/29/19 2022	JAN

CERTIFICATE OF ANALYSIS

D9G2787

Client Sample ID:	Well # A8		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2787-01	**Collection Date:**	07/25/2019 12:40

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			07/29/19 2022	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 2022	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		07/29/19 2022	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Toluene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Trichloroethene	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			07/29/19 2022	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		07/29/19 2022	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		07/29/19 2022	JAN
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 70-130	% Rec	1			07/29/19 2022	JAN
Surrogate: 1,2-Dichloroethane-d4	96.3	Limit: 70-130	% Rec	1			07/29/19 2022	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			07/29/19 2022	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			07/26/19 1911	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			07/26/19 1911	JAN
Surrogate: 4-Bromofluorobenzene	98.8	Limit: 70-130	% Rec	1			07/26/19 1911	JAN
Surrogate: 1,2-Dichloroethane-d4	91.7	Limit: 70-130	% Rec	1			07/26/19 1911	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			07/26/19 1911	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G2787

Client Sample ID:	Well # A8 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9G2787-02	**Collection Date:**	07/25/2019 12:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**3.99**	0.0400	mg/L	4		07/25/19 1846	07/25/19 2003	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91752 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG91752-BLK1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DG91752-BS1)			Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DG91752-DUP1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	0.0480	0.0100	mg/L		0.0480			0.00	20	
Matrix Spike (DG91752-MS1)		**Source: D9G2777-02**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00	0.0480	95.3	90-110			
Matrix Spike (DG91752-MS2)		**Source: D9G2797-04**	Prepared & Analyzed: 07/25/2019							
Ortho-phosphate as P	1.27	0.0100	mg/L	1.00	0.228	104	90-110			
Batch DG91754 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG91754-BLK1)			Prepared & Analyzed: 07/26/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG91754-BS1)			Prepared & Analyzed: 07/26/2019							
Nitrate as N	4.95	0.0500	mg/L	5.00		98.9	90-110			
LCS (DG91754-BS2)			Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DG91754-DUP1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	0.205	0.0100	mg/L		0.211			3.07	20	
Nitrate as N	0.111	0.0500	mg/L		0.138			21.4	20	R3
Matrix Spike (DG91754-MS1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.13	0.0100	mg/L	1.00	0.211	92.2	75-125			
Nitrate as N	4.97	0.0500	mg/L	5.00	0.138	96.5	75-125			
Matrix Spike Dup (DG91754-MSD1)		**Source: D9G2797-01**	Prepared & Analyzed: 07/26/2019							
Nitrite as N	1.13	0.0100	mg/L	1.00	0.211	92.3	75-125	0.0882	20	
Nitrate as N	4.93	0.0500	mg/L	5.00	0.138	95.8	75-125	0.728	20	
Batch DG91870 - Wet Chem - W - SM2320 B-2011										
Blank (DG91870-BLK1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DG91870-BS1)			Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DG91870-DUP1)		**Source: D9G2783-01**	Prepared & Analyzed: 07/26/2019							
Alkalinity to pH 4.5	27.5	1.00	mg/L		27.5			0.00	20	
Batch DG91878 - Wet-Digestion-W - EPA 351.1										

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91878 - Wet-Digestion-W - EPA 351.1										
Blank (DG91878-BLK1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DG91878-BS1)			Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	4.96	0.200	mg/L	5.00		99.2	90-110			
Duplicate (DG91878-DUP1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	2.75	0.200	mg/L		2.80			1.95	20	
Matrix Spike (DG91878-MS1)		**Source: D9G2559-01**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.80	99.1	90-110			
Matrix Spike (DG91878-MS2)		**Source: D9G2777-05**	Prepared: 07/27/2019 Analyzed: 07/30/2019							
Total Kjeldahl Nitrogen (TKN)	12.7	0.200	mg/L	10.0	2.71	99.8	90-110			
Batch DG91890 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DG91890-BLK1)			Prepared & Analyzed: 07/29/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DG91890-BS1)			Prepared & Analyzed: 07/29/2019							
Chloride	20.8	2.00	mg/L	20.0		104	90-110			
Duplicate (DG91890-DUP1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	21.7	2.00	mg/L		22.3			2.53	20	
Matrix Spike (DG91890-MS1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	43.1	2.00	mg/L	20.0	22.3	104	75-125			
Matrix Spike Dup (DG91890-MSD1)		**Source: D9G2984-19**	Prepared & Analyzed: 07/29/2019							
Chloride	42.1	2.00	mg/L	20.0	22.3	99.2	75-125	2.24	20	
Batch DG92011 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DG92011-BLK1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DG92011-BS1)			Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.975	0.0106	mg/L	1.00		97.5	90-110			
Duplicate (DG92011-DUP1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	0.0393	0.0106	mg/L		0.0563			35.6	20	R3
Matrix Spike (DG92011-MS1)		**Source: D9G2697-02**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	1.21	0.0106	mg/L	1.25	0.0563	92.3	90-110			
Matrix Spike (DG92011-MS2)		**Source: D9G2923-03**	Prepared: 07/29/2019 Analyzed: 07/30/2019							
Phosphorus - Total as P	5.67	0.0425	mg/L	1.25	4.41	100	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG91828 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DG91828-BLK1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DG91828-BS1)			Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.529	0.0050	mg/L	0.500		106	85-115			
Copper	0.517	0.0020	mg/L	0.500		103	85-115			
Sodium	10.7	1.00	mg/L	10.5		101	85-115			
Duplicate (DG91828-DUP1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.0090	0.0050	mg/L		0.0091			1.07	20	
Copper	<0.0020	0.0020	mg/L		0.0027			78.0	20	R3
Sodium	8.35	1.00	mg/L		8.33			0.230	20	
Matrix Spike (DG91828-MS1)		**Source: D9G2727-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.537	0.0050	mg/L	0.500	0.0091	106	70-130			
Copper	0.516	0.0020	mg/L	0.500	0.0027	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.33	100	70-130			
Matrix Spike (DG91828-MS2)		**Source: D9G2782-01**	Prepared: 07/26/2019 Analyzed: 08/05/2019							
Boron	0.533	0.0050	mg/L	0.500	0.0068	105	70-130			
Copper	0.511	0.0020	mg/L	0.500	0.0036	102	70-130			
Sodium	19.0	1.00	mg/L	10.5	8.63	98.4	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)			Prepared & Analyzed: 07/29/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Blank (DG92040-BLK1)				Prepared & Analyzed: 07/29/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<5.00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*		ug/L	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Acetone	44.7	10.0	ug/L	50.0		89.3	65-133			
Acrylonitrile	53.7	20.0	ug/L	50.0		107	60-140			
Benzene	53.4	5.00	ug/L	50.0		107	65-135			
Bromodichloromethane	47.2	5.00	ug/L	50.0		94.4	65-135			
Bromoform	45.7	5.00	ug/L	50.0		91.3	70-130			
Bromomethane	52.4	5.00	ug/L	50.0		105	15-185			
2-Butanone (MEK)	50.7	10.0	ug/L	50.0		101	77-140			
Carbon disulfide	49.3	5.00	ug/L	50.0		98.6	70-130			
Carbon tetrachloride	48.0	5.00	ug/L	50.0		96.0	70-130			
Chlorobenzene	53.5	5.00	ug/L	50.0		107	65-135			
Chloroethane (Ethyl chloride)	42.0	5.00	ug/L	50.0		84.0	40-160			
Chloroform	49.9	4.00	ug/L	50.0		99.7	70-135			
Chloromethane	52.1	5.00	ug/L	50.0		104	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
LCS (DG92040-BS1)				Prepared & Analyzed: 07/29/2019						
Dibromochloromethane	48.6	5.00	ug/L	50.0		97.2	70-135			
Dibromomethane (Methylene bromide)	47.5	5.00	ug/L	50.0		95.1	76-126			
1,2-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	65-135			
1,3-Dichlorobenzene	50.5	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.8	5.00	ug/L	50.0		102	65-135			
Dichlorodifluoromethane (Freon-12)	48.0	5.00	ug/L	50.0		96.0	1-205			
1,2-Dichloroethane	45.7	5.00	ug/L	50.0		91.3	70-130			
1,1-Dichloroethane	51.1	5.00	ug/L	50.0		102	70-130			
cis-1,2-Dichloroethene	53.2	5.00	ug/L	50.0		106	82-137			
1,1-Dichloroethene	58.1	5.00	ug/L	50.0		116	50-150			
trans-1,2-Dichloroethene	51.7	4.00	ug/L	50.0		103	70-130			
1,2-Dichloropropane	50.7	5.00	ug/L	50.0		101	35-165			
cis-1,3-Dichloropropene	50.8	5.00	ug/L	50.0		102	25-175			
trans-1,3-Dichloropropene	45.9	5.00	ug/L	50.0		91.8	50-150			
Ethylbenzene	51.1	5.00	ug/L	50.0		102	60-140			
2-Hexanone (MBK)	49.9	10.0	ug/L	50.0		99.7	74-134			
Methyl tert-butyl ether (MTBE)	60.3	5.00	ug/L	50.0		121	81-140			
Methylene chloride (Dichloromethane)	56.6	5.00	ug/L	50.0		113	60-140			
4-Methyl-2-pentanone (MIBK)	47.9	10.0	ug/L	50.0		95.8	73-142			
Styrene	50.0	5.00	ug/L	50.0		99.9	82-125			
1,1,2,2-Tetrachloroethane	49.3	5.00	ug/L	50.0		98.5	60-140			
Tetrachloroethene	52.2	5.00	ug/L	50.0		104	70-130			
Toluene	53.8	5.00	ug/L	50.0		108	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	49.3	5.00	ug/L	50.0		98.7	70-130			
Trichloroethene	53.7	5.00	ug/L	50.0		107	65-135			
Trichlorofluoromethane (Freon 11)	50.5	5.00	ug/L	50.0		101	50-150			
Vinyl chloride	53.2	5.00	ug/L	50.0		106	5-195			
m,p-Xylene	103	10.0	ug/L	100		103	80-122			
o-Xylene	51.4	5.00	ug/L	50.0		103	81-125			
Vinyl acetate	53.1	5.00	ug/L	50.0		106	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.2*		ug/L	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8	*50.3*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**			Prepared & Analyzed: 07/29/2019						
Acetone	37.6	10.0	ug/L	50.0	ND	75.2	0-200			
Acrylonitrile	45.4	20.0	ug/L	50.0	ND	90.7	40-160			
Benzene	45.1	5.00	ug/L	50.0	ND	90.2	37-151			
Bromodichloromethane	40.0	5.00	ug/L	50.0	ND	79.9	35-155			
Bromoform	38.5	5.00	ug/L	50.0	ND	77.0	45-169			
Bromomethane	44.8	5.00	ug/L	50.0	ND	89.5	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike (DG92040-MS1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
2-Butanone (MEK)	42.1	10.0	ug/L	50.0	ND	84.2	0-200			
Carbon disulfide	41.5	5.00	ug/L	50.0	ND	82.9	0-200			
Carbon tetrachloride	42.2	5.00	ug/L	50.0	ND	84.3	70-140			
Chlorobenzene	44.5	5.00	ug/L	50.0	ND	89.1	37-160			
Chloroethane (Ethyl chloride)	37.7	5.00	ug/L	50.0	ND	75.4	14-230			
Chloroform	44.7	4.00	ug/L	50.0	1.40	86.6	51-138			
Chloromethane	44.0	5.00	ug/L	50.0	ND	88.0	1-273			
Dibromochloromethane	41.4	5.00	ug/L	50.0	ND	82.7	53-149			
Dibromomethane (Methylene bromide)	40.4	5.00	ug/L	50.0	ND	80.8	0-200			
1,2-Dichlorobenzene	43.0	5.00	ug/L	50.0	ND	86.1	18-190			
1,3-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.1	59-156			
1,4-Dichlorobenzene	44.0	5.00	ug/L	50.0	ND	88.0	18-190			
Dichlorodifluoromethane (Freon-12)	40.9	5.00	ug/L	50.0	ND	81.8	0-200			
1,2-Dichloroethane	40.2	5.00	ug/L	50.0	ND	80.5	49-155			
1,1-Dichloroethane	45.5	5.00	ug/L	50.0	ND	90.9	59-155			
cis-1,2-Dichloroethene	46.4	5.00	ug/L	50.0	ND	92.7	0-200			
1,1-Dichloroethene	51.7	5.00	ug/L	50.0	ND	103	1-234			
trans-1,2-Dichloroethene	45.0	4.00	ug/L	50.0	ND	89.9	54-156			
1,2-Dichloropropane	44.1	5.00	ug/L	50.0	ND	88.2	1-210			
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.0	ND	83.8	1-227			
trans-1,3-Dichloropropene	37.7	5.00	ug/L	50.0	ND	75.3	17-183			
Ethylbenzene	43.8	5.00	ug/L	50.0	ND	87.6	37-162			
2-Hexanone (MBK)	41.2	10.0	ug/L	50.0	ND	82.4	0-200			
Methyl tert-butyl ether (MTBE)	53.0	5.00	ug/L	50.0	ND	106	0-200			
Methylene chloride (Dichloromethane)	48.8	5.00	ug/L	50.0	ND	97.5	1-221			
4-Methyl-2-pentanone (MIBK)	40.9	10.0	ug/L	50.0	ND	81.8	0-200			
Styrene	42.6	5.00	ug/L	50.0	ND	85.1	0-200			
1,1,2,2-Tetrachloroethane	43.4	5.00	ug/L	50.0	ND	86.7	46-157			
Tetrachloroethene	44.2	5.00	ug/L	50.0	ND	88.4	64-148			
Toluene	46.0	5.00	ug/L	50.0	ND	92.1	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	42.4	5.00	ug/L	50.0	ND	84.7	52-162			
Trichloroethene	45.5	5.00	ug/L	50.0	ND	90.9	70-157			
Trichlorofluoromethane (Freon 11)	43.3	5.00	ug/L	50.0	ND	86.7	17-181			
Vinyl chloride	45.8	5.00	ug/L	50.0	ND	91.6	1-251			
m,p-Xylene	87.9	10.0	ug/L	100	ND	87.9	0-200			
o-Xylene	43.5	5.00	ug/L	50.0	ND	86.9	0-200			
Vinyl acetate	46.0	5.00	ug/L	50.0	ND	92.0	60-140			
Surrogate: 4-Bromofluorobenzene	*48.3*		ug/L	*50.0*		*96.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)		**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019						
Acetone	41.2	10.0	ug/L	50.0	ND	82.4	0-200	9.11	200	
Acrylonitrile	50.8	20.0	ug/L	50.0	ND	102	40-160	11.3	60	
Benzene	51.0	5.00	ug/L	50.0	ND	102	37-151	12.3	61	
Bromodichloromethane	45.3	5.00	ug/L	50.0	ND	90.6	35-155	12.5	56	
Bromoform	43.2	5.00	ug/L	50.0	ND	86.3	45-169	11.4	42	
Bromomethane	49.6	5.00	ug/L	50.0	ND	99.2	1-242	10.2	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.7	0-200	12.8	200	
Carbon disulfide	45.5	5.00	ug/L	50.0	ND	91.1	0-200	9.36	200	
Carbon tetrachloride	46.2	5.00	ug/L	50.0	ND	92.4	70-140	9.15	41	
Chlorobenzene	49.3	5.00	ug/L	50.0	ND	98.7	37-160	10.2	53	
Chloroethane (Ethyl chloride)	40.9	5.00	ug/L	50.0	ND	81.8	14-230	8.11	78	
Chloroform	50.5	4.00	ug/L	50.0	1.40	98.2	51-138	12.1	54	
Chloromethane	48.7	5.00	ug/L	50.0	ND	97.4	1-273	10.2	60	
Dibromochloromethane	45.5	5.00	ug/L	50.0	ND	91.0	53-149	9.58	50	
Dibromomethane (Methylene bromide)	45.0	5.00	ug/L	50.0	ND	90.1	0-200	10.8	200	
1,2-Dichlorobenzene	47.3	5.00	ug/L	50.0	ND	94.6	18-190	9.48	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	10.6	43	
1,4-Dichlorobenzene	48.1	5.00	ug/L	50.0	ND	96.1	18-190	8.89	57	
Dichlorodifluoromethane (Freon-12)	44.8	5.00	ug/L	50.0	ND	89.5	0-200	9.06	200	
1,2-Dichloroethane	45.1	5.00	ug/L	50.0	ND	90.1	49-155	11.3	49	
1,1-Dichloroethane	49.7	5.00	ug/L	50.0	ND	99.3	59-155	8.83	40	
cis-1,2-Dichloroethene	51.4	5.00	ug/L	50.0	ND	103	0-200	10.3	200	
1,1-Dichloroethene	54.9	5.00	ug/L	50.0	ND	110	1-234	6.04	32	
trans-1,2-Dichloroethene	48.8	4.00	ug/L	50.0	ND	97.7	54-156	8.25	45	
1,2-Dichloropropane	49.8	5.00	ug/L	50.0	ND	99.6	1-210	12.2	55	
cis-1,3-Dichloropropene	45.8	5.00	ug/L	50.0	ND	91.5	1-227	8.85	58	
trans-1,3-Dichloropropene	41.6	5.00	ug/L	50.0	ND	83.1	17-183	9.87	86	
Ethylbenzene	47.5	5.00	ug/L	50.0	ND	95.0	37-162	8.13	63	
2-Hexanone (MBK)	47.1	10.0	ug/L	50.0	ND	94.3	0-200	13.5	200	
Methyl tert-butyl ether (MTBE)	60.0	5.00	ug/L	50.0	ND	120	0-200	12.4	200	
Methylene chloride (Dichloromethane)	54.2	5.00	ug/L	50.0	ND	108	1-221	10.5	28	
4-Methyl-2-pentanone (MIBK)	45.8	10.0	ug/L	50.0	ND	91.7	0-200	11.4	200	
Styrene	47.6	5.00	ug/L	50.0	ND	95.1	0-200	11.1	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	99.0	46-157	13.3	61	
Tetrachloroethene	46.9	5.00	ug/L	50.0	ND	93.8	64-148	5.93	39	
Toluene	49.8	5.00	ug/L	50.0	ND	99.6	47-150	7.85	41	
1,1,2-Trichloroethane	48.7	5.00	ug/L	50.0	ND	97.4	52-150	6.66	45	
1,1,1-Trichloroethane	47.7	5.00	ug/L	50.0	ND	95.3	52-162	11.8	36	
Trichloroethene	50.2	5.00	ug/L	50.0	ND	100	70-157	9.99	48	
Trichlorofluoromethane (Freon 11)	47.1	5.00	ug/L	50.0	ND	94.1	17-181	8.27	84	
Vinyl chloride	50.1	5.00	ug/L	50.0	ND	100	1-251	9.07	66	
m,p-Xylene	96.6	10.0	ug/L	100	ND	96.6	0-200	9.40	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92040 - 624.1 - EPA 624.1										
Matrix Spike Dup (DG92040-MSD1)	**Source: D9G2782-01**		Prepared & Analyzed: 07/29/2019							
o-Xylene	47.8	5.00	ug/L	50.0	ND	95.6	0-200	9.51	200	
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140	10.3	25	
Surrogate: 4-Bromofluorobenzene	*49.3*		ug/L	*50.0*		*98.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.0*		*91.8*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*96.9*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92035 - 624.1 - EPA 624.1										
Blank (DG92035-BLK1)			Prepared & Analyzed: 07/26/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*47.8*		ug/L	*50.0*		*95.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.0*		ug/L	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Matrix Spike (DG92035-MS1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	54.2	20.0	ug/L	50.0	ND	108	40-160			
2-Chloroethyl vinyl ether	40.5	20.0	ug/L	50.0	ND	81.0	1-305			
Surrogate: 4-Bromofluorobenzene	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.0*		*92.7*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike Dup (DG92035-MSD1)	**Source: D9G2787-01**		Prepared & Analyzed: 07/26/2019							
Acrolein	53.6	20.0	ug/L	50.0	ND	107	40-160	0.983	60	
2-Chloroethyl vinyl ether	38.7	20.0	ug/L	50.0	ND	77.4	1-305	4.57	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.0*		*94.6*	*70-130*			
Surrogate: Toluene-d8	*50.1*		ug/L	*50.0*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

D9G2787

Definitions

D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
MCL:	US EPA Maximum Contaminant Level
R3:	Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.1°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

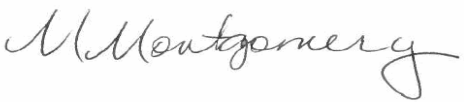
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 12:14

MICROBAC

CHAIN OF

61 Louisa Viens
Tel: (860)774-6

D 9 G 2 7 8 7

Veolia - Plymouth

Microbac Laboratories, Inc.

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

FOR LAB USE ONLY
Lab WO#
Project Manager

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # AS (250 mL)	7/25/19	12:40		X	WW	1	X	X											X			
Well # AS (250 mL)	↓	↓		X	WW	1			X	X								X				
Well # AS (250 mL)(filtered)				X	WW	1					X							X				
Well # AS (250 mL)				X	WW	1						X						X				
Well # AS (250 mL)				X	WW	1							X					X				
Well # AS (250 mL)				X	WW	1								X	X	X					X	
Well # AS (40 mL vial)				X	WW	2			PRESERVATIVE VERIFIED Initials								X	X				
Well # AS (40 mL vial)	↓	↓		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	7-25-19	
RECEIVED:		
RELINQUISHED:	7-25-19	14:22
RECEIVED:	7-25-19	14:22
RELINQUISHED:	7-25-19	17:20
RECEIVED:	7-25-19	17:20

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐

3.1°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G3345

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



QA Officer

Melisa L. Montgomery

Thursday, August 8, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G3345

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 07/31/2019
Reported: 08/08/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 1	D9G3345-01	Groundwater	Grab		07/31/19 08:05	07/31/19 17:45
Well # 1 (Filtered)	D9G3345-02	Groundwater	Grab		07/31/19 08:05	07/31/19 17:45
Well # 2	D9G3345-03	Groundwater	Grab		07/31/19 07:55	07/31/19 17:45
Well # 2 (Filtered)	D9G3345-04	Groundwater	Grab		07/31/19 07:55	07/31/19 17:45
Well # 3	D9G3345-05	Groundwater	Grab		07/31/19 07:45	07/31/19 17:45
Well # 3 (Filtered)	D9G3345-06	Groundwater	Grab		07/31/19 07:45	07/31/19 17:45

CERTIFICATE OF ANALYSIS

D9G3345

Analytical Testing Parameters

Client Sample ID: Well # 1
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-01
Collected By: Customer
Collection Date: 07/31/2019 8:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1				**Method Notes:** A9				
Total Kjeldahl Nitrogen (TKN)	**0.525**	0.200	mg/L	1		08/06/19 1516	08/07/19 1706	DCH
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		08/05/19 2015	08/06/19 0931	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	<0.0500	0.0500	mg/L	1			07/31/19 1906	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/31/19 1906	DJM

Client Sample ID: Well # 1 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-02
Collected By: Customer
Collection Date: 07/31/2019 8:05

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		07/31/19 1717	07/31/19 1858	BDC

Client Sample ID: Well # 2
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-03
Collected By: Customer
Collection Date: 07/31/2019 7:55

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1				**Method Notes:** A9				
Total Kjeldahl Nitrogen (TKN)	**0.240**	0.200	mg/L	1		08/06/19 1516	08/07/19 1707	DCH
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		08/05/19 2015	08/06/19 0933	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	<0.0500	0.0500	mg/L	1			07/31/19 1907	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			07/31/19 1907	DJM

CERTIFICATE OF ANALYSIS

D9G3345

Client Sample ID: Well # 2 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-04
Collected By: Customer
Collection Date: 07/31/2019 7:55

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0490**	0.0100	mg/L	1		07/31/19 1717	07/31/19 1858	BDC

Client Sample ID: Well # 3
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-05
Collected By: Customer
Collection Date: 07/31/2019 7:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** A9					
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		08/06/19 1516	08/07/19 1708	DCH
EPA 365.1, Rv 2.0			**Method Notes:** D1					
Phosphorus - Total as P	<0.0425	0.0425	mg/L	1		08/05/19 2015	08/06/19 0933	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.0747**	0.0500	mg/L	1	**A5**		07/31/19 1908	DJM
Nitrite as N	**0.0565**	0.0100	mg/L	1	**A5**		07/31/19 1908	DJM

Client Sample ID: Well # 3 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9G3345-06
Collected By: Customer
Collection Date: 07/31/2019 7:45

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0120**	0.0100	mg/L	1		07/31/19 1717	07/31/19 1859	BDC

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DG92169 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DG92169-BLK1)			Prepared & Analyzed: 07/31/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
Duplicate (DG92169-DUP1)		**Source: D9G3266-01**	Prepared & Analyzed: 07/31/2019							
Ortho-phosphate as P	0.412	0.0100	mg/L		0.437			5.89	20	
Matrix Spike (DG92169-MS1)		**Source: D9G3266-01**	Prepared & Analyzed: 07/31/2019							
Ortho-phosphate as P	1.37	0.0100	mg/L	1.00	0.437	92.8	90-110			
Matrix Spike (DG92169-MS2)		**Source: D9G3319-03**	Prepared & Analyzed: 07/31/2019							
Ortho-phosphate as P	2.03	0.0200	mg/L	1.00	1.04	98.1	90-110			A21
Batch DG92170 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DG92170-BLK1)			Prepared & Analyzed: 07/31/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DG92170-BS1)			Prepared & Analyzed: 07/31/2019							
Nitrate as N	5.00	0.0500	mg/L	5.00		100	90-110			
LCS (DG92170-BS2)			Prepared & Analyzed: 07/31/2019							
Nitrite as N	1.00	0.0100	mg/L	1.00		99.9	90-110			
Duplicate (DG92170-DUP1)		**Source: D9G3270-01**	Prepared & Analyzed: 07/31/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.0102				20	A5
Nitrate as N	<0.0500	0.0500	mg/L		0.0536				20	A5
Matrix Spike (DG92170-MS1)		**Source: D9G3270-01**	Prepared & Analyzed: 07/31/2019							
Nitrite as N	0.964	0.0100	mg/L	1.00	0.0102	95.3	75-125			A5
Nitrate as N	5.06	0.0500	mg/L	5.00	0.0536	100	75-125			A5
Matrix Spike Dup (DG92170-MSD1)		**Source: D9G3270-01**	Prepared & Analyzed: 07/31/2019							
Nitrite as N	0.972	0.0100	mg/L	1.00	0.0102	96.2	75-125	0.868	20	A5
Nitrate as N	5.01	0.0500	mg/L	5.00	0.0536	99.0	75-125	1.14	20	A5
Batch DH90241 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DH90241-BLK1)			Prepared: 08/05/2019 Analyzed: 08/06/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DH90241-BS1)			Prepared: 08/05/2019 Analyzed: 08/06/2019							
Phosphorus - Total as P	1.00	0.0106	mg/L	1.00		100	90-110			
Duplicate (DH90241-DUP1)		**Source: L9G0763-01**	Prepared: 08/05/2019 Analyzed: 08/06/2019							
Phosphorus - Total as P	0.0861	0.0106	mg/L		0.0861			0.00	20	
Matrix Spike (DH90241-MS1)		**Source: L9G0763-01**	Prepared: 08/05/2019 Analyzed: 08/06/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0861	94.8	90-110			
Matrix Spike (DH90241-MS2)		**Source: D9H0168-01**	Prepared: 08/05/2019 Analyzed: 08/06/2019							
Phosphorus - Total as P	1.45	0.0106	mg/L	1.25	0.239	96.5	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DH90306 - Wet-Digestion-W - EPA 351.1										
Blank (DH90306-BLK1)			Prepared: 08/06/2019 Analyzed: 08/07/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DH90306-BS1)			Prepared: 08/06/2019 Analyzed: 08/07/2019							
Total Kjeldahl Nitrogen (TKN)	4.98	0.200	mg/L	5.00		99.5	90-110			
Duplicate (DH90306-DUP1)		**Source: D9G3252-02**	Prepared: 08/06/2019 Analyzed: 08/07/2019							
Total Kjeldahl Nitrogen (TKN)	32.4	1.00	mg/L		33.0			1.77	20	
Matrix Spike (DH90306-MS1)		**Source: D9G3252-02**	Prepared: 08/06/2019 Analyzed: 08/07/2019							
Total Kjeldahl Nitrogen (TKN)	42.5	1.00	mg/L	10.0	33.0	94.7	90-110			
Matrix Spike (DH90306-MS2)		**Source: D9G3270-02**	Prepared: 08/06/2019 Analyzed: 08/07/2019							
Total Kjeldahl Nitrogen (TKN)	33.8	1.00	mg/L	10.0	23.4	103	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9G3345

Definitions

A21:	Sample was filtered in the laboratory before analysis.
A5:	Sample was filtered (0.45 um) before analysis.
A9:	Sample was improperly preserved.
D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.8°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

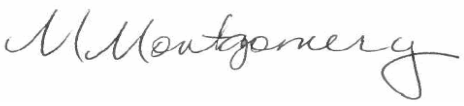
M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Melisa L. Montgomery
QA Officer
Reported: 08/08/2019 13:20

MICROBAC

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D 9 G 3 3 4 5

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project information

PROJECT: PLYM SOUTH HIGH SCHOOL
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	Analysis: TOTAL PHOS.	Analysis: NITRITE	Analysis: NITRATE	Analysis: ORTHO-PHOSPHATE	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1 (250 mL)	7/31/19	8:05		X	WW	1	X	X					X			
Well # 1 (250 mL)	7/31/19	8:05		X	WW	1			X	X		X				
Well # 1 (250 mL)(filtered)	7/31/19	8:05		X	WW	1					X	X				
Well # 2 (250 mL)	7/31/19	7:55		X	WW	1	X	X					X			
Well # 2 (250 mL)	7/31/19	7:55		X	WW	1			X	X		X				
Well # 2 (250 mL)(filtered)	7/31/19	7:55		X	WW	1					X	X				
Well # 3 (250 mL)	7/31/19	7:45		X	WW	1	X	X					X			
Well # 3 (250 mL)	7/31/19	7:45		X	WW	1			X	X		X				
Well# 3 (250 mL)(filtered)	7/31/19	7:45		X	WW	1					X	X				

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER: DAVID DEYOE	7/31/19	
RECEIVED:		
RELINQUISHED:	7/31/19	13:16
RECEIVED:	7.31.19	1315
RELINQUISHED:	7.31.19	1745
RECEIVED:	7-31-19	1745

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.8°C KHW

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J0814

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, October 15, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9J0814

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/08/2019
Reported: 10/15/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 475	D9J0814-01	Groundwater	Grab		10/08/19 10:10	10/08/19 16:45
Well # 475 (filtered)	D9J0814-02	Groundwater	Grab		10/08/19 10:10	10/08/19 16:45

CERTIFICATE OF ANALYSIS

D9J0814

Analytical Testing Parameters

Client Sample ID:	Well # 475		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0814-01	**Collection Date:**	10/08/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		10/10/19 1009	10/10/19 1646	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0266**	0.0106	mg/L	1		10/08/19 2041	10/10/19 1013	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**3.00**	1.00	mg/L	1	**A27**		10/11/19 1706	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**78.7**	2.00	mg/L	1			10/10/19 1146	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**1.81**	0.0500	mg/L	1			10/08/19 2103	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			10/08/19 2103	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0168**	0.0050	mg/L	1	**Y1**	10/10/19 1353	10/11/19 1050	JDF
Copper	<0.0020	0.0020	mg/L	1		10/10/19 1353	10/11/19 1050	JDF
Sodium	**35.5**	1.00	mg/L	1		10/10/19 1353	10/11/19 1050	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/11/19 2241	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/11/19 2241	JAN
Benzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Bromoform	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/11/19 2241	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/11/19 2241	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Chloroform	<4.00	4.00	ug/L	1			10/11/19 2241	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/11/19 2241	JAN

CERTIFICATE OF ANALYSIS

D9J0814

Client Sample ID:	Well # 475		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0814-01	**Collection Date:**	10/08/2019 10:10

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/11/19 2241	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/11/19 2241	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/11/19 2241	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/11/19 2241	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Toluene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/11/19 2241	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/11/19 2241	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/11/19 2241	JAN
Surrogate: 4-Bromofluorobenzene	99.6	Limit: 70-130	% Rec	1			10/11/19 2241	JAN
Surrogate: 1,2-Dichloroethane-d4	90.7	Limit: 70-130	% Rec	1			10/11/19 2241	JAN
Surrogate: Toluene-d8	98.5	Limit: 70-130	% Rec	1			10/11/19 2241	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/10/19 1345	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/10/19 1345	JAN
Surrogate: 4-Bromofluorobenzene	100	Limit: 70-130	% Rec	1			10/10/19 1345	JAN
Surrogate: 1,2-Dichloroethane-d4	88.0	Limit: 70-130	% Rec	1			10/10/19 1345	JAN
Surrogate: Toluene-d8	98.3	Limit: 70-130	% Rec	1			10/10/19 1345	JAN

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J0814

Client Sample ID:	Well # 475 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0814-02	**Collection Date:**	10/08/2019 10:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0190**	0.0100	mg/L	1		10/08/19 1857	10/08/19 2028	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90531 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ90531-BLK1)			Prepared & Analyzed: 10/08/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ90531-BS1)			Prepared & Analyzed: 10/08/2019							
Nitrate as N	5.03	0.0500	mg/L	5.00		101	90-110			
LCS (DJ90531-BS2)			Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ90531-DUP1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	<0.0100	0.0100	mg/L		ND				20	
Nitrate as N	<0.0500	0.0500	mg/L		ND				20	
Matrix Spike (DJ90531-MS1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	ND	105	75-125			
Nitrate as N	5.08	0.0500	mg/L	5.00	ND	101	75-125			
Matrix Spike Dup (DJ90531-MSD1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.04	0.0100	mg/L	1.00	ND	104	75-125	0.794	20	
Nitrate as N	5.00	0.0500	mg/L	5.00	ND	100	75-125	1.48	20	
Batch DJ90540 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ90540-BLK1)			Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ90540-BS1)			Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	0.997	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DJ90540-DUP1)		**Source: D9J0644-01**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	0.0270	0.0100	mg/L		0.0230			16.0	20	
Matrix Spike (DJ90540-MS1)		**Source: D9J0644-01**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0230	98.2	90-110			
Matrix Spike (DJ90540-MS2)		**Source: D9J0644-02**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	1.53	0.0100	mg/L	1.00	0.491	104	90-110			
Batch DJ90551 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ90551-BLK1)			Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ90551-BS1)			Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	0.992	0.0106	mg/L	1.00		99.2	90-110			
Duplicate (DJ90551-DUP1)		**Source: D9J0850-01**	Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	0.499	0.0106	mg/L		0.477			4.57	20	
Matrix Spike (DJ90551-MS1)		**Source: D9J0850-01**	Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	1.70	0.0106	mg/L	1.25	0.477	97.5	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90551 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Matrix Spike (DJ90551-MS2)		**Source: D9J0850-02**		Prepared: 10/08/2019 Analyzed: 10/10/2019						
Phosphorus - Total as P	1.24	0.0106	mg/L	1.25	0.0553	94.6	90-110			
Batch DJ90703 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ90703-BLK1)				Prepared & Analyzed: 10/10/2019						
Chloride	<2.00	2.00	mg/L							
LCS (DJ90703-BS1)				Prepared & Analyzed: 10/10/2019						
Chloride	20.5	2.00	mg/L	20.0		103	90-110			
Duplicate (DJ90703-DUP1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	37.2	2.00	mg/L		36.7			1.26	20	
Matrix Spike (DJ90703-MS1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	56.4	2.00	mg/L	20.0	36.7	98.3	75-125			
Matrix Spike Dup (DJ90703-MSD1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	55.9	2.00	mg/L	20.0	36.7	96.0	75-125	0.796	20	
Batch DJ90705 - Wet-Digestion-W - EPA 351.1										
Blank (DJ90705-BLK1)				Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ90705-BS1)				Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	4.72	0.200	mg/L	5.00		94.4	90-110			
Duplicate (DJ90705-DUP1)		**Source: D9J0777-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	1.72	0.200	mg/L		1.82			5.98	20	
Matrix Spike (DJ90705-MS1)		**Source: D9J0777-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	11.9	0.200	mg/L	10.0	1.82	101	90-110			
Matrix Spike (DJ90705-MS2)		**Source: D9J0779-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	11.1	0.200	mg/L	10.0	1.20	99.5	90-110			
Batch DJ90855 - Wet Chem - W - SM2320 B-2011										
Blank (DJ90855-BLK1)				Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ90855-BS1)				Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ90855-DUP1)		**Source: D9J0832-05**		Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	65.0	1.00	mg/L		65.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90746 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ90746-BLK1)				Prepared: 10/10/2019 Analyzed: 10/11/2019						
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90746 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ90746-BLK1)			Prepared: 10/10/2019 Analyzed: 10/11/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DJ90746-BS1)			Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.495	0.0050	mg/L	0.500		99.1	85-115			
Copper	0.471	0.0020	mg/L	0.500		94.3	85-115			
Sodium	10.2	1.00	mg/L	10.5		96.7	85-115			
Duplicate (DJ90746-DUP1)		**Source: D9J0814-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.0189	0.0050	mg/L		0.0168			11.4	20	
Copper	<0.0020	0.0020	mg/L		ND				20	
Sodium	35.2	1.00	mg/L		35.5			0.821	20	
Matrix Spike (DJ90746-MS1)		**Source: D9J0814-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.554	0.0050	mg/L	0.500	0.0168	107	70-130			
Copper	0.511	0.0020	mg/L	0.500	ND	102	70-130			
Sodium	46.2	1.00	mg/L	10.5	35.5	102	70-130			
Matrix Spike (DJ90746-MS2)		**Source: D9J0820-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0037	107	70-130			
Copper	0.515	0.0020	mg/L	0.500	ND	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.39	99.6	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Blank (DJ90987-BLK1)			Prepared & Analyzed: 10/11/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Blank (DJ90987-BLK1)				Prepared & Analyzed: 10/11/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.8*		ug/L	*50.0*		*87.7*	*70-130*			
Surrogate: Toluene-d8	*49.0*		ug/L	*50.0*		*98.0*	*70-130*			
LCS (DJ90987-BS1)				Prepared & Analyzed: 10/11/2019						
Acetone	35.4	10.0	ug/L	50.0		70.7	65-133			
Acrylonitrile	46.3	20.0	ug/L	50.0		92.6	60-140			
Benzene	46.4	5.00	ug/L	50.0		92.7	65-135			
Bromodichloromethane	41.1	5.00	ug/L	50.0		82.2	65-135			
Bromoform	40.9	5.00	ug/L	50.0		81.8	70-130			
Bromomethane	43.7	5.00	ug/L	50.0		87.3	15-185			
2-Butanone (MEK)	43.2	10.0	ug/L	50.0		86.3	77-140			
Carbon disulfide	40.7	5.00	ug/L	50.0		81.3	70-130			
Carbon tetrachloride	42.1	5.00	ug/L	50.0		84.2	70-130			
Chlorobenzene	46.8	5.00	ug/L	50.0		93.7	65-135			
Chloroethane (Ethyl chloride)	43.2	5.00	ug/L	50.0		86.4	40-160			
Chloroform	43.6	4.00	ug/L	50.0		87.1	70-135			
Chloromethane	44.3	5.00	ug/L	50.0		88.6	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
LCS (DJ90987-BS1)			Prepared & Analyzed: 10/11/2019							
Dibromochloromethane	44.3	5.00	ug/L	50.0		88.6	70-135			
Dibromomethane (Methylene bromide)	41.9	5.00	ug/L	50.0		83.8	76-126			
1,2-Dichlorobenzene	45.7	5.00	ug/L	50.0		91.3	65-135			
1,3-Dichlorobenzene	46.6	5.00	ug/L	50.0		93.2	70-130			
1,4-Dichlorobenzene	46.0	5.00	ug/L	50.0		91.9	65-135			
Dichlorodifluoromethane (Freon-12)	38.6	5.00	ug/L	50.0		77.2	1-205			
1,2-Dichloroethane	39.0	5.00	ug/L	50.0		78.1	70-130			
1,1-Dichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
cis-1,2-Dichloroethene	48.4	5.00	ug/L	50.0		96.7	82-137			
1,1-Dichloroethene	53.0	5.00	ug/L	50.0		106	50-150			
trans-1,2-Dichloroethene	45.7	4.00	ug/L	50.0		91.3	70-130			
1,2-Dichloropropane	45.0	5.00	ug/L	50.0		90.0	35-165			
cis-1,3-Dichloropropene	44.0	5.00	ug/L	50.0		87.9	25-175			
trans-1,3-Dichloropropene	39.6	5.00	ug/L	50.0		79.3	50-150			
Ethylbenzene	44.5	5.00	ug/L	50.0		88.9	60-140			
2-Hexanone (MBK)	49.6	10.0	ug/L	50.0		99.1	74-134			
Methyl tert-butyl ether (MTBE)	55.7	5.00	ug/L	50.0		111	81-140			
Methylene chloride (Dichloromethane)	49.9	1.00	ug/L	50.0		99.8	60-140			
4-Methyl-2-pentanone (MIBK)	47.3	10.0	ug/L	50.0		94.5	73-142			
Styrene	44.5	5.00	ug/L	50.0		89.0	82-125			
1,1,2,2-Tetrachloroethane	46.1	5.00	ug/L	50.0		92.1	60-140			
Tetrachloroethene	46.7	5.00	ug/L	50.0		93.3	70-130			
Toluene	46.7	5.00	ug/L	50.0		93.3	70-130			
1,1,2-Trichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
1,1,1-Trichloroethane	42.6	5.00	ug/L	50.0		85.1	70-130			
Trichloroethene	48.2	5.00	ug/L	50.0		96.4	65-135			
Trichlorofluoromethane (Freon 11)	49.7	5.00	ug/L	50.0		99.3	50-150			
Vinyl chloride	48.9	5.00	ug/L	50.0		97.8	5-195			
m,p-Xylene	88.8	10.0	ug/L	100		88.8	80-122			
o-Xylene	44.7	5.00	ug/L	50.0		89.4	81-125			
Vinyl acetate	56.2	5.00	ug/L	50.0		112	60-140			
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.5*		ug/L	*50.0*		*84.9*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DJ90987-MS1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
Acetone	44.6	10.0	ug/L	50.0	4.21	80.7	0-200			
Acrylonitrile	50.5	20.0	ug/L	50.0	ND	101	40-160			
Benzene	50.7	5.00	ug/L	50.0	ND	101	37-151			
Bromodichloromethane	43.3	5.00	ug/L	50.0	ND	86.5	35-155			
Bromoform	40.8	5.00	ug/L	50.0	ND	81.7	45-169			
Bromomethane	44.4	5.00	ug/L	50.0	ND	88.8	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike (DJ90987-MS1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
2-Butanone (MEK)	58.6	10.0	ug/L	50.0	10.5	96.2	0-200			
Carbon disulfide	38.0	5.00	ug/L	50.0	ND	76.0	0-200			
Carbon tetrachloride	43.1	5.00	ug/L	50.0	ND	86.1	70-140			
Chlorobenzene	48.2	5.00	ug/L	50.0	ND	96.3	37-160			
Chloroethane (Ethyl chloride)	40.5	5.00	ug/L	50.0	ND	81.1	14-230			
Chloroform	47.1	4.00	ug/L	50.0	ND	94.2	51-138			
Chloromethane	45.6	5.00	ug/L	50.0	ND	91.1	1-273			
Dibromochloromethane	44.7	5.00	ug/L	50.0	ND	89.3	53-149			
Dibromomethane (Methylene bromide)	44.9	5.00	ug/L	50.0	ND	89.7	0-200			
1,2-Dichlorobenzene	46.8	5.00	ug/L	50.0	ND	93.6	18-190			
1,3-Dichlorobenzene	46.5	5.00	ug/L	50.0	ND	93.0	59-156			
1,4-Dichlorobenzene	46.5	5.00	ug/L	50.0	ND	93.1	18-190			
Dichlorodifluoromethane (Freon-12)	30.7	5.00	ug/L	50.0	ND	61.4	0-200			
1,2-Dichloroethane	42.4	5.00	ug/L	50.0	ND	84.8	49-155			
1,1-Dichloroethane	48.0	5.00	ug/L	50.0	ND	96.0	59-155			
cis-1,2-Dichloroethene	51.3	5.00	ug/L	50.0	ND	103	0-200			
1,1-Dichloroethene	53.9	5.00	ug/L	50.0	ND	108	1-234			
trans-1,2-Dichloroethene	48.7	4.00	ug/L	50.0	ND	97.4	54-156			
1,2-Dichloropropane	48.0	5.00	ug/L	50.0	ND	96.1	1-210			
cis-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.7	1-227			
trans-1,3-Dichloropropene	38.2	5.00	ug/L	50.0	ND	76.4	17-183			
Ethylbenzene	45.3	5.00	ug/L	50.0	ND	90.6	37-162			
2-Hexanone (MBK)	50.4	10.0	ug/L	50.0	ND	101	0-200			
Methyl tert-butyl ether (MTBE)	58.1	5.00	ug/L	50.0	ND	116	0-200			
Methylene chloride (Dichloromethane)	53.6	1.00	ug/L	50.0	ND	107	1-221			
4-Methyl-2-pentanone (MIBK)	46.5	10.0	ug/L	50.0	ND	93.1	0-200			
Styrene	44.2	5.00	ug/L	50.0	ND	88.5	0-200			
1,1,2,2-Tetrachloroethane	47.2	5.00	ug/L	50.0	ND	94.4	46-157			
Tetrachloroethene	47.6	5.00	ug/L	50.0	ND	95.2	64-148			
Toluene	48.6	5.00	ug/L	50.0	ND	97.2	47-150			
1,1,2-Trichloroethane	48.6	5.00	ug/L	50.0	ND	97.2	52-150			
1,1,1-Trichloroethane	45.3	5.00	ug/L	50.0	ND	90.5	52-162			
Trichloroethene	50.8	5.00	ug/L	50.0	ND	102	70-157			
Trichlorofluoromethane (Freon 11)	35.0	5.00	ug/L	50.0	ND	70.1	17-181			
Vinyl chloride	43.8	5.00	ug/L	50.0	ND	87.5	1-251			
m,p-Xylene	92.3	10.0	ug/L	100	ND	92.3	0-200			
o-Xylene	46.3	5.00	ug/L	50.0	ND	92.5	0-200			
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.4*		ug/L	*50.0*		*88.8*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ90987-MSD1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
Acetone	46.3	10.0	ug/L	50.0	4.21	84.2	0-200	3.87	200	
Acrylonitrile	51.9	20.0	ug/L	50.0	ND	104	40-160	2.62	60	
Benzene	50.1	5.00	ug/L	50.0	ND	100	37-151	1.21	61	
Bromodichloromethane	43.2	5.00	ug/L	50.0	ND	86.4	35-155	0.185	56	
Bromoform	41.9	5.00	ug/L	50.0	ND	83.8	45-169	2.56	42	
Bromomethane	43.7	5.00	ug/L	50.0	ND	87.4	1-242	1.59	61	
2-Butanone (MEK)	61.9	10.0	ug/L	50.0	10.5	103	0-200	5.49	200	
Carbon disulfide	36.5	5.00	ug/L	50.0	ND	73.0	0-200	4.03	200	
Carbon tetrachloride	43.6	5.00	ug/L	50.0	ND	87.1	70-140	1.13	41	
Chlorobenzene	48.6	5.00	ug/L	50.0	ND	97.1	37-160	0.786	53	
Chloroethane (Ethyl chloride)	39.4	5.00	ug/L	50.0	ND	78.9	14-230	2.75	78	
Chloroform	47.3	4.00	ug/L	50.0	ND	94.7	51-138	0.529	54	
Chloromethane	45.6	5.00	ug/L	50.0	ND	91.2	1-273	0.154	60	
Dibromochloromethane	44.7	5.00	ug/L	50.0	ND	89.4	53-149	0.0224	50	
Dibromomethane (Methylene bromide)	45.1	5.00	ug/L	50.0	ND	90.3	0-200	0.622	200	
1,2-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	96.9	18-190	3.44	57	
1,3-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.4	59-156	5.69	43	
1,4-Dichlorobenzene	47.8	5.00	ug/L	50.0	ND	95.5	18-190	2.61	57	
Dichlorodifluoromethane (Freon-12)	29.8	5.00	ug/L	50.0	ND	59.5	0-200	3.21	200	
1,2-Dichloroethane	42.3	5.00	ug/L	50.0	ND	84.6	49-155	0.165	49	
1,1-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.9	59-155	0.104	40	
cis-1,2-Dichloroethene	52.5	5.00	ug/L	50.0	ND	105	0-200	2.25	200	
1,1-Dichloroethene	54.6	5.00	ug/L	50.0	ND	109	1-234	1.38	32	
trans-1,2-Dichloroethene	48.0	4.00	ug/L	50.0	ND	95.9	54-156	1.57	45	
1,2-Dichloropropane	49.0	5.00	ug/L	50.0	ND	98.0	1-210	2.02	55	
cis-1,3-Dichloropropene	43.1	5.00	ug/L	50.0	ND	86.3	1-227	0.532	58	
trans-1,3-Dichloropropene	38.5	5.00	ug/L	50.0	ND	77.0	17-183	0.782	86	
Ethylbenzene	45.3	5.00	ug/L	50.0	ND	90.7	37-162	0.0883	63	
2-Hexanone (MBK)	51.5	10.0	ug/L	50.0	ND	103	0-200	2.08	200	
Methyl tert-butyl ether (MTBE)	58.1	5.00	ug/L	50.0	ND	116	0-200	0.103	200	
Methylene chloride (Dichloromethane)	54.5	1.00	ug/L	50.0	ND	109	1-221	1.55	28	
4-Methyl-2-pentanone (MIBK)	47.5	10.0	ug/L	50.0	ND	95.0	0-200	2.11	200	
Styrene	44.8	5.00	ug/L	50.0	ND	89.5	0-200	1.17	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	98.9	46-157	4.72	61	
Tetrachloroethene	47.1	5.00	ug/L	50.0	ND	94.2	64-148	1.12	39	
Toluene	49.2	5.00	ug/L	50.0	ND	98.5	47-150	1.27	41	
1,1,2-Trichloroethane	49.5	5.00	ug/L	50.0	ND	99.0	52-150	1.86	45	
1,1,1-Trichloroethane	44.7	5.00	ug/L	50.0	ND	89.5	52-162	1.13	36	
Trichloroethene	50.6	5.00	ug/L	50.0	ND	101	70-157	0.296	48	
Trichlorofluoromethane (Freon 11)	34.3	5.00	ug/L	50.0	ND	68.7	17-181	1.99	84	
Vinyl chloride	44.1	5.00	ug/L	50.0	ND	88.2	1-251	0.819	66	
m,p-Xylene	92.1	10.0	ug/L	100	ND	92.1	0-200	0.174	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ90987-MSD1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
o-Xylene	46.7	5.00	ug/L	50.0	ND	93.4	0-200	0.990	200	
Vinyl acetate	50.1	5.00	ug/L	50.0	ND	100	60-140	1.74	25	
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.2*		ug/L	*50.0*		*86.3*	*70-130*			
Surrogate: Toluene-d8	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90911 - 624.1 - EPA 624.1										
Blank (DJ90911-BLK1)			Prepared & Analyzed: 10/10/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.4*		ug/L	*50.0*		*86.7*	*70-130*			
Surrogate: Toluene-d8	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
LCS (DJ90911-BS1)			Prepared & Analyzed: 10/10/2019							
Acrolein	36.0	20.0	ug/L	50.0		72.0	60-140			
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	50.0		39.7	1-305			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.4*		ug/L	*50.0*		*86.7*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*97.1*	*70-130*			
Matrix Spike (DJ90911-MS1)	**Source: D9J0814-01**		Prepared & Analyzed: 10/10/2019							
Acrolein	56.6	20.0	ug/L	50.0	ND	113	40-160			
2-Chloroethyl vinyl ether	24.8	20.0	ug/L	50.0	ND	49.6	1-305			
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.3*		ug/L	*50.0*		*84.6*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.5*	*70-130*			
Matrix Spike Dup (DJ90911-MSD1)	**Source: D9J0814-01**		Prepared & Analyzed: 10/10/2019							
Acrolein	55.2	20.0	ug/L	50.0	ND	110	40-160	2.47	60	
2-Chloroethyl vinyl ether	24.6	20.0	ug/L	50.0	ND	49.2	1-305	0.890	71	
Surrogate: 4-Bromofluorobenzene	*49.0*		ug/L	*50.0*		*98.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.7*		ug/L	*50.0*		*87.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			

CERTIFICATE OF ANALYSIS

D9J0814

Definitions

A27:	Headspace was present in the bottle used for the alkalinity analysis.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.5ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/15/2019 15:17

MICROBAC

61 L
Tel:

D 9 J 0 8 1 4

Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 475 (250 mL)	10/8/2019	10:10		X	WW	1	X	X											X			
Well # 475 (250 mL)	10/8/2019	10:10		X	WW	1			X	X								X				
Well # 475 (250 mL)(filtered)	10/8/2019	10:10		X	WW	1					X							X				
Well # 475 (250 mL)	10/8/2019	10:10		X	WW	1						X						X				
Well # 475 (250 mL)	10/8/2019	10:10		X	WW	1							X					X				
Well # 475 (250 mL)	10/8/2019	10:10		X	WW	1								X	X	X					X	
Well 475 (40 mL vial)	10/8/2019	10:10		X	WW	2											X	X				
Well # 475 (40 mL vial)	10/8/2019	10:10		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-8-19	
RECEIVED:		
RELINQUISHED:	10-8-19	13:42
RECEIVED:	10-8-19	13:42
RELINQUISHED:	10-8-19	16:45
RECEIVED:	10.8.19	1645

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 1.5 °C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J0820

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, October 15, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J0820

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/08/2019
Reported: 10/15/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 6S	D9J0820-01	Groundwater	Grab		10/08/19 11:40	10/08/19 16:45
Well # 6S (filtered)	D9J0820-02	Groundwater	Grab		10/08/19 11:40	10/08/19 16:45

CERTIFICATE OF ANALYSIS

D9J0820

Analytical Testing Parameters

Client Sample ID:	Well # 6S		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0820-01	**Collection Date:**	10/08/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		10/10/19 1009	10/10/19 1647	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0191**	0.0106	mg/L	1		10/08/19 2041	10/10/19 1013	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**2.50**	1.00	mg/L	1	**A27**		10/11/19 1706	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**17.1**	2.00	mg/L	1			10/10/19 1147	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.503**	0.0500	mg/L	1			10/08/19 1945	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			10/08/19 1945	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	<0.0050	0.0050	mg/L	1	**Y1**	10/10/19 1353	10/11/19 1135	JDF
Copper	<0.0020	0.0020	mg/L	1		10/10/19 1353	10/11/19 1135	JDF
Sodium	**8.39**	1.00	mg/L	1		10/10/19 1353	10/11/19 1135	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/11/19 2307	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/11/19 2307	JAN
Benzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Bromoform	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/11/19 2307	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/11/19 2307	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Chloroform	<4.00	4.00	ug/L	1			10/11/19 2307	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/11/19 2307	JAN

CERTIFICATE OF ANALYSIS

D9J0820

Client Sample ID:	Well # 6S		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0820-01	**Collection Date:**	10/08/2019 11:40

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/11/19 2307	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/11/19 2307	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/11/19 2307	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/11/19 2307	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Toluene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/11/19 2307	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/11/19 2307	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/11/19 2307	JAN
Surrogate: 4-Bromofluorobenzene	94.8	Limit: 70-130	% Rec	1			10/11/19 2307	JAN
Surrogate: 1,2-Dichloroethane-d4	89.7	Limit: 70-130	% Rec	1			10/11/19 2307	JAN
Surrogate: Toluene-d8	98.3	Limit: 70-130	% Rec	1			10/11/19 2307	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/10/19 1411	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/10/19 1411	JAN
Surrogate: 4-Bromofluorobenzene	99.5	Limit: 70-130	% Rec	1			10/10/19 1411	JAN
Surrogate: 1,2-Dichloroethane-d4	86.9	Limit: 70-130	% Rec	1			10/10/19 1411	JAN
Surrogate: Toluene-d8	100	Limit: 70-130	% Rec	1			10/10/19 1411	JAN

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J0820

Client Sample ID:	Well # 6S (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J0820-02	**Collection Date:**	10/08/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		10/08/19 1857	10/08/19 2029	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90531 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ90531-BLK1)			Prepared & Analyzed: 10/08/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ90531-BS1)			Prepared & Analyzed: 10/08/2019							
Nitrate as N	5.03	0.0500	mg/L	5.00		101	90-110			
LCS (DJ90531-BS2)			Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ90531-DUP1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	<0.0100	0.0100	mg/L		ND				20	
Nitrate as N	<0.0500	0.0500	mg/L		ND				20	
Matrix Spike (DJ90531-MS1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	ND	105	75-125			
Nitrate as N	5.08	0.0500	mg/L	5.00	ND	101	75-125			
Matrix Spike Dup (DJ90531-MSD1)		**Source: D9J0744-01**	Prepared & Analyzed: 10/08/2019							
Nitrite as N	1.04	0.0100	mg/L	1.00	ND	104	75-125	0.794	20	
Nitrate as N	5.00	0.0500	mg/L	5.00	ND	100	75-125	1.48	20	
Batch DJ90540 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ90540-BLK1)			Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ90540-BS1)			Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	0.997	0.0100	mg/L	1.00		99.6	90-110			
Duplicate (DJ90540-DUP1)		**Source: D9J0644-01**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	0.0270	0.0100	mg/L		0.0230			16.0	20	
Matrix Spike (DJ90540-MS1)		**Source: D9J0644-01**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00	0.0230	98.2	90-110			
Matrix Spike (DJ90540-MS2)		**Source: D9J0644-02**	Prepared & Analyzed: 10/08/2019							
Ortho-phosphate as P	1.53	0.0100	mg/L	1.00	0.491	104	90-110			
Batch DJ90551 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ90551-BLK1)			Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ90551-BS1)			Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	0.992	0.0106	mg/L	1.00		99.2	90-110			
Duplicate (DJ90551-DUP1)		**Source: D9J0850-01**	Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	0.499	0.0106	mg/L		0.477			4.57	20	
Matrix Spike (DJ90551-MS1)		**Source: D9J0850-01**	Prepared: 10/08/2019 Analyzed: 10/10/2019							
Phosphorus - Total as P	1.70	0.0106	mg/L	1.25	0.477	97.5	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90551 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Matrix Spike (DJ90551-MS2)		**Source: D9J0850-02**		Prepared: 10/08/2019 Analyzed: 10/10/2019						
Phosphorus - Total as P	1.24	0.0106	mg/L	1.25	0.0553	94.6	90-110			
Batch DJ90703 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ90703-BLK1)				Prepared & Analyzed: 10/10/2019						
Chloride	<2.00	2.00	mg/L							
LCS (DJ90703-BS1)				Prepared & Analyzed: 10/10/2019						
Chloride	20.5	2.00	mg/L	20.0		103	90-110			
Duplicate (DJ90703-DUP1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	37.2	2.00	mg/L		36.7			1.26	20	
Matrix Spike (DJ90703-MS1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	56.4	2.00	mg/L	20.0	36.7	98.3	75-125			
Matrix Spike Dup (DJ90703-MSD1)		**Source: D9J0822-01**		Prepared & Analyzed: 10/10/2019						
Chloride	55.9	2.00	mg/L	20.0	36.7	96.0	75-125	0.796	20	
Batch DJ90705 - Wet-Digestion-W - EPA 351.1										
Blank (DJ90705-BLK1)				Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ90705-BS1)				Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	4.72	0.200	mg/L	5.00		94.4	90-110			
Duplicate (DJ90705-DUP1)		**Source: D9J0777-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	1.72	0.200	mg/L		1.82			5.98	20	
Matrix Spike (DJ90705-MS1)		**Source: D9J0777-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	11.9	0.200	mg/L	10.0	1.82	101	90-110			
Matrix Spike (DJ90705-MS2)		**Source: D9J0779-02**		Prepared & Analyzed: 10/10/2019						
Total Kjeldahl Nitrogen (TKN)	11.1	0.200	mg/L	10.0	1.20	99.5	90-110			
Batch DJ90855 - Wet Chem - W - SM2320 B-2011										
Blank (DJ90855-BLK1)				Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ90855-BS1)				Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ90855-DUP1)		**Source: D9J0832-05**		Prepared & Analyzed: 10/11/2019						
Alkalinity to pH 4.5	65.0	1.00	mg/L		65.0			0.00	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90746 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ90746-BLK1)				Prepared: 10/10/2019 Analyzed: 10/11/2019						
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90746 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ90746-BLK1)			Prepared: 10/10/2019 Analyzed: 10/11/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DJ90746-BS1)			Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.495	0.0050	mg/L	0.500		99.1	85-115			
Copper	0.471	0.0020	mg/L	0.500		94.3	85-115			
Sodium	10.2	1.00	mg/L	10.5		96.7	85-115			
Duplicate (DJ90746-DUP1)		**Source: D9J0814-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.0189	0.0050	mg/L		0.0168			11.4	20	
Copper	<0.0020	0.0020	mg/L		ND				20	
Sodium	35.2	1.00	mg/L		35.5			0.821	20	
Matrix Spike (DJ90746-MS1)		**Source: D9J0814-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.554	0.0050	mg/L	0.500	0.0168	107	70-130			
Copper	0.511	0.0020	mg/L	0.500	ND	102	70-130			
Sodium	46.2	1.00	mg/L	10.5	35.5	102	70-130			
Matrix Spike (DJ90746-MS2)		**Source: D9J0820-01**	Prepared: 10/10/2019 Analyzed: 10/11/2019							
Boron	0.541	0.0050	mg/L	0.500	0.0037	107	70-130			
Copper	0.515	0.0020	mg/L	0.500	ND	103	70-130			
Sodium	18.8	1.00	mg/L	10.5	8.39	99.6	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Blank (DJ90987-BLK1)			Prepared & Analyzed: 10/11/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Blank (DJ90987-BLK1)				Prepared & Analyzed: 10/11/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.8*		ug/L	*50.0*		*87.7*	*70-130*			
Surrogate: Toluene-d8	*49.0*		ug/L	*50.0*		*98.0*	*70-130*			
LCS (DJ90987-BS1)				Prepared & Analyzed: 10/11/2019						
Acetone	35.4	10.0	ug/L	50.0		70.7	65-133			
Acrylonitrile	46.3	20.0	ug/L	50.0		92.6	60-140			
Benzene	46.4	5.00	ug/L	50.0		92.7	65-135			
Bromodichloromethane	41.1	5.00	ug/L	50.0		82.2	65-135			
Bromoform	40.9	5.00	ug/L	50.0		81.8	70-130			
Bromomethane	43.7	5.00	ug/L	50.0		87.3	15-185			
2-Butanone (MEK)	43.2	10.0	ug/L	50.0		86.3	77-140			
Carbon disulfide	40.7	5.00	ug/L	50.0		81.3	70-130			
Carbon tetrachloride	42.1	5.00	ug/L	50.0		84.2	70-130			
Chlorobenzene	46.8	5.00	ug/L	50.0		93.7	65-135			
Chloroethane (Ethyl chloride)	43.2	5.00	ug/L	50.0		86.4	40-160			
Chloroform	43.6	4.00	ug/L	50.0		87.1	70-135			
Chloromethane	44.3	5.00	ug/L	50.0		88.6	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
LCS (DJ90987-BS1)			Prepared & Analyzed: 10/11/2019							
Dibromochloromethane	44.3	5.00	ug/L	50.0		88.6	70-135			
Dibromomethane (Methylene bromide)	41.9	5.00	ug/L	50.0		83.8	76-126			
1,2-Dichlorobenzene	45.7	5.00	ug/L	50.0		91.3	65-135			
1,3-Dichlorobenzene	46.6	5.00	ug/L	50.0		93.2	70-130			
1,4-Dichlorobenzene	46.0	5.00	ug/L	50.0		91.9	65-135			
Dichlorodifluoromethane (Freon-12)	38.6	5.00	ug/L	50.0		77.2	1-205			
1,2-Dichloroethane	39.0	5.00	ug/L	50.0		78.1	70-130			
1,1-Dichloroethane	45.4	5.00	ug/L	50.0		90.9	70-130			
cis-1,2-Dichloroethene	48.4	5.00	ug/L	50.0		96.7	82-137			
1,1-Dichloroethene	53.0	5.00	ug/L	50.0		106	50-150			
trans-1,2-Dichloroethene	45.7	4.00	ug/L	50.0		91.3	70-130			
1,2-Dichloropropane	45.0	5.00	ug/L	50.0		90.0	35-165			
cis-1,3-Dichloropropene	44.0	5.00	ug/L	50.0		87.9	25-175			
trans-1,3-Dichloropropene	39.6	5.00	ug/L	50.0		79.3	50-150			
Ethylbenzene	44.5	5.00	ug/L	50.0		88.9	60-140			
2-Hexanone (MBK)	49.6	10.0	ug/L	50.0		99.1	74-134			
Methyl tert-butyl ether (MTBE)	55.7	5.00	ug/L	50.0		111	81-140			
Methylene chloride (Dichloromethane)	49.9	1.00	ug/L	50.0		99.8	60-140			
4-Methyl-2-pentanone (MIBK)	47.3	10.0	ug/L	50.0		94.5	73-142			
Styrene	44.5	5.00	ug/L	50.0		89.0	82-125			
1,1,2,2-Tetrachloroethane	46.1	5.00	ug/L	50.0		92.1	60-140			
Tetrachloroethene	46.7	5.00	ug/L	50.0		93.3	70-130			
Toluene	46.7	5.00	ug/L	50.0		93.3	70-130			
1,1,2-Trichloroethane	47.6	5.00	ug/L	50.0		95.2	70-130			
1,1,1-Trichloroethane	42.6	5.00	ug/L	50.0		85.1	70-130			
Trichloroethene	48.2	5.00	ug/L	50.0		96.4	65-135			
Trichlorofluoromethane (Freon 11)	49.7	5.00	ug/L	50.0		99.3	50-150			
Vinyl chloride	48.9	5.00	ug/L	50.0		97.8	5-195			
m,p-Xylene	88.8	10.0	ug/L	100		88.8	80-122			
o-Xylene	44.7	5.00	ug/L	50.0		89.4	81-125			
Vinyl acetate	56.2	5.00	ug/L	50.0		112	60-140			
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.5*		ug/L	*50.0*		*84.9*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DJ90987-MS1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
Acetone	44.6	10.0	ug/L	50.0	4.21	80.7	0-200			
Acrylonitrile	50.5	20.0	ug/L	50.0	ND	101	40-160			
Benzene	50.7	5.00	ug/L	50.0	ND	101	37-151			
Bromodichloromethane	43.3	5.00	ug/L	50.0	ND	86.5	35-155			
Bromoform	40.8	5.00	ug/L	50.0	ND	81.7	45-169			
Bromomethane	44.4	5.00	ug/L	50.0	ND	88.8	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike (DJ90987-MS1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
2-Butanone (MEK)	58.6	10.0	ug/L	50.0	10.5	96.2	0-200			
Carbon disulfide	38.0	5.00	ug/L	50.0	ND	76.0	0-200			
Carbon tetrachloride	43.1	5.00	ug/L	50.0	ND	86.1	70-140			
Chlorobenzene	48.2	5.00	ug/L	50.0	ND	96.3	37-160			
Chloroethane (Ethyl chloride)	40.5	5.00	ug/L	50.0	ND	81.1	14-230			
Chloroform	47.1	4.00	ug/L	50.0	ND	94.2	51-138			
Chloromethane	45.6	5.00	ug/L	50.0	ND	91.1	1-273			
Dibromochloromethane	44.7	5.00	ug/L	50.0	ND	89.3	53-149			
Dibromomethane (Methylene bromide)	44.9	5.00	ug/L	50.0	ND	89.7	0-200			
1,2-Dichlorobenzene	46.8	5.00	ug/L	50.0	ND	93.6	18-190			
1,3-Dichlorobenzene	46.5	5.00	ug/L	50.0	ND	93.0	59-156			
1,4-Dichlorobenzene	46.5	5.00	ug/L	50.0	ND	93.1	18-190			
Dichlorodifluoromethane (Freon-12)	30.7	5.00	ug/L	50.0	ND	61.4	0-200			
1,2-Dichloroethane	42.4	5.00	ug/L	50.0	ND	84.8	49-155			
1,1-Dichloroethane	48.0	5.00	ug/L	50.0	ND	96.0	59-155			
cis-1,2-Dichloroethene	51.3	5.00	ug/L	50.0	ND	103	0-200			
1,1-Dichloroethene	53.9	5.00	ug/L	50.0	ND	108	1-234			
trans-1,2-Dichloroethene	48.7	4.00	ug/L	50.0	ND	97.4	54-156			
1,2-Dichloropropane	48.0	5.00	ug/L	50.0	ND	96.1	1-210			
cis-1,3-Dichloropropene	43.4	5.00	ug/L	50.0	ND	86.7	1-227			
trans-1,3-Dichloropropene	38.2	5.00	ug/L	50.0	ND	76.4	17-183			
Ethylbenzene	45.3	5.00	ug/L	50.0	ND	90.6	37-162			
2-Hexanone (MBK)	50.4	10.0	ug/L	50.0	ND	101	0-200			
Methyl tert-butyl ether (MTBE)	58.1	5.00	ug/L	50.0	ND	116	0-200			
Methylene chloride (Dichloromethane)	53.6	1.00	ug/L	50.0	ND	107	1-221			
4-Methyl-2-pentanone (MIBK)	46.5	10.0	ug/L	50.0	ND	93.1	0-200			
Styrene	44.2	5.00	ug/L	50.0	ND	88.5	0-200			
1,1,2,2-Tetrachloroethane	47.2	5.00	ug/L	50.0	ND	94.4	46-157			
Tetrachloroethene	47.6	5.00	ug/L	50.0	ND	95.2	64-148			
Toluene	48.6	5.00	ug/L	50.0	ND	97.2	47-150			
1,1,2-Trichloroethane	48.6	5.00	ug/L	50.0	ND	97.2	52-150			
1,1,1-Trichloroethane	45.3	5.00	ug/L	50.0	ND	90.5	52-162			
Trichloroethene	50.8	5.00	ug/L	50.0	ND	102	70-157			
Trichlorofluoromethane (Freon 11)	35.0	5.00	ug/L	50.0	ND	70.1	17-181			
Vinyl chloride	43.8	5.00	ug/L	50.0	ND	87.5	1-251			
m,p-Xylene	92.3	10.0	ug/L	100	ND	92.3	0-200			
o-Xylene	46.3	5.00	ug/L	50.0	ND	92.5	0-200			
Vinyl acetate	51.0	5.00	ug/L	50.0	ND	102	60-140			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.4*		ug/L	*50.0*		*88.8*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ90987-MSD1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
Acetone	46.3	10.0	ug/L	50.0	4.21	84.2	0-200	3.87	200	
Acrylonitrile	51.9	20.0	ug/L	50.0	ND	104	40-160	2.62	60	
Benzene	50.1	5.00	ug/L	50.0	ND	100	37-151	1.21	61	
Bromodichloromethane	43.2	5.00	ug/L	50.0	ND	86.4	35-155	0.185	56	
Bromoform	41.9	5.00	ug/L	50.0	ND	83.8	45-169	2.56	42	
Bromomethane	43.7	5.00	ug/L	50.0	ND	87.4	1-242	1.59	61	
2-Butanone (MEK)	61.9	10.0	ug/L	50.0	10.5	103	0-200	5.49	200	
Carbon disulfide	36.5	5.00	ug/L	50.0	ND	73.0	0-200	4.03	200	
Carbon tetrachloride	43.6	5.00	ug/L	50.0	ND	87.1	70-140	1.13	41	
Chlorobenzene	48.6	5.00	ug/L	50.0	ND	97.1	37-160	0.786	53	
Chloroethane (Ethyl chloride)	39.4	5.00	ug/L	50.0	ND	78.9	14-230	2.75	78	
Chloroform	47.3	4.00	ug/L	50.0	ND	94.7	51-138	0.529	54	
Chloromethane	45.6	5.00	ug/L	50.0	ND	91.2	1-273	0.154	60	
Dibromochloromethane	44.7	5.00	ug/L	50.0	ND	89.4	53-149	0.0224	50	
Dibromomethane (Methylene bromide)	45.1	5.00	ug/L	50.0	ND	90.3	0-200	0.622	200	
1,2-Dichlorobenzene	48.5	5.00	ug/L	50.0	ND	96.9	18-190	3.44	57	
1,3-Dichlorobenzene	49.2	5.00	ug/L	50.0	ND	98.4	59-156	5.69	43	
1,4-Dichlorobenzene	47.8	5.00	ug/L	50.0	ND	95.5	18-190	2.61	57	
Dichlorodifluoromethane (Freon-12)	29.8	5.00	ug/L	50.0	ND	59.5	0-200	3.21	200	
1,2-Dichloroethane	42.3	5.00	ug/L	50.0	ND	84.6	49-155	0.165	49	
1,1-Dichloroethane	47.9	5.00	ug/L	50.0	ND	95.9	59-155	0.104	40	
cis-1,2-Dichloroethene	52.5	5.00	ug/L	50.0	ND	105	0-200	2.25	200	
1,1-Dichloroethene	54.6	5.00	ug/L	50.0	ND	109	1-234	1.38	32	
trans-1,2-Dichloroethene	48.0	4.00	ug/L	50.0	ND	95.9	54-156	1.57	45	
1,2-Dichloropropane	49.0	5.00	ug/L	50.0	ND	98.0	1-210	2.02	55	
cis-1,3-Dichloropropene	43.1	5.00	ug/L	50.0	ND	86.3	1-227	0.532	58	
trans-1,3-Dichloropropene	38.5	5.00	ug/L	50.0	ND	77.0	17-183	0.782	86	
Ethylbenzene	45.3	5.00	ug/L	50.0	ND	90.7	37-162	0.0883	63	
2-Hexanone (MBK)	51.5	10.0	ug/L	50.0	ND	103	0-200	2.08	200	
Methyl tert-butyl ether (MTBE)	58.1	5.00	ug/L	50.0	ND	116	0-200	0.103	200	
Methylene chloride (Dichloromethane)	54.5	1.00	ug/L	50.0	ND	109	1-221	1.55	28	
4-Methyl-2-pentanone (MIBK)	47.5	10.0	ug/L	50.0	ND	95.0	0-200	2.11	200	
Styrene	44.8	5.00	ug/L	50.0	ND	89.5	0-200	1.17	200	
1,1,2,2-Tetrachloroethane	49.5	5.00	ug/L	50.0	ND	98.9	46-157	4.72	61	
Tetrachloroethene	47.1	5.00	ug/L	50.0	ND	94.2	64-148	1.12	39	
Toluene	49.2	5.00	ug/L	50.0	ND	98.5	47-150	1.27	41	
1,1,2-Trichloroethane	49.5	5.00	ug/L	50.0	ND	99.0	52-150	1.86	45	
1,1,1-Trichloroethane	44.7	5.00	ug/L	50.0	ND	89.5	52-162	1.13	36	
Trichloroethene	50.6	5.00	ug/L	50.0	ND	101	70-157	0.296	48	
Trichlorofluoromethane (Freon 11)	34.3	5.00	ug/L	50.0	ND	68.7	17-181	1.99	84	
Vinyl chloride	44.1	5.00	ug/L	50.0	ND	88.2	1-251	0.819	66	
m,p-Xylene	92.1	10.0	ug/L	100	ND	92.1	0-200	0.174	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90987 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ90987-MSD1)	**Source: L9J0297-01**		Prepared & Analyzed: 10/12/2019							
o-Xylene	46.7	5.00	ug/L	50.0	ND	93.4	0-200	0.990	200	
Vinyl acetate	50.1	5.00	ug/L	50.0	ND	100	60-140	1.74	25	
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.2*		ug/L	*50.0*		*86.3*	*70-130*			
Surrogate: Toluene-d8	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ90911 - 624.1 - EPA 624.1										
Blank (DJ90911-BLK1)			Prepared & Analyzed: 10/10/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.4*		ug/L	*50.0*		*86.7*	*70-130*			
Surrogate: Toluene-d8	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
LCS (DJ90911-BS1)			Prepared & Analyzed: 10/10/2019							
Acrolein	36.0	20.0	ug/L	50.0		72.0	60-140			
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	50.0		39.7	1-305			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.4*		ug/L	*50.0*		*86.7*	*70-130*			
Surrogate: Toluene-d8	*48.5*		ug/L	*50.0*		*97.1*	*70-130*			
Matrix Spike (DJ90911-MS1)	**Source: D9J0814-01**		Prepared & Analyzed: 10/10/2019							
Acrolein	56.6	20.0	ug/L	50.0	ND	113	40-160			
2-Chloroethyl vinyl ether	24.8	20.0	ug/L	50.0	ND	49.6	1-305			
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.0*		*99.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.3*		ug/L	*50.0*		*84.6*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.5*	*70-130*			
Matrix Spike Dup (DJ90911-MSD1)	**Source: D9J0814-01**		Prepared & Analyzed: 10/10/2019							
Acrolein	55.2	20.0	ug/L	50.0	ND	110	40-160	2.47	60	
2-Chloroethyl vinyl ether	24.6	20.0	ug/L	50.0	ND	49.2	1-305	0.890	71	
Surrogate: 4-Bromofluorobenzene	*49.0*		ug/L	*50.0*		*98.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.7*		ug/L	*50.0*		*87.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			

CERTIFICATE OF ANALYSIS

D9J0820

Definitions

A27:	Headspace was present in the bottle used for the alkalinity analysis.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.5ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/15/2019 15:18

MICROBAC

61
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D 9 J 0 8 2 0
Veolia - Plymouth

FOR LAB USE ONLY
Lab WO#
Project Manager

Microbac Laboratories, Inc.

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # 6S (250 mL)	10/8/2019	11:40		X	WW	1	X	X											X			
Well # 6S (250 mL)	10/8/2019	11:40		X	WW	1			X	X								X				
Well # 6S (250 mL)(filtered)	10/8/2019	11:40		X	WW	1					X							X				
Well # 6S (250 mL)	10/8/2019	11:40		X	WW	1						X						X				
Well # 6S (250 mL)	10/8/2019	11:46		X	WW	1							X					X				
Well # 5S (250 mL)	10/8/2019	11:40		X	WW	1								X	X	X					X	
Well 6S (40 mL vial)	10/8/2019	11:40		X	WW	2											X	X				
Well # 6S (40 mL vial)	10/8/2019	11:40		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-8-19	
RECEIVED:		
RELINQUISHED:	10-8-19	13:42
ECEIVED:	10-8-19	13:42
ELINQUISHED:	10-8-19	16:45
ECEIVED:	10-8-19	1645

TURN AROUND (INDICATE IN CALENDAR DAYS):
FAX ☐ HARD COPY ☐ E-MAIL ☐
EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐
COOLED ☒ AMBIENT ☐ 1.5°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1761

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, October 31, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1761

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/17/2019
Reported: 10/31/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A10	D9J1761-01	Wastewater	Grab		10/17/19 11:23	10/17/19 15:05
Well #A10 (filtered)	D9J1761-02	Groundwater	Grab		10/17/19 11:23	10/17/19 15:05

CERTIFICATE OF ANALYSIS

D9J1761

Analytical Testing Parameters

Client Sample ID:	Well #A10		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J1761-01	**Collection Date:**	10/17/2019 11:23

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	**0.784**	0.400	mg/L	1		10/22/19 0858	10/22/19 1547	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		10/18/19 2031	10/21/19 0925	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**32.5**	1.00	mg/L	1			10/21/19 1747	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**378**	20.0	mg/L	10			10/18/19 1520	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**3.10**	0.0500	mg/L	1			10/17/19 2108	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			10/17/19 2108	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.122**	0.0050	mg/L	1	**Y1**	10/21/19 1450	10/22/19 1440	JDF
Copper	<0.0020	0.0020	mg/L	1		10/21/19 1450	10/22/19 1440	JDF
Sodium	**251**	1.00	mg/L	1		10/21/19 1450	10/22/19 1440	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/21/19 1139	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/21/19 1139	JAN
Benzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Bromoform	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/21/19 1139	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/21/19 1139	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Chloroform	<4.00	4.00	ug/L	1			10/21/19 1139	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/21/19 1139	JAN

CERTIFICATE OF ANALYSIS

D9J1761

Client Sample ID:	Well #A10		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J1761-01	**Collection Date:**	10/17/2019 11:23

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/21/19 1139	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/21/19 1139	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/21/19 1139	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/21/19 1139	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Toluene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/21/19 1139	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/21/19 1139	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/21/19 1139	JAN
Surrogate: 4-Bromofluorobenzene	95.3	Limit: 70-130	% Rec	1			10/21/19 1139	JAN
Surrogate: 1,2-Dichloroethane-d4	88.9	Limit: 70-130	% Rec	1			10/21/19 1139	JAN
Surrogate: Toluene-d8	96.6	Limit: 70-130	% Rec	1			10/21/19 1139	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/18/19 1655	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/18/19 1655	JAN
Surrogate: 4-Bromofluorobenzene	95.7	Limit: 70-130	% Rec	1			10/18/19 1655	JAN
Surrogate: 1,2-Dichloroethane-d4	87.6	Limit: 70-130	% Rec	1			10/18/19 1655	JAN
Surrogate: Toluene-d8	96.1	Limit: 70-130	% Rec	1			10/18/19 1655	JAN

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1761

Client Sample ID:	Well #A10 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J1761-02	**Collection Date:**	10/17/2019 11:23

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		10/17/19 1833	10/17/19 1947	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91216 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91216-BLK1)			Prepared & Analyzed: 10/17/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91216-BS1)			Prepared & Analyzed: 10/17/2019							
Nitrate as N	5.07	0.0500	mg/L	5.00		101	90-110			
LCS (DJ91216-BS2)			Prepared & Analyzed: 10/17/2019							
Nitrite as N	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ91216-DUP1)		**Source: D9J1715-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00360				20	
Nitrate as N	<0.0500	0.0500	mg/L		0.0787				20	
Matrix Spike (DJ91216-MS1)		**Source: D9J1715-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	0.996	0.0100	mg/L	1.00	0.00360	99.2	75-125			
Nitrate as N	4.97	0.0500	mg/L	5.00	0.0787	97.8	75-125			
Matrix Spike Dup (DJ91216-MSD1)		**Source: D9J1715-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	0.994	0.0100	mg/L	1.00	0.00360	99.0	75-125	0.201	20	
Nitrate as N	4.92	0.0500	mg/L	5.00	0.0787	96.9	75-125	0.908	20	
Batch DJ91223 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91223-BLK1)			Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91223-BS1)			Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DJ91223-DUP1)		**Source: D9J1715-09**	Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	2.97	0.0200	mg/L		2.91			2.08	20	
Matrix Spike (DJ91223-MS1)		**Source: D9J1715-09**	Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	4.03	0.0400	mg/L	1.00	2.91	112	90-110			M1
Batch DJ91248 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ91248-BLK1)			Prepared & Analyzed: 10/18/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DJ91248-BS1)			Prepared & Analyzed: 10/18/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			
Duplicate (DJ91248-DUP1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	50.3	2.00	mg/L		49.2			2.31	20	
Matrix Spike (DJ91248-MS1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	68.0	2.00	mg/L	20.0	49.2	94.3	75-125			
Matrix Spike Dup (DJ91248-MSD1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	68.9	2.00	mg/L	20.0	49.2	98.8	75-125	1.31	20	

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91330 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91330-BLK1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91330-BS1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DJ91330-DUP1)		**Source: D9J1714-03**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	4.07	0.0425	mg/L		4.05			0.497	20	
Matrix Spike (DJ91330-MS1)		**Source: D9J1714-03**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	5.33	0.0425	mg/L	1.25	4.05	103	90-110			
Matrix Spike (DJ91330-MS2)		**Source: D9J1730-02**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0733	95.9	90-110			
Batch DJ91406 - Wet Chem - W - SM2320 B-2011										
Blank (DJ91406-BLK1)			Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ91406-BS1)			Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ91406-DUP1)		**Source: D9J1715-04**	Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	188	1.00	mg/L		183			2.70	20	
Batch DJ91417 - Wet-Digestion-W - EPA 351.1										
Blank (DJ91417-BLK1)			Prepared & Analyzed: 10/22/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ91417-BS1)			Prepared & Analyzed: 10/22/2019							
Total Kjeldahl Nitrogen (TKN)	4.87	0.200	mg/L	5.00		97.3	90-110			
Duplicate (DJ91417-DUP1)		**Source: D9J1721-01**	Prepared & Analyzed: 10/22/2019							
Total Kjeldahl Nitrogen (TKN)	1.62	0.200	mg/L		1.61			0.0372	20	
Matrix Spike (DJ91417-MS1)		**Source: D9J1721-01**	Prepared & Analyzed: 10/22/2019							
Total Kjeldahl Nitrogen (TKN)	11.5	0.200	mg/L	10.0	1.61	98.6	90-110			
Matrix Spike (DJ91417-MS2)		**Source: D9J1721-03**	Prepared & Analyzed: 10/22/2019							
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.65	98.0	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91413 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ91413-BLK1)			Prepared: 10/21/2019 Analyzed: 10/22/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DJ91413-BS1)			Prepared: 10/21/2019 Analyzed: 10/22/2019							
Boron	0.531	0.0050	mg/L	0.500		106	85-115			
Copper	0.508	0.0020	mg/L	0.500		102	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91413 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DJ91413-BS1)				Prepared: 10/21/2019 Analyzed: 10/22/2019						
Sodium	11.2	1.00	mg/L	10.5		107	85-115			
Duplicate (DJ91413-DUP1)		**Source: D9J1766-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.0149	0.0050	mg/L		0.0180			19.4	20	
Copper	<0.0020	0.0020	mg/L		ND				20	
Sodium	97.9	1.00	mg/L		98.6			0.767	20	
Matrix Spike (DJ91413-MS1)		**Source: D9J1766-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.542	0.0050	mg/L	0.500	0.0180	105	70-130			
Copper	0.505	0.0020	mg/L	0.500	ND	101	70-130			
Sodium	110	1.00	mg/L	10.5	98.6	111	70-130			
Matrix Spike (DJ91413-MS2)		**Source: D9J1767-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.504	0.0050	mg/L	0.500	0.0085	99.2	70-130			
Copper	0.482	0.0020	mg/L	0.500	ND	96.4	70-130			
Sodium	18.4	1.00	mg/L	10.5	8.67	92.9	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Blank (DJ91845-BLK1)				Prepared & Analyzed: 10/21/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Blank (DJ91845-BLK1)				Prepared & Analyzed: 10/21/2019						
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.0*		ug/L	*50.0*		*97.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.3*		ug/L	*50.0*		*86.5*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
LCS (DJ91845-BS1)				Prepared & Analyzed: 10/21/2019						
Acetone	35.3	10.0	ug/L	50.0		70.6	65-133			
Acrylonitrile	53.8	20.0	ug/L	50.0		108	60-140			
Benzene	54.8	5.00	ug/L	50.0		110	65-135			
Bromodichloromethane	48.3	5.00	ug/L	50.0		96.6	65-135			
Bromoform	46.2	5.00	ug/L	50.0		92.5	70-130			
Bromomethane	53.7	5.00	ug/L	50.0		107	15-185			
2-Butanone (MEK)	46.6	10.0	ug/L	50.0		93.2	77-140			
Carbon disulfide	39.5	5.00	ug/L	50.0		78.9	70-130			
Carbon tetrachloride	48.9	5.00	ug/L	50.0		97.8	70-130			
Chlorobenzene	51.9	5.00	ug/L	50.0		104	65-135			
Chloroethane (Ethyl chloride)	49.6	5.00	ug/L	50.0		99.2	40-160			
Chloroform	51.5	4.00	ug/L	50.0		103	70-135			
Chloromethane	51.8	5.00	ug/L	50.0		104	1-205			
Dibromochloromethane	48.3	5.00	ug/L	50.0		96.5	70-135			
Dibromomethane (Methylene bromide)	48.2	5.00	ug/L	50.0		96.3	76-126			
1,2-Dichlorobenzene	49.6	5.00	ug/L	50.0		99.3	65-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
LCS (DJ91845-BS1)				Prepared & Analyzed: 10/21/2019						
1,3-Dichlorobenzene	50.7	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.6	5.00	ug/L	50.0		101	65-135			
Dichlorodifluoromethane (Freon-12)	38.3	5.00	ug/L	50.0		76.6	1-205			
1,2-Dichloroethane	44.8	5.00	ug/L	50.0		89.6	70-130			
1,1-Dichloroethane	52.6	5.00	ug/L	50.0		105	70-130			
cis-1,2-Dichloroethene	54.3	5.00	ug/L	50.0		109	82-137			
1,1-Dichloroethene	61.0	5.00	ug/L	50.0		122	50-150			
trans-1,2-Dichloroethene	52.8	4.00	ug/L	50.0		106	70-130			
1,2-Dichloropropane	52.3	5.00	ug/L	50.0		105	35-165			
cis-1,3-Dichloropropene	49.8	5.00	ug/L	50.0		99.5	25-175			
trans-1,3-Dichloropropene	45.0	5.00	ug/L	50.0		90.0	50-150			
Ethylbenzene	49.8	5.00	ug/L	50.0		99.6	60-140			
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	62.8	5.00	ug/L	50.0		126	81-140			
Methylene chloride (Dichloromethane)	58.0	1.00	ug/L	50.0		116	60-140			
4-Methyl-2-pentanone (MIBK)	52.5	10.0	ug/L	50.0		105	73-142			
Styrene	48.1	5.00	ug/L	50.0		96.3	82-125			
1,1,2,2-Tetrachloroethane	52.2	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	53.7	5.00	ug/L	50.0		107	70-130			
Toluene	53.5	5.00	ug/L	50.0		107	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0		101	70-130			
Trichloroethene	55.8	5.00	ug/L	50.0		112	65-135			
Trichlorofluoromethane (Freon 11)	55.0	5.00	ug/L	50.0		110	50-150			
Vinyl chloride	53.4	5.00	ug/L	50.0		107	5-195			
m,p-Xylene	99.5	10.0	ug/L	100		99.5	80-122			
o-Xylene	49.7	5.00	ug/L	50.0		99.4	81-125			
Vinyl acetate	63.7	5.00	ug/L	50.0		127	60-140			
Surrogate: 4-Bromofluorobenzene	*48.5*		ug/L	*50.0*		*97.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.8*		ug/L	*50.0*		*87.6*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike (DJ91845-MS1)	**Source: D9J1761-01**			Prepared & Analyzed: 10/21/2019						
Acetone	40.2	10.0	ug/L	50.0	ND	80.4	0-200			
Acrylonitrile	51.7	20.0	ug/L	50.0	ND	103	40-160			
Benzene	54.3	5.00	ug/L	50.0	ND	109	37-151			
Bromodichloromethane	48.2	5.00	ug/L	50.0	2.01	92.4	35-155			
Bromoform	43.9	5.00	ug/L	50.0	ND	87.7	45-169			
Bromomethane	49.9	5.00	ug/L	50.0	ND	99.8	1-242			
2-Butanone (MEK)	47.0	10.0	ug/L	50.0	ND	94.0	0-200			
Carbon disulfide	47.8	5.00	ug/L	50.0	ND	95.6	0-200			
Carbon tetrachloride	49.5	5.00	ug/L	50.0	ND	99.0	70-140			
Chlorobenzene	51.6	5.00	ug/L	50.0	ND	103	37-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike (DJ91845-MS1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Chloroethane (Ethyl chloride)	46.5	5.00	ug/L	50.0	ND	92.9	14-230			
Chloroform	55.2	4.00	ug/L	50.0	3.44	103	51-138			
Chloromethane	51.1	5.00	ug/L	50.0	ND	102	1-273			
Dibromochloromethane	47.8	5.00	ug/L	50.0	2.19	91.1	53-149			
Dibromomethane (Methylene bromide)	47.3	5.00	ug/L	50.0	ND	94.6	0-200			
1,2-Dichlorobenzene	47.8	5.00	ug/L	50.0	ND	95.6	18-190			
1,3-Dichlorobenzene	49.9	5.00	ug/L	50.0	ND	99.7	59-156			
1,4-Dichlorobenzene	50.2	5.00	ug/L	50.0	ND	100	18-190			
Dichlorodifluoromethane (Freon-12)	44.2	5.00	ug/L	50.0	ND	88.3	0-200			
1,2-Dichloroethane	44.4	5.00	ug/L	50.0	ND	88.8	49-155			
1,1-Dichloroethane	52.5	5.00	ug/L	50.0	ND	105	59-155			
cis-1,2-Dichloroethene	54.8	5.00	ug/L	50.0	ND	110	0-200			
1,1-Dichloroethene	63.4	5.00	ug/L	50.0	ND	127	1-234			
trans-1,2-Dichloroethene	52.1	4.00	ug/L	50.0	ND	104	54-156			
1,2-Dichloropropane	50.6	5.00	ug/L	50.0	ND	101	1-210			
cis-1,3-Dichloropropene	46.7	5.00	ug/L	50.0	ND	93.5	1-227			
trans-1,3-Dichloropropene	45.5	5.00	ug/L	50.0	ND	90.9	17-183			
Ethylbenzene	51.0	5.00	ug/L	50.0	ND	102	37-162			
2-Hexanone (MBK)	45.1	10.0	ug/L	50.0	ND	90.2	0-200			
Methyl tert-butyl ether (MTBE)	57.9	5.00	ug/L	50.0	ND	116	0-200			
Methylene chloride (Dichloromethane)	56.3	1.00	ug/L	50.0	ND	113	1-221			
4-Methyl-2-pentanone (MIBK)	45.1	10.0	ug/L	50.0	ND	90.2	0-200			
Styrene	50.0	5.00	ug/L	50.0	ND	99.9	0-200			
1,1,2,2-Tetrachloroethane	47.8	5.00	ug/L	50.0	ND	95.6	46-157			
Tetrachloroethene	54.5	5.00	ug/L	50.0	ND	109	64-148			
Toluene	53.4	5.00	ug/L	50.0	ND	107	47-150			
1,1,2-Trichloroethane	50.7	5.00	ug/L	50.0	ND	101	52-150			
1,1,1-Trichloroethane	48.8	5.00	ug/L	50.0	ND	97.6	52-162			
Trichloroethene	55.1	5.00	ug/L	50.0	ND	110	70-157			
Trichlorofluoromethane (Freon 11)	54.1	5.00	ug/L	50.0	ND	108	17-181			
Vinyl chloride	51.6	5.00	ug/L	50.0	ND	103	1-251			
m,p-Xylene	99.0	10.0	ug/L	100	ND	99.0	0-200			
o-Xylene	48.2	5.00	ug/L	50.0	ND	96.4	0-200			
Vinyl acetate	62.8	5.00	ug/L	50.0	ND	126	60-140			
Surrogate: 4-Bromofluorobenzene		*49.8*	ug/L	*50.0*		*99.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*43.5*	ug/L	*50.0*		*87.0*	*70-130*			
Surrogate: Toluene-d8		*48.3*	ug/L	*50.0*		*96.6*	*70-130*			
Matrix Spike Dup (DJ91845-MSD1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Acetone	41.7	10.0	ug/L	50.0	ND	83.3	0-200	3.62	200	
Acrylonitrile	54.7	20.0	ug/L	50.0	ND	109	40-160	5.49	60	
Benzene	57.9	5.00	ug/L	50.0	ND	116	37-151	6.44	61	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ91845-MSD1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Bromodichloromethane	51.9	5.00	ug/L	50.0	2.01	99.8	35-155	7.47	56	
Bromoform	47.7	5.00	ug/L	50.0	ND	95.4	45-169	8.37	42	
Bromomethane	54.0	5.00	ug/L	50.0	ND	108	1-242	7.85	61	
2-Butanone (MEK)	52.0	10.0	ug/L	50.0	ND	104	0-200	10.2	200	
Carbon disulfide	48.6	5.00	ug/L	50.0	ND	97.1	0-200	1.60	200	
Carbon tetrachloride	51.5	5.00	ug/L	50.0	ND	103	70-140	3.96	41	
Chlorobenzene	53.2	5.00	ug/L	50.0	ND	106	37-160	3.05	53	
Chloroethane (Ethyl chloride)	47.5	5.00	ug/L	50.0	ND	95.0	14-230	2.17	78	
Chloroform	58.4	4.00	ug/L	50.0	3.44	110	51-138	5.77	54	
Chloromethane	52.3	5.00	ug/L	50.0	ND	105	1-273	2.34	60	
Dibromochloromethane	49.9	5.00	ug/L	50.0	2.19	95.5	53-149	4.44	50	
Dibromomethane (Methylene bromide)	51.1	5.00	ug/L	50.0	ND	102	0-200	7.76	200	
1,2-Dichlorobenzene	51.4	5.00	ug/L	50.0	ND	103	18-190	7.20	57	
1,3-Dichlorobenzene	52.8	5.00	ug/L	50.0	ND	106	59-156	5.75	43	
1,4-Dichlorobenzene	51.9	5.00	ug/L	50.0	ND	104	18-190	3.41	57	
Dichlorodifluoromethane (Freon-12)	43.9	5.00	ug/L	50.0	ND	87.9	0-200	0.500	200	
1,2-Dichloroethane	47.1	5.00	ug/L	50.0	ND	94.3	49-155	6.01	49	
1,1-Dichloroethane	54.9	5.00	ug/L	50.0	ND	110	59-155	4.52	40	
cis-1,2-Dichloroethene	57.1	5.00	ug/L	50.0	ND	114	0-200	4.09	200	
1,1-Dichloroethene	62.6	5.00	ug/L	50.0	ND	125	1-234	1.32	32	
trans-1,2-Dichloroethene	54.4	4.00	ug/L	50.0	ND	109	54-156	4.22	45	
1,2-Dichloropropane	54.6	5.00	ug/L	50.0	ND	109	1-210	7.62	55	
cis-1,3-Dichloropropene	48.4	5.00	ug/L	50.0	ND	96.8	1-227	3.53	58	
trans-1,3-Dichloropropene	47.0	5.00	ug/L	50.0	ND	93.9	17-183	3.29	86	
Ethylbenzene	52.7	5.00	ug/L	50.0	ND	105	37-162	3.30	63	
2-Hexanone (MBK)	48.0	10.0	ug/L	50.0	ND	96.0	0-200	6.29	200	
Methyl tert-butyl ether (MTBE)	61.3	5.00	ug/L	50.0	ND	123	0-200	5.77	200	
Methylene chloride (Dichloromethane)	60.7	1.00	ug/L	50.0	ND	121	1-221	7.58	28	
4-Methyl-2-pentanone (MIBK)	48.2	10.0	ug/L	50.0	ND	96.5	0-200	6.71	200	
Styrene	52.4	5.00	ug/L	50.0	ND	105	0-200	4.81	200	
1,1,2,2-Tetrachloroethane	51.0	5.00	ug/L	50.0	ND	102	46-157	6.54	61	
Tetrachloroethene	55.8	5.00	ug/L	50.0	ND	112	64-148	2.48	39	
Toluene	54.6	5.00	ug/L	50.0	ND	109	47-150	2.28	41	
1,1,2-Trichloroethane	53.8	5.00	ug/L	50.0	ND	108	52-150	5.94	45	
1,1,1-Trichloroethane	51.2	5.00	ug/L	50.0	ND	102	52-162	4.76	36	
Trichloroethene	57.0	5.00	ug/L	50.0	ND	114	70-157	3.34	48	
Trichlorofluoromethane (Freon 11)	55.3	5.00	ug/L	50.0	ND	111	17-181	2.12	84	
Vinyl chloride	53.3	5.00	ug/L	50.0	ND	107	1-251	3.19	66	
m,p-Xylene	102	10.0	ug/L	100	ND	102	0-200	3.35	200	
o-Xylene	50.9	5.00	ug/L	50.0	ND	102	0-200	5.45	200	
Vinyl acetate	65.7	5.00	ug/L	50.0	ND	131	60-140	4.48	25	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ91845-MSD1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019							
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.5*		ug/L	*50.0*		*87.1*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.6*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91547 - 624.1 - EPA 624.1										
Blank (DJ91547-BLK1)			Prepared & Analyzed: 10/18/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		ug/L	*50.0*		*91.3*	*70-130*			
Surrogate: Toluene-d8	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
LCS (DJ91547-BS1)			Prepared & Analyzed: 10/18/2019							
Acrolein	61.2	20.0	ug/L	50.0		122	60-140			
2-Chloroethyl vinyl ether	29.6	20.0	ug/L	50.0		59.3	1-305			
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.5*		ug/L	*50.0*		*89.0*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Matrix Spike (DJ91547-MS1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/18/2019							
Acrolein	56.1	20.0	ug/L	50.0	ND	112	40-160			
2-Chloroethyl vinyl ether	24.7	20.0	ug/L	50.0	ND	49.3	1-305			
Surrogate: 4-Bromofluorobenzene	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.5*		ug/L	*50.0*		*85.1*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Matrix Spike Dup (DJ91547-MSD1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/18/2019							
Acrolein	59.4	20.0	ug/L	50.0	ND	119	40-160	5.71	60	
2-Chloroethyl vinyl ether	25.2	20.0	ug/L	50.0	ND	50.3	1-305	2.01	71	
Surrogate: 4-Bromofluorobenzene	*49.6*		ug/L	*50.0*		*99.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.2*		ug/L	*50.0*		*88.3*	*70-130*			
Surrogate: Toluene-d8	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1761

Definitions

D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
M1:	Matrix spike recovery is above acceptance limits.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.7ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/31/2019 11:50

MICROBAC

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Veolia - Plymouth

Microbac Laboratories, Inc.

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A10 (250 mL)	10/17/19	11:23		X	WW	1	X	X											X			
Well # (250 mL)		11:23		X	WW	1			X	X								X				
Well # (250 mL)(filtered)		11:23		X	WW	1					X							X				
Well # (250 mL)		11:23		X	WW	1						X						X				
Well # (250 mL)		11:23		X	WW	1							X					X				
Well # (250 mL)		11:23		X	WW	1								X	X	X					X	
Well # (40 mL vial)		11:23		X	WW	2											X	X				
Well # (40 mL vial)		11:23		X	WW	2					PRESERVATIVE VERIFIED Initials						X			X		
hpw 10/17 pc. bottle																						

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-17-19	
RECEIVED:		
RELINQUISHED:	10-17-19	12:52
RECEIVED:	10-17-19	12:52
RELINQUISHED:	10-17-19	15:05
RECEIVED:	10-17-19	1505

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 3.7°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1767

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, October 31, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1767

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/17/2019
Reported: 10/31/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #1S	D9J1767-01	Wastewater	Grab		10/17/19 10:30	10/17/19 15:05
Well #1S (filtered)	D9J1767-02	Groundwater	Grab		10/17/19 10:30	10/17/19 15:05

CERTIFICATE OF ANALYSIS

D9J1767

Analytical Testing Parameters

Client Sample ID:	Well #1S		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J1767-01	**Collection Date:**	10/17/2019 10:30

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		10/18/19 0911	10/21/19 1552	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	<0.0106	0.0106	mg/L	1		10/18/19 2031	10/21/19 0927	CLW
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**2.50**	1.00	mg/L	1			10/21/19 1747	CEO
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**13.2**	2.00	mg/L	1			10/18/19 1522	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.0667**	0.0500	mg/L	1			10/17/19 2018	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1			10/17/19 2018	DJM

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0085**	0.0050	mg/L	1	**Y1**	10/21/19 1450	10/22/19 1459	JDF
Copper	<0.0020	0.0020	mg/L	1		10/21/19 1450	10/22/19 1459	JDF
Sodium	**8.67**	1.00	mg/L	1		10/21/19 1450	10/22/19 1459	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/21/19 1230	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/21/19 1230	JAN
Benzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Bromoform	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/21/19 1230	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/21/19 1230	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Chloroform	<4.00	4.00	ug/L	1			10/21/19 1230	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/21/19 1230	JAN

CERTIFICATE OF ANALYSIS

D9J1767

Client Sample ID:	Well #1S		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J1767-01	**Collection Date:**	10/17/2019 10:30

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/21/19 1230	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/21/19 1230	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/21/19 1230	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/21/19 1230	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Toluene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/21/19 1230	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/21/19 1230	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/21/19 1230	JAN
Surrogate: 4-Bromofluorobenzene	98.3	Limit: 70-130	% Rec	1			10/21/19 1230	JAN
Surrogate: 1,2-Dichloroethane-d4	87.7	Limit: 70-130	% Rec	1			10/21/19 1230	JAN
Surrogate: Toluene-d8	99.0	Limit: 70-130	% Rec	1			10/21/19 1230	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/18/19 1747	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/18/19 1747	JAN
Surrogate: 4-Bromofluorobenzene	98.5	Limit: 70-130	% Rec	1			10/18/19 1747	JAN
Surrogate: 1,2-Dichloroethane-d4	89.9	Limit: 70-130	% Rec	1			10/18/19 1747	JAN
Surrogate: Toluene-d8	98.3	Limit: 70-130	% Rec	1			10/18/19 1747	JAN

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J1767

Client Sample ID:	Well #1S (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J1767-02	**Collection Date:**	10/17/2019 10:30

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		10/17/19 1833	10/17/19 1948	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91223 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91223-BLK1)			Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91223-BS1)			Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	1.00	0.0100	mg/L	1.00		100	90-110			
Duplicate (DJ91223-DUP1)		**Source: D9J1715-09**	Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	2.97	0.0200	mg/L		2.91			2.08	20	
Matrix Spike (DJ91223-MS1)		**Source: D9J1715-09**	Prepared & Analyzed: 10/17/2019							
Ortho-phosphate as P	4.03	0.0400	mg/L	1.00	2.91	112	90-110			M1
Batch DJ91231 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91231-BLK1)			Prepared & Analyzed: 10/17/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91231-BS1)			Prepared & Analyzed: 10/17/2019							
Nitrate as N	5.04	0.0500	mg/L	5.00		101	90-110			
LCS (DJ91231-BS2)			Prepared & Analyzed: 10/17/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DJ91231-DUP1)		**Source: D9J1707-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.00520				20	
Nitrate as N	<0.0500	0.0500	mg/L		0.0591				20	
Matrix Spike (DJ91231-MS1)		**Source: D9J1707-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00	0.00520	100	75-125			
Nitrate as N	5.02	0.0500	mg/L	5.00	0.0591	99.1	75-125			
Matrix Spike Dup (DJ91231-MSD1)		**Source: D9J1707-01**	Prepared & Analyzed: 10/17/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00	0.00520	100	75-125	0.0597	20	
Nitrate as N	4.98	0.0500	mg/L	5.00	0.0591	98.4	75-125	0.710	20	
Batch DJ91248 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ91248-BLK1)			Prepared & Analyzed: 10/18/2019							
Chloride	<2.00	2.00	mg/L							
LCS (DJ91248-BS1)			Prepared & Analyzed: 10/18/2019							
Chloride	19.6	2.00	mg/L	20.0		98.2	90-110			
Duplicate (DJ91248-DUP1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	50.3	2.00	mg/L		49.2			2.31	20	
Matrix Spike (DJ91248-MS1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	68.0	2.00	mg/L	20.0	49.2	94.3	75-125			
Matrix Spike Dup (DJ91248-MSD1)		**Source: D9J1817-01**	Prepared & Analyzed: 10/18/2019							
Chloride	68.9	2.00	mg/L	20.0	49.2	98.8	75-125	1.31	20	

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91251 - Wet-Digestion-W - EPA 351.1										
Blank (DJ91251-BLK1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ91251-BS1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Total Kjeldahl Nitrogen (TKN)	4.82	0.200	mg/L	5.00		96.4	90-110			
Duplicate (DJ91251-DUP1)		**Source: D9J1767-01**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L		ND				20	
Matrix Spike (DJ91251-MS1)		**Source: D9J1767-01**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Total Kjeldahl Nitrogen (TKN)	10.0	0.200	mg/L	10.0	ND	100	90-110			
Matrix Spike (DJ91251-MS2)		**Source: L9J0419-01**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Total Kjeldahl Nitrogen (TKN)	14.3	0.200	mg/L	10.0	4.25	101	90-110			
Batch DJ91330 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91330-BLK1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91330-BS1)			Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DJ91330-DUP1)		**Source: D9J1714-03**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	4.07	0.0425	mg/L		4.05			0.497	20	
Matrix Spike (DJ91330-MS1)		**Source: D9J1714-03**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	5.33	0.0425	mg/L	1.25	4.05	103	90-110			
Matrix Spike (DJ91330-MS2)		**Source: D9J1730-02**	Prepared: 10/18/2019 Analyzed: 10/21/2019							
Phosphorus - Total as P	1.27	0.0106	mg/L	1.25	0.0733	95.9	90-110			
Batch DJ91406 - Wet Chem - W - SM2320 B-2011										
Blank (DJ91406-BLK1)			Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ91406-BS1)			Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ91406-DUP1)		**Source: D9J1715-04**	Prepared & Analyzed: 10/21/2019							
Alkalinity to pH 4.5	188	1.00	mg/L		183			2.70	20	

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91413 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ91413-BLK1)			Prepared: 10/21/2019 Analyzed: 10/22/2019							
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DJ91413-BS1)			Prepared: 10/21/2019 Analyzed: 10/22/2019							
Boron	0.531	0.0050	mg/L	0.500		106	85-115			
Copper	0.508	0.0020	mg/L	0.500		102	85-115			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91413 - 200.7 - W - EPA 200.7, Rv. 4.4										
LCS (DJ91413-BS1)				Prepared: 10/21/2019 Analyzed: 10/22/2019						
Sodium	11.2	1.00	mg/L	10.5		107	85-115			
Duplicate (DJ91413-DUP1)		**Source: D9J1766-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.0149	0.0050	mg/L		0.0180			19.4	20	
Copper	<0.0020	0.0020	mg/L		ND				20	
Sodium	97.9	1.00	mg/L		98.6			0.767	20	
Matrix Spike (DJ91413-MS1)		**Source: D9J1766-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.542	0.0050	mg/L	0.500	0.0180	105	70-130			
Copper	0.505	0.0020	mg/L	0.500	ND	101	70-130			
Sodium	110	1.00	mg/L	10.5	98.6	111	70-130			
Matrix Spike (DJ91413-MS2)		**Source: D9J1767-01**		Prepared: 10/21/2019 Analyzed: 10/22/2019						
Boron	0.504	0.0050	mg/L	0.500	0.0085	99.2	70-130			
Copper	0.482	0.0020	mg/L	0.500	ND	96.4	70-130			
Sodium	18.4	1.00	mg/L	10.5	8.67	92.9	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Blank (DJ91845-BLK1)				Prepared & Analyzed: 10/21/2019						
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Blank (DJ91845-BLK1)				Prepared & Analyzed: 10/21/2019						
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.0*		ug/L	*50.0*		*97.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.3*		ug/L	*50.0*		*86.5*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
LCS (DJ91845-BS1)				Prepared & Analyzed: 10/21/2019						
Acetone	35.3	10.0	ug/L	50.0		70.6	65-133			
Acrylonitrile	53.8	20.0	ug/L	50.0		108	60-140			
Benzene	54.8	5.00	ug/L	50.0		110	65-135			
Bromodichloromethane	48.3	5.00	ug/L	50.0		96.6	65-135			
Bromoform	46.2	5.00	ug/L	50.0		92.5	70-130			
Bromomethane	53.7	5.00	ug/L	50.0		107	15-185			
2-Butanone (MEK)	46.6	10.0	ug/L	50.0		93.2	77-140			
Carbon disulfide	39.5	5.00	ug/L	50.0		78.9	70-130			
Carbon tetrachloride	48.9	5.00	ug/L	50.0		97.8	70-130			
Chlorobenzene	51.9	5.00	ug/L	50.0		104	65-135			
Chloroethane (Ethyl chloride)	49.6	5.00	ug/L	50.0		99.2	40-160			
Chloroform	51.5	4.00	ug/L	50.0		103	70-135			
Chloromethane	51.8	5.00	ug/L	50.0		104	1-205			
Dibromochloromethane	48.3	5.00	ug/L	50.0		96.5	70-135			
Dibromomethane (Methylene bromide)	48.2	5.00	ug/L	50.0		96.3	76-126			
1,2-Dichlorobenzene	49.6	5.00	ug/L	50.0		99.3	65-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
LCS (DJ91845-BS1)				Prepared & Analyzed: 10/21/2019						
1,3-Dichlorobenzene	50.7	5.00	ug/L	50.0		101	70-130			
1,4-Dichlorobenzene	50.6	5.00	ug/L	50.0		101	65-135			
Dichlorodifluoromethane (Freon-12)	38.3	5.00	ug/L	50.0		76.6	1-205			
1,2-Dichloroethane	44.8	5.00	ug/L	50.0		89.6	70-130			
1,1-Dichloroethane	52.6	5.00	ug/L	50.0		105	70-130			
cis-1,2-Dichloroethene	54.3	5.00	ug/L	50.0		109	82-137			
1,1-Dichloroethene	61.0	5.00	ug/L	50.0		122	50-150			
trans-1,2-Dichloroethene	52.8	4.00	ug/L	50.0		106	70-130			
1,2-Dichloropropane	52.3	5.00	ug/L	50.0		105	35-165			
cis-1,3-Dichloropropene	49.8	5.00	ug/L	50.0		99.5	25-175			
trans-1,3-Dichloropropene	45.0	5.00	ug/L	50.0		90.0	50-150			
Ethylbenzene	49.8	5.00	ug/L	50.0		99.6	60-140			
2-Hexanone (MBK)	54.3	10.0	ug/L	50.0		109	74-134			
Methyl tert-butyl ether (MTBE)	62.8	5.00	ug/L	50.0		126	81-140			
Methylene chloride (Dichloromethane)	58.0	1.00	ug/L	50.0		116	60-140			
4-Methyl-2-pentanone (MIBK)	52.5	10.0	ug/L	50.0		105	73-142			
Styrene	48.1	5.00	ug/L	50.0		96.3	82-125			
1,1,2,2-Tetrachloroethane	52.2	5.00	ug/L	50.0		104	60-140			
Tetrachloroethene	53.7	5.00	ug/L	50.0		107	70-130			
Toluene	53.5	5.00	ug/L	50.0		107	70-130			
1,1,2-Trichloroethane	52.7	5.00	ug/L	50.0		105	70-130			
1,1,1-Trichloroethane	50.5	5.00	ug/L	50.0		101	70-130			
Trichloroethene	55.8	5.00	ug/L	50.0		112	65-135			
Trichlorofluoromethane (Freon 11)	55.0	5.00	ug/L	50.0		110	50-150			
Vinyl chloride	53.4	5.00	ug/L	50.0		107	5-195			
m,p-Xylene	99.5	10.0	ug/L	100		99.5	80-122			
o-Xylene	49.7	5.00	ug/L	50.0		99.4	81-125			
Vinyl acetate	63.7	5.00	ug/L	50.0		127	60-140			
Surrogate: 4-Bromofluorobenzene	*48.5*		ug/L	*50.0*		*97.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.8*		ug/L	*50.0*		*87.6*	*70-130*			
Surrogate: Toluene-d8	*49.3*		ug/L	*50.0*		*98.6*	*70-130*			
Matrix Spike (DJ91845-MS1)	**Source: D9J1761-01**			Prepared & Analyzed: 10/21/2019						
Acetone	40.2	10.0	ug/L	50.0	ND	80.4	0-200			
Acrylonitrile	51.7	20.0	ug/L	50.0	ND	103	40-160			
Benzene	54.3	5.00	ug/L	50.0	ND	109	37-151			
Bromodichloromethane	48.2	5.00	ug/L	50.0	2.01	92.4	35-155			
Bromoform	43.9	5.00	ug/L	50.0	ND	87.7	45-169			
Bromomethane	49.9	5.00	ug/L	50.0	ND	99.8	1-242			
2-Butanone (MEK)	47.0	10.0	ug/L	50.0	ND	94.0	0-200			
Carbon disulfide	47.8	5.00	ug/L	50.0	ND	95.6	0-200			
Carbon tetrachloride	49.5	5.00	ug/L	50.0	ND	99.0	70-140			
Chlorobenzene	51.6	5.00	ug/L	50.0	ND	103	37-160			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike (DJ91845-MS1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Chloroethane (Ethyl chloride)	46.5	5.00	ug/L	50.0	ND	92.9	14-230			
Chloroform	55.2	4.00	ug/L	50.0	3.44	103	51-138			
Chloromethane	51.1	5.00	ug/L	50.0	ND	102	1-273			
Dibromochloromethane	47.8	5.00	ug/L	50.0	2.19	91.1	53-149			
Dibromomethane (Methylene bromide)	47.3	5.00	ug/L	50.0	ND	94.6	0-200			
1,2-Dichlorobenzene	47.8	5.00	ug/L	50.0	ND	95.6	18-190			
1,3-Dichlorobenzene	49.9	5.00	ug/L	50.0	ND	99.7	59-156			
1,4-Dichlorobenzene	50.2	5.00	ug/L	50.0	ND	100	18-190			
Dichlorodifluoromethane (Freon-12)	44.2	5.00	ug/L	50.0	ND	88.3	0-200			
1,2-Dichloroethane	44.4	5.00	ug/L	50.0	ND	88.8	49-155			
1,1-Dichloroethane	52.5	5.00	ug/L	50.0	ND	105	59-155			
cis-1,2-Dichloroethene	54.8	5.00	ug/L	50.0	ND	110	0-200			
1,1-Dichloroethene	63.4	5.00	ug/L	50.0	ND	127	1-234			
trans-1,2-Dichloroethene	52.1	4.00	ug/L	50.0	ND	104	54-156			
1,2-Dichloropropane	50.6	5.00	ug/L	50.0	ND	101	1-210			
cis-1,3-Dichloropropene	46.7	5.00	ug/L	50.0	ND	93.5	1-227			
trans-1,3-Dichloropropene	45.5	5.00	ug/L	50.0	ND	90.9	17-183			
Ethylbenzene	51.0	5.00	ug/L	50.0	ND	102	37-162			
2-Hexanone (MBK)	45.1	10.0	ug/L	50.0	ND	90.2	0-200			
Methyl tert-butyl ether (MTBE)	57.9	5.00	ug/L	50.0	ND	116	0-200			
Methylene chloride (Dichloromethane)	56.3	1.00	ug/L	50.0	ND	113	1-221			
4-Methyl-2-pentanone (MIBK)	45.1	10.0	ug/L	50.0	ND	90.2	0-200			
Styrene	50.0	5.00	ug/L	50.0	ND	99.9	0-200			
1,1,2,2-Tetrachloroethane	47.8	5.00	ug/L	50.0	ND	95.6	46-157			
Tetrachloroethene	54.5	5.00	ug/L	50.0	ND	109	64-148			
Toluene	53.4	5.00	ug/L	50.0	ND	107	47-150			
1,1,2-Trichloroethane	50.7	5.00	ug/L	50.0	ND	101	52-150			
1,1,1-Trichloroethane	48.8	5.00	ug/L	50.0	ND	97.6	52-162			
Trichloroethene	55.1	5.00	ug/L	50.0	ND	110	70-157			
Trichlorofluoromethane (Freon 11)	54.1	5.00	ug/L	50.0	ND	108	17-181			
Vinyl chloride	51.6	5.00	ug/L	50.0	ND	103	1-251			
m,p-Xylene	99.0	10.0	ug/L	100	ND	99.0	0-200			
o-Xylene	48.2	5.00	ug/L	50.0	ND	96.4	0-200			
Vinyl acetate	62.8	5.00	ug/L	50.0	ND	126	60-140			
Surrogate: 4-Bromofluorobenzene		*49.8*	ug/L	*50.0*		*99.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*43.5*	ug/L	*50.0*		*87.0*	*70-130*			
Surrogate: Toluene-d8		*48.3*	ug/L	*50.0*		*96.6*	*70-130*			
Matrix Spike Dup (DJ91845-MSD1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Acetone	41.7	10.0	ug/L	50.0	ND	83.3	0-200	3.62	200	
Acrylonitrile	54.7	20.0	ug/L	50.0	ND	109	40-160	5.49	60	
Benzene	57.9	5.00	ug/L	50.0	ND	116	37-151	6.44	61	

CERTIFICATE OF ANALYSIS

D9J1767

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ91845-MSD1)		**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019						
Bromodichloromethane	51.9	5.00	ug/L	50.0	2.01	99.8	35-155	7.47	56	
Bromoform	47.7	5.00	ug/L	50.0	ND	95.4	45-169	8.37	42	
Bromomethane	54.0	5.00	ug/L	50.0	ND	108	1-242	7.85	61	
2-Butanone (MEK)	52.0	10.0	ug/L	50.0	ND	104	0-200	10.2	200	
Carbon disulfide	48.6	5.00	ug/L	50.0	ND	97.1	0-200	1.60	200	
Carbon tetrachloride	51.5	5.00	ug/L	50.0	ND	103	70-140	3.96	41	
Chlorobenzene	53.2	5.00	ug/L	50.0	ND	106	37-160	3.05	53	
Chloroethane (Ethyl chloride)	47.5	5.00	ug/L	50.0	ND	95.0	14-230	2.17	78	
Chloroform	58.4	4.00	ug/L	50.0	3.44	110	51-138	5.77	54	
Chloromethane	52.3	5.00	ug/L	50.0	ND	105	1-273	2.34	60	
Dibromochloromethane	49.9	5.00	ug/L	50.0	2.19	95.5	53-149	4.44	50	
Dibromomethane (Methylene bromide)	51.1	5.00	ug/L	50.0	ND	102	0-200	7.76	200	
1,2-Dichlorobenzene	51.4	5.00	ug/L	50.0	ND	103	18-190	7.20	57	
1,3-Dichlorobenzene	52.8	5.00	ug/L	50.0	ND	106	59-156	5.75	43	
1,4-Dichlorobenzene	51.9	5.00	ug/L	50.0	ND	104	18-190	3.41	57	
Dichlorodifluoromethane (Freon-12)	43.9	5.00	ug/L	50.0	ND	87.9	0-200	0.500	200	
1,2-Dichloroethane	47.1	5.00	ug/L	50.0	ND	94.3	49-155	6.01	49	
1,1-Dichloroethane	54.9	5.00	ug/L	50.0	ND	110	59-155	4.52	40	
cis-1,2-Dichloroethene	57.1	5.00	ug/L	50.0	ND	114	0-200	4.09	200	
1,1-Dichloroethene	62.6	5.00	ug/L	50.0	ND	125	1-234	1.32	32	
trans-1,2-Dichloroethene	54.4	4.00	ug/L	50.0	ND	109	54-156	4.22	45	
1,2-Dichloropropane	54.6	5.00	ug/L	50.0	ND	109	1-210	7.62	55	
cis-1,3-Dichloropropene	48.4	5.00	ug/L	50.0	ND	96.8	1-227	3.53	58	
trans-1,3-Dichloropropene	47.0	5.00	ug/L	50.0	ND	93.9	17-183	3.29	86	
Ethylbenzene	52.7	5.00	ug/L	50.0	ND	105	37-162	3.30	63	
2-Hexanone (MBK)	48.0	10.0	ug/L	50.0	ND	96.0	0-200	6.29	200	
Methyl tert-butyl ether (MTBE)	61.3	5.00	ug/L	50.0	ND	123	0-200	5.77	200	
Methylene chloride (Dichloromethane)	60.7	1.00	ug/L	50.0	ND	121	1-221	7.58	28	
4-Methyl-2-pentanone (MIBK)	48.2	10.0	ug/L	50.0	ND	96.5	0-200	6.71	200	
Styrene	52.4	5.00	ug/L	50.0	ND	105	0-200	4.81	200	
1,1,2,2-Tetrachloroethane	51.0	5.00	ug/L	50.0	ND	102	46-157	6.54	61	
Tetrachloroethene	55.8	5.00	ug/L	50.0	ND	112	64-148	2.48	39	
Toluene	54.6	5.00	ug/L	50.0	ND	109	47-150	2.28	41	
1,1,2-Trichloroethane	53.8	5.00	ug/L	50.0	ND	108	52-150	5.94	45	
1,1,1-Trichloroethane	51.2	5.00	ug/L	50.0	ND	102	52-162	4.76	36	
Trichloroethene	57.0	5.00	ug/L	50.0	ND	114	70-157	3.34	48	
Trichlorofluoromethane (Freon 11)	55.3	5.00	ug/L	50.0	ND	111	17-181	2.12	84	
Vinyl chloride	53.3	5.00	ug/L	50.0	ND	107	1-251	3.19	66	
m,p-Xylene	102	10.0	ug/L	100	ND	102	0-200	3.35	200	
o-Xylene	50.9	5.00	ug/L	50.0	ND	102	0-200	5.45	200	
Vinyl acetate	65.7	5.00	ug/L	50.0	ND	131	60-140	4.48	25	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91845 - 624.1 - EPA 624.1										
Matrix Spike Dup (DJ91845-MSD1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/21/2019							
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*43.5*		ug/L	*50.0*		*87.1*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.6*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91547 - 624.1 - EPA 624.1										
Blank (DJ91547-BLK1)			Prepared & Analyzed: 10/18/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		ug/L	*50.0*		*91.3*	*70-130*			
Surrogate: Toluene-d8	*48.9*		ug/L	*50.0*		*97.8*	*70-130*			
LCS (DJ91547-BS1)			Prepared & Analyzed: 10/18/2019							
Acrolein	61.2	20.0	ug/L	50.0		122	60-140			
2-Chloroethyl vinyl ether	29.6	20.0	ug/L	50.0		59.3	1-305			
Surrogate: 4-Bromofluorobenzene	*48.6*		ug/L	*50.0*		*97.1*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.5*		ug/L	*50.0*		*89.0*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Matrix Spike (DJ91547-MS1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/18/2019							
Acrolein	56.1	20.0	ug/L	50.0	ND	112	40-160			
2-Chloroethyl vinyl ether	24.7	20.0	ug/L	50.0	ND	49.3	1-305			
Surrogate: 4-Bromofluorobenzene	*48.7*		ug/L	*50.0*		*97.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*42.5*		ug/L	*50.0*		*85.1*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Matrix Spike Dup (DJ91547-MSD1)	**Source: D9J1761-01**		Prepared & Analyzed: 10/18/2019							
Acrolein	59.4	20.0	ug/L	50.0	ND	119	40-160	5.71	60	
2-Chloroethyl vinyl ether	25.2	20.0	ug/L	50.0	ND	50.3	1-305	2.01	71	
Surrogate: 4-Bromofluorobenzene	*49.6*		ug/L	*50.0*		*99.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*44.2*		ug/L	*50.0*		*88.3*	*70-130*			
Surrogate: Toluene-d8	*47.9*		ug/L	*50.0*		*95.7*	*70-130*			

CERTIFICATE OF ANALYSIS

D9J1767

Definitions

M1:	Matrix spike recovery is above acceptance limits.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 3.7°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall
Project Manager
Reported: 10/31/2019 12:01

MICROBAC

Microbac Laboratories, Inc.

D9J1767

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

WELLS - QUARTERLY

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS204	HCL	HNO3	OTHER
Well # 15 (250 mL)	10/17/19	10:30		X	WW	1	X	X											X			
Well # 15 (250 mL)	"	10:30		X	WW	1			X	X								X				
Well # 15 (250 mL)(filtered)	"	10:30		X	WW	1					X							X				
Well # 15 (250 mL)	"	10:30		X	WW	1						X						X				
Well # 15 (250 mL)	"	10:30		X	WW	1							X					X				
Well # 15 (250 mL)	"	10:30		X	WW	1								X	X	X					X	
Well # 15 (40 mL vial)	"	10:30		X	WW	2											X	X				
Well # 15 (40 mL vial)	"	10:30		X	WW	2											X			X		

PRESERVATIVE VERIFIED Initials

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-17-19	
RECEIVED:		
RELINQUISHED: Robert Blanchard	10-17-19	12:52
RECEIVED:	10-17-19	12:52
RELINQUISHED:	10-17-19	15:05
RECEIVED:	10-17-19	1505

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☒ AMBIENT ☐ 3.7°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2466

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Thursday, October 31, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2466

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/25/2019
Reported: 10/31/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well # 1	D9J2466-01	Groundwater	Grab		10/25/19 11:31	10/25/19 16:45
Well # 1 (Filtered)	D9J2466-02	Groundwater	Grab		10/25/19 11:31	10/25/19 16:45
Well # 2	D9J2466-03	Groundwater	Grab		10/25/19 11:40	10/25/19 16:45
Well # 2 (Filtered)	D9J2466-04	Groundwater	Grab		10/25/19 11:40	10/25/19 16:45
Well # 3	D9J2466-05	Groundwater	Grab		10/25/19 10:47	10/25/19 16:45
Well # 3 (Filtered)	D9J2466-06	Groundwater	Grab		10/25/19 10:47	10/25/19 16:45

CERTIFICATE OF ANALYSIS

D9J2466

Analytical Testing Parameters

Client Sample ID: Well # 1
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-01
Collected By: Customer
Collection Date: 10/25/2019 11:31

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	**0.723**	0.200	mg/L	1		10/29/19 1538	10/31/19 1100	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0298**	0.0106	mg/L	1		10/28/19 2029	10/29/19 1135	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	<0.0500	0.0500	mg/L	1	**A5**		10/25/19 1806	DJM
Nitrite as N	**0.0116**	0.0100	mg/L	1	**A5**		10/25/19 1806	DJM

Client Sample ID: Well # 1 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-02
Collected By: Customer
Collection Date: 10/25/2019 11:31

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		10/25/19 1814	10/25/19 2002	DJM

Client Sample ID: Well # 2
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-03
Collected By: Customer
Collection Date: 10/25/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	**0.312**	0.200	mg/L	1		10/29/19 1538	10/31/19 1101	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0351**	0.0106	mg/L	1		10/28/19 2029	10/29/19 1135	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.0583**	0.0500	mg/L	1	**A5**		10/25/19 1807	DJM
Nitrite as N	<0.0100	0.0100	mg/L	1	**A5**		10/25/19 1807	DJM

CERTIFICATE OF ANALYSIS

D9J2466

Client Sample ID: Well # 2 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-04
Collected By: Customer
Collection Date: 10/25/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	<0.0100	0.0100	mg/L	1		10/25/19 1814	10/25/19 2004	DJM

Client Sample ID: Well # 3
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-05
Collected By: Customer
Collection Date: 10/25/2019 10:47

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	**0.527**	0.200	mg/L	1		10/29/19 1538	10/31/19 1102	CLW
EPA 365.1, Rv 2.0			**Method Notes:** D1					
Phosphorus - Total as P	**0.0850**	0.0425	mg/L	1		10/28/19 2029	10/29/19 1137	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.130**	0.0500	mg/L	1	**A5**		10/25/19 1808	DJM
Nitrite as N	**0.0594**	0.0100	mg/L	1	**A5**		10/25/19 1808	DJM

Client Sample ID: Well # 3 (Filtered)
Sample Matrix: Groundwater
Lab Sample ID: D9J2466-06
Collected By: Customer
Collection Date: 10/25/2019 10:47

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.231**	0.0100	mg/L	1	**A5**	10/25/19 1814	10/25/19 2005	DJM

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91729 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91729-BLK1)			Prepared & Analyzed: 10/25/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91729-BS1)			Prepared & Analyzed: 10/25/2019							
Nitrate as N	5.04	0.0500	mg/L	5.00		101	90-110			
LCS (DJ91729-BS2)			Prepared & Analyzed: 10/25/2019							
Nitrite as N	1.03	0.0100	mg/L	1.00		103	90-110			
Duplicate (DJ91729-DUP1)		**Source: D9J2399-03**	Prepared & Analyzed: 10/25/2019							
Nitrite as N	<0.0100	0.0100	mg/L		0.0105				20	
Nitrate as N	<0.0500	0.0500	mg/L		0.0548				20	
Matrix Spike (DJ91729-MS1)		**Source: D9J2399-03**	Prepared & Analyzed: 10/25/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0105	104	75-125			
Nitrate as N	5.15	0.0500	mg/L	5.00	0.0548	102	75-125			
Matrix Spike Dup (DJ91729-MSD1)		**Source: D9J2399-03**	Prepared & Analyzed: 10/25/2019							
Nitrite as N	1.05	0.0100	mg/L	1.00	0.0105	103	75-125	0.468	20	
Nitrate as N	5.08	0.0500	mg/L	5.00	0.0548	100	75-125	1.39	20	
Batch DJ91740 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91740-BLK1)			Prepared & Analyzed: 10/25/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91740-BS1)			Prepared & Analyzed: 10/25/2019							
Ortho-phosphate as P	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DJ91740-DUP1)		**Source: D9J2492-01**	Prepared & Analyzed: 10/25/2019							
Ortho-phosphate as P	0.0580	0.0100	mg/L		0.0550			5.31	20	
Matrix Spike (DJ91740-MS1)		**Source: D9J2492-01**	Prepared & Analyzed: 10/25/2019							
Ortho-phosphate as P	1.08	0.0100	mg/L	1.00	0.0550	103	90-110			
Batch DJ91837 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91837-BLK1)			Prepared: 10/28/2019 Analyzed: 10/29/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91837-BS1)			Prepared: 10/28/2019 Analyzed: 10/29/2019							
Phosphorus - Total as P	1.04	0.0106	mg/L	1.00		104	90-110			
Duplicate (DJ91837-DUP1)		**Source: D9J2444-01**	Prepared: 10/28/2019 Analyzed: 10/29/2019							
Phosphorus - Total as P	0.107	0.0106	mg/L		0.0956			11.5	20	
Matrix Spike (DJ91837-MS1)		**Source: D9J2444-01**	Prepared: 10/28/2019 Analyzed: 10/29/2019							
Phosphorus - Total as P	1.34	0.0106	mg/L	1.25	0.0956	99.6	90-110			
Matrix Spike (DJ91837-MS2)		**Source: D9J2492-01**	Prepared: 10/28/2019 Analyzed: 10/29/2019							
Phosphorus - Total as P	1.38	0.0106	mg/L	1.25	0.147	98.5	90-110			

CERTIFICATE OF ANALYSIS

D9J2466

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91891 - Wet-Digestion-W - EPA 351.1										
Blank (DJ91891-BLK1)			Prepared: 10/29/2019 Analyzed: 10/31/2019							
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ91891-BS1)			Prepared: 10/29/2019 Analyzed: 10/31/2019							
Total Kjeldahl Nitrogen (TKN)	4.99	0.200	mg/L	5.00		99.9	90-110			
Duplicate (DJ91891-DUP1)		**Source: D9J2489-01**	Prepared: 10/29/2019 Analyzed: 10/31/2019							
Total Kjeldahl Nitrogen (TKN)	2.20	0.200	mg/L		2.20			0.237	20	
Matrix Spike (DJ91891-MS1)		**Source: D9J2489-01**	Prepared: 10/29/2019 Analyzed: 10/31/2019							
Total Kjeldahl Nitrogen (TKN)	11.9	0.200	mg/L	10.0	2.20	96.9	90-110			
Matrix Spike (DJ91891-MS2)		**Source: D9J2492-01**	Prepared: 10/29/2019 Analyzed: 10/31/2019							
Total Kjeldahl Nitrogen (TKN)	10.5	0.200	mg/L	10.0	0.882	96.6	90-110			

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2466

Definitions

A5:	Sample was filtered (0.45 um) before analysis.
D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
RL:	Reporting Limit
RPD:	Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.3°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008 Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 10/31/2019 16:18

MICROBAC

Microbac Laboratories, Inc.

D 9 J 2 4 6 6

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYM SOUTH HIGH SCHOOL

LOCATION: ID 11773

WELLS - QUARTERLY

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	Analysis: TOTAL PHOS.	Analysis: NITRITE	Analysis: NITRATE	Analysis: ORTHO-PHOSPHATE	Preservatives: NON-PRES	Preservatives: HS2O4	Preservatives: HCL	Preservatives: HNO3	Preservatives: OTHER
Well # 1 (250 mL)	10/25/2019	11:31		X	WW	1	X	X					X			
Well # 1 (250 mL)	10/25/2019	11:31		X	WW	1			X	X		X				
Well # 1 (250 mL)(filtered)	10/25/2019	11:31		X	WW	1					X	X				
Well # 2 (250 mL)	10/25/2019	11:40		X	WW	1	X	X					X			
Well # 2 (250 mL)	10/25/2019	11:40		X	WW	1			X	X		X				
Well # 2 (250 mL)(filtered)	10/25/2019	11:40		X	WW	1					X	X				
Well # 3 (250 mL)	10/25/2019	10:47		X	WW	1	X	X					X			
Well # 3 (250 mL)	10/25/2019	10:47		X	WW	1			X	X		X				
Well# 3 (250 mL)(filtered)	10/25/2019	10:47		X	WW	1					X	X				

CUSTODY TRANSFER	43763	TIME
SAMPLER:	10/25/19	
RECEIVED:		
RELINQUISHED:	10/25/19	12:59
RECEIVED:	10-25-19	12:59
RELINQUISHED:	10-25-19	1645
RECEIVED:	10-25-19	1645

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☐ AMBIENT ☐ COMPLIANT ☐

1.3°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2676

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360

Katherine Wall

Project Manager

Katherine A. Wall

Tuesday, November 5, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2676

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/29/2019
Reported: 11/05/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A9	D9J2676-01	Wastewater	Grab		10/29/19 10:00	10/29/19 15:47
Well #A9 (filtered)	D9J2676-02	Groundwater	Grab		10/29/19 10:00	10/29/19 15:47

CERTIFICATE OF ANALYSIS

D9J2676

Analytical Testing Parameters

Client Sample ID: Well #A9
Sample Matrix: Wastewater
Lab Sample ID: D9J2676-01
Collected By: Customer
Collection Date: 10/29/2019 10:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	<0.400	0.400	mg/L	1		10/30/19 2013	11/04/19 1515	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0425**	0.0106	mg/L	1		10/31/19 1800	10/31/19 1831	DCH
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**27.5**	1.00	mg/L	1	**A27**		10/30/19 1638	MAD
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**391**	20.0	mg/L	10			10/31/19 1458	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**3.94**	0.0500	mg/L	1			10/29/19 2139	DCH
Nitrite as N	<0.0100	0.0100	mg/L	1			10/29/19 2139	DCH

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.146**	0.0050	mg/L	1	**Y1**	10/31/19 1335	11/01/19 1257	JDF
Copper	**0.0024**	0.0020	mg/L	1		10/31/19 1335	11/01/19 1257	JDF
Sodium	**259**	1.00	mg/L	1		10/31/19 1335	11/01/19 1257	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/30/19 2338	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/30/19 2338	JAN
Benzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Bromoform	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/30/19 2338	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/30/19 2338	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Chloroform	**4.21**	4.00	ug/L	1			10/30/19 2338	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/30/19 2338	JAN

CERTIFICATE OF ANALYSIS

D9J2676

Client Sample ID:	Well #A9		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J2676-01	**Collection Date:**	10/29/2019 10:00

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/30/19 2338	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/30/19 2338	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/30/19 2338	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/30/19 2338	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Toluene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/30/19 2338	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/30/19 2338	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/30/19 2338	JAN
Surrogate: 4-Bromofluorobenzene	99.4	Limit: 70-130	% Rec	1			10/30/19 2338	JAN
Surrogate: 1,2-Dichloroethane-d4	97.9	Limit: 70-130	% Rec	1			10/30/19 2338	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			10/30/19 2338	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/30/19 2103	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/30/19 2103	JAN
Surrogate: 4-Bromofluorobenzene	101	Limit: 70-130	% Rec	1			10/30/19 2103	JAN
Surrogate: 1,2-Dichloroethane-d4	97.2	Limit: 70-130	% Rec	1			10/30/19 2103	JAN
Surrogate: Toluene-d8	103	Limit: 70-130	% Rec	1			10/30/19 2103	JAN

CERTIFICATE OF ANALYSIS

D9J2676

Client Sample ID:	Well #A9 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J2676-02	**Collection Date:**	10/29/2019 10:00

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0770**	0.0100	mg/L	1		10/29/19 2122	10/29/19 2351	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91914 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91914-BLK1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91914-BS1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DJ91914-DUP1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	0.0616	0.0106	mg/L		0.0638			3.39	20	
Matrix Spike (DJ91914-MS1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.33	0.0106	mg/L	1.25	0.0638	101	90-110			
Matrix Spike (DJ91914-MS2)		**Source: L9J0574-01**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	8.33	0.128	mg/L	1.25	6.99	107	90-110			
Batch DJ91920 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91920-BLK1)			Prepared & Analyzed: 10/29/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91920-BS1)			Prepared & Analyzed: 10/29/2019							
Nitrate as N	5.05	0.0500	mg/L	5.00		101	90-110			
LCS (DJ91920-BS2)			Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DJ91920-DUP1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	0.251	0.0100	mg/L		0.253			0.992	20	
Nitrate as N	4.35	0.0500	mg/L		4.35			0.103	20	
Matrix Spike (DJ91920-MS1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.25	0.0100	mg/L	1.00	0.253	99.3	75-125			
Nitrate as N	9.01	0.100	mg/L	5.00	4.35	93.1	75-125			
Matrix Spike Dup (DJ91920-MSD1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.25	0.0100	mg/L	1.00	0.253	99.4	75-125	0.0642	20	
Nitrate as N	8.91	0.100	mg/L	5.00	4.35	91.2	75-125	1.08	20	
Batch DJ91930 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91930-BLK1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91930-BS1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ91930-DUP1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	0.200	0.0100	mg/L		0.202			0.995	20	
Matrix Spike (DJ91930-MS1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.23	0.0100	mg/L	1.00	0.202	102	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91930 - Wet Chem - W - EPA 365.1, Rv 2.0										
Matrix Spike (DJ91930-MS2)		**Source: D9J2680-02**		Prepared & Analyzed: 10/30/2019						
Ortho-phosphate as P	6.52	0.0400	mg/L	1.00	5.53	99.5	90-110			
Batch DJ91980 - Wet Chem - W - SM2320 B-2011										
Blank (DJ91980-BLK1)				Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ91980-BS1)				Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ91980-DUP1)		**Source: D9J2658-13**		Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	62.5	1.00	mg/L		62.5			0.00	20	
Batch DJ91998 - Wet-Digestion-W - EPA 351.1										
Blank (DJ91998-BLK1)				Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ91998-BS1)				Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	5.06	0.200	mg/L	5.00		101	90-110			
Duplicate (DJ91998-DUP1)		**Source: D9J2644-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	18.9	0.400	mg/L		19.5			2.72	20	
Matrix Spike (DJ91998-MS1)		**Source: D9J2644-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	29.8	0.800	mg/L	10.0	19.5	103	90-110			
Matrix Spike (DJ91998-MS2)		**Source: D9J2670-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	9.56	0.200	mg/L	10.0	ND	95.6	90-110			
Batch DJ92063 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ92063-BLK1)				Prepared & Analyzed: 10/31/2019						
Chloride	<2.00	2.00	mg/L							
LCS (DJ92063-BS1)				Prepared & Analyzed: 10/31/2019						
Chloride	19.7	2.00	mg/L	20.0		98.6	90-110			
Duplicate (DJ92063-DUP1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	107	4.00	mg/L		109			2.00	20	
Matrix Spike (DJ92063-MS1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	73.7	75-125			M6
Matrix Spike Dup (DJ92063-MSD1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	74.2	75-125	0.0881	20	M6

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)				Prepared: 10/31/2019 Analyzed: 11/01/2019						
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DJ92037-BS1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.556	0.0050	mg/L	0.500		111	85-115			
Copper	0.528	0.0020	mg/L	0.500		106	85-115			
Sodium	10.7	1.00	mg/L	10.5		102	85-115			
Duplicate (DJ92037-DUP1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.138	0.0050	mg/L		0.141			2.07	20	
Copper	0.0053	0.0020	mg/L		0.0060			12.5	20	
Sodium	75.0	1.00	mg/L		75.7			0.995	20	
Matrix Spike (DJ92037-MS1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.682	0.0050	mg/L	0.500	0.141	108	70-130			
Copper	0.526	0.0020	mg/L	0.500	0.0060	104	70-130			
Sodium	86.5	1.00	mg/L	10.5	75.7	103	70-130			
Matrix Spike (DJ92037-MS2)		**Source: D9J2680-01**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.685	0.0050	mg/L	0.500	0.163	105	70-130			
Copper	0.509	0.0020	mg/L	0.500	0.0037	101	70-130			
Sodium	241	1.00	mg/L	10.5	229	114	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Acetone	40.6	10.0	ug/L	50.0		81.1	65-133			
Acrylonitrile	53.2	20.0	ug/L	50.0		106	60-140			
Benzene	57.2	5.00	ug/L	50.0		114	65-135			
Bromodichloromethane	54.0	5.00	ug/L	50.0		108	65-135			
Bromoform	50.5	5.00	ug/L	50.0		101	70-130			
Bromomethane	51.4	5.00	ug/L	50.0		103	15-185			
2-Butanone (MEK)	53.0	10.0	ug/L	50.0		106	77-140			
Carbon disulfide	51.6	5.00	ug/L	50.0		103	70-130			
Carbon tetrachloride	59.2	5.00	ug/L	50.0		118	70-130			
Chlorobenzene	53.0	5.00	ug/L	50.0		106	65-135			
Chloroethane (Ethyl chloride)	51.9	5.00	ug/L	50.0		104	40-160			
Chloroform	53.9	4.00	ug/L	50.0		108	70-135			
Chloromethane	46.5	5.00	ug/L	50.0		93.0	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Dibromochloromethane	52.4	5.00	ug/L	50.0		105	70-135			
Dibromomethane (Methylene bromide)	53.2	5.00	ug/L	50.0		106	76-126			
1,2-Dichlorobenzene	52.3	5.00	ug/L	50.0		105	65-135			
1,3-Dichlorobenzene	53.4	5.00	ug/L	50.0		107	70-130			
1,4-Dichlorobenzene	53.9	5.00	ug/L	50.0		108	65-135			
Dichlorodifluoromethane (Freon-12)	43.0	5.00	ug/L	50.0		86.0	1-205			
1,2-Dichloroethane	53.3	5.00	ug/L	50.0		107	70-130			
1,1-Dichloroethane	54.9	5.00	ug/L	50.0		110	70-130			
cis-1,2-Dichloroethene	56.6	5.00	ug/L	50.0		113	82-137			
1,1-Dichloroethene	59.7	5.00	ug/L	50.0		119	50-150			
trans-1,2-Dichloroethene	55.3	4.00	ug/L	50.0		111	70-130			
1,2-Dichloropropane	53.8	5.00	ug/L	50.0		108	35-165			
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	51.2	5.00	ug/L	50.0		102	50-150			
Ethylbenzene	54.6	5.00	ug/L	50.0		109	60-140			
2-Hexanone (MBK)	49.7	10.0	ug/L	50.0		99.4	74-134			
Methyl tert-butyl ether (MTBE)	64.0	5.00	ug/L	50.0		128	81-140			
Methylene chloride (Dichloromethane)	50.1	1.00	ug/L	50.0		100	60-140			
4-Methyl-2-pentanone (MIBK)	47.6	10.0	ug/L	50.0		95.2	73-142			
Styrene	55.1	5.00	ug/L	50.0		110	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	57.1	5.00	ug/L	50.0		114	70-130			
Toluene	54.6	5.00	ug/L	50.0		109	70-130			
1,1,2-Trichloroethane	49.3	5.00	ug/L	50.0		98.5	70-130			
1,1,1-Trichloroethane	57.7	5.00	ug/L	50.0		115	70-130			
Trichloroethene	58.0	5.00	ug/L	50.0		116	65-135			
Trichlorofluoromethane (Freon 11)	60.2	5.00	ug/L	50.0		120	50-150			
Vinyl chloride	48.6	5.00	ug/L	50.0		97.2	5-195			
m,p-Xylene	106	10.0	ug/L	100		106	80-122			
o-Xylene	53.2	5.00	ug/L	50.0		106	81-125			
Vinyl acetate	56.4	5.00	ug/L	50.0		113	60-140			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acetone	39.2	10.0	ug/L	50.0	ND	78.5	0-200			
Acrylonitrile	43.6	20.0	ug/L	50.0	ND	87.2	40-160			
Benzene	50.1	5.00	ug/L	50.0	ND	100	37-151			
Bromodichloromethane	46.6	5.00	ug/L	50.0	ND	93.2	35-155			
Bromoform	46.5	5.00	ug/L	50.0	ND	93.0	45-169			
Bromomethane	43.0	5.00	ug/L	50.0	ND	86.1	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
2-Butanone (MEK)	44.4	10.0	ug/L	50.0	ND	88.7	0-200			
Carbon disulfide	44.6	5.00	ug/L	50.0	ND	89.3	0-200			
Carbon tetrachloride	50.0	5.00	ug/L	50.0	ND	100	70-140			
Chlorobenzene	48.4	5.00	ug/L	50.0	ND	96.8	37-160			
Chloroethane (Ethyl chloride)	46.4	5.00	ug/L	50.0	ND	92.7	14-230			
Chloroform	51.1	4.00	ug/L	50.0	4.21	93.9	51-138			
Chloromethane	40.2	5.00	ug/L	50.0	ND	80.4	1-273			
Dibromochloromethane	48.6	5.00	ug/L	50.0	ND	97.2	53-149			
Dibromomethane (Methylene bromide)	45.6	5.00	ug/L	50.0	ND	91.1	0-200			
1,2-Dichlorobenzene	47.7	5.00	ug/L	50.0	ND	95.5	18-190			
1,3-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	59-156			
1,4-Dichlorobenzene	47.2	5.00	ug/L	50.0	ND	94.3	18-190			
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	76.0	0-200			
1,2-Dichloroethane	45.6	5.00	ug/L	50.0	ND	91.2	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.2	59-155			
cis-1,2-Dichloroethene	49.7	5.00	ug/L	50.0	ND	99.4	0-200			
1,1-Dichloroethene	53.1	5.00	ug/L	50.0	ND	106	1-234			
trans-1,2-Dichloroethene	49.0	4.00	ug/L	50.0	ND	97.9	54-156			
1,2-Dichloropropane	45.0	5.00	ug/L	50.0	ND	90.0	1-210			
cis-1,3-Dichloropropene	45.0	5.00	ug/L	50.0	ND	89.9	1-227			
trans-1,3-Dichloropropene	43.8	5.00	ug/L	50.0	ND	87.6	17-183			
Ethylbenzene	50.1	5.00	ug/L	50.0	ND	100	37-162			
2-Hexanone (MBK)	44.5	10.0	ug/L	50.0	ND	88.9	0-200			
Methyl tert-butyl ether (MTBE)	55.4	5.00	ug/L	50.0	ND	111	0-200			
Methylene chloride (Dichloromethane)	42.1	1.00	ug/L	50.0	ND	84.1	1-221			
4-Methyl-2-pentanone (MIBK)	43.6	10.0	ug/L	50.0	ND	87.1	0-200			
Styrene	48.5	5.00	ug/L	50.0	ND	97.0	0-200			
1,1,2,2-Tetrachloroethane	44.9	5.00	ug/L	50.0	ND	89.7	46-157			
Tetrachloroethene	50.6	5.00	ug/L	50.0	ND	101	64-148			
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	50.3	5.00	ug/L	50.0	ND	101	52-162			
Trichloroethene	50.1	5.00	ug/L	50.0	ND	100	70-157			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0	ND	107	17-181			
Vinyl chloride	41.7	5.00	ug/L	50.0	ND	83.4	1-251			
m,p-Xylene	97.9	10.0	ug/L	100	ND	97.9	0-200			
o-Xylene	48.3	5.00	ug/L	50.0	ND	96.6	0-200			
Vinyl acetate	40.7	5.00	ug/L	50.0	ND	81.4	60-140			
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
Acetone	43.4	10.0	ug/L	50.0	ND	86.9	0-200	10.1	200	
Acrylonitrile	47.5	20.0	ug/L	50.0	ND	94.9	40-160	8.50	60	
Benzene	52.7	5.00	ug/L	50.0	ND	105	37-151	5.04	61	
Bromodichloromethane	50.2	5.00	ug/L	50.0	ND	100	35-155	7.48	56	
Bromoform	50.0	5.00	ug/L	50.0	ND	99.9	45-169	7.13	42	
Bromomethane	45.0	5.00	ug/L	50.0	ND	90.1	1-242	4.54	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.5	0-200	7.40	200	
Carbon disulfide	47.8	5.00	ug/L	50.0	ND	95.5	0-200	6.73	200	
Carbon tetrachloride	54.0	5.00	ug/L	50.0	ND	108	70-140	7.73	41	
Chlorobenzene	51.1	5.00	ug/L	50.0	ND	102	37-160	5.43	53	
Chloroethane (Ethyl chloride)	47.5	5.00	ug/L	50.0	ND	94.9	14-230	2.37	78	
Chloroform	54.6	4.00	ug/L	50.0	4.21	101	51-138	6.45	54	
Chloromethane	41.2	5.00	ug/L	50.0	ND	82.4	1-273	2.38	60	
Dibromochloromethane	51.0	5.00	ug/L	50.0	ND	102	53-149	4.86	50	
Dibromomethane (Methylene bromide)	50.9	5.00	ug/L	50.0	ND	102	0-200	11.1	200	
1,2-Dichlorobenzene	50.2	5.00	ug/L	50.0	ND	100	18-190	4.98	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	4.17	43	
1,4-Dichlorobenzene	49.5	5.00	ug/L	50.0	ND	99.0	18-190	4.86	57	
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	75.9	0-200	0.0527	200	
1,2-Dichloroethane	48.8	5.00	ug/L	50.0	ND	97.6	49-155	6.76	49	
1,1-Dichloroethane	50.4	5.00	ug/L	50.0	ND	101	59-155	8.91	40	
cis-1,2-Dichloroethene	52.6	5.00	ug/L	50.0	ND	105	0-200	5.65	200	
1,1-Dichloroethene	55.0	5.00	ug/L	50.0	ND	110	1-234	3.52	32	
trans-1,2-Dichloroethene	50.5	4.00	ug/L	50.0	ND	101	54-156	3.00	45	
1,2-Dichloropropane	49.7	5.00	ug/L	50.0	ND	99.4	1-210	9.89	55	
cis-1,3-Dichloropropene	47.2	5.00	ug/L	50.0	ND	94.4	1-227	4.86	58	
trans-1,3-Dichloropropene	46.6	5.00	ug/L	50.0	ND	93.3	17-183	6.33	86	
Ethylbenzene	52.1	5.00	ug/L	50.0	ND	104	37-162	3.84	63	
2-Hexanone (MBK)	47.9	10.0	ug/L	50.0	ND	95.8	0-200	7.45	200	
Methyl tert-butyl ether (MTBE)	59.2	5.00	ug/L	50.0	ND	118	0-200	6.75	200	
Methylene chloride (Dichloromethane)	45.5	1.00	ug/L	50.0	ND	91.0	1-221	7.81	28	
4-Methyl-2-pentanone (MIBK)	46.9	10.0	ug/L	50.0	ND	93.9	0-200	7.49	200	
Styrene	49.2	5.00	ug/L	50.0	ND	98.3	0-200	1.35	200	
1,1,2,2-Tetrachloroethane	47.6	5.00	ug/L	50.0	ND	95.2	46-157	5.88	61	
Tetrachloroethene	54.0	5.00	ug/L	50.0	ND	108	64-148	6.40	39	
Toluene	52.3	5.00	ug/L	50.0	ND	105	47-150	2.87	41	
1,1,2-Trichloroethane	48.2	5.00	ug/L	50.0	ND	96.3	52-150	5.59	45	
1,1,1-Trichloroethane	52.2	5.00	ug/L	50.0	ND	104	52-162	3.80	36	
Trichloroethene	51.9	5.00	ug/L	50.0	ND	104	70-157	3.51	48	
Trichlorofluoromethane (Freon 11)	56.3	5.00	ug/L	50.0	ND	113	17-181	5.27	84	
Vinyl chloride	43.6	5.00	ug/L	50.0	ND	87.2	1-251	4.48	66	
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200	2.30	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
o-Xylene	50.7	5.00	ug/L	50.0	ND	101	0-200	4.81	200	
Vinyl acetate	43.3	5.00	ug/L	50.0	ND	86.6	60-140	6.19	25	
Surrogate: 4-Bromofluorobenzene	*51.9*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.5*		ug/L	*50.0*		*97.0*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Acrolein	50.9	20.0	ug/L	50.0		102	60-140			
2-Chloroethyl vinyl ether	54.9	20.0	ug/L	50.0		110	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS1)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acrolein	46.6	20.0	ug/L	50.0	ND	93.1	40-160			
2-Chloroethyl vinyl ether	49.8	20.0	ug/L	50.0	ND	99.5	1-305			
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DK90010-MSD1)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acrolein	48.6	20.0	ug/L	50.0	ND	97.1	40-160	4.23	60	
2-Chloroethyl vinyl ether	51.2	20.0	ug/L	50.0	ND	102	1-305	2.91	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.9*		ug/L	*50.0*		*97.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			

Definitions

A27:	Headspace was present in the bottle used for the alkalinity analysis.
D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:



Katherine A. Wall

Project Manager

Reported: 11/05/2019 15:12

MICROBAC

Microbac Laboratories, Inc.

61 L

D 9 J 2 6 7 6

Tel: Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA

ADDRESS: 131 CAMELOT DRIVE

PLYMOUTH, MA 02360

DELIVERY: ROBERT BLANCHARD

E-MAIL: robert.blanchard@veolia.com

PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA

ADDRESS: 125 SOUTH STREET SUITE 173

MILWAUKEE, WI

PURCHASE ORDER #

ATTENTION: ACCOUNTS PAYABLE

PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP

LOCATION: ID 11773

WELLS - QUARTERLY

ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL

ROBERT BLANCHARD

PHONE: CELL - 508-328-5758

FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A9 (250 mL)	10/29/2019	10:00		X	WW	1	X	X											X			
Well # A9 (250 mL)	10/29/2019	10:00		X	WW	1			X	X								X				
Well # A9 (250 mL)(filtered)	10/29/2019	10:00		X	WW	1					X							X				
Well # A9 (250 mL)	10/29/2019	10:00		X	WW	1						X						X				
Well # A9 (250 mL)	10/29/2019	10:00		X	WW	1							X					X				
Well #A9 (250 mL)	10/29/2019	10:00		X	WW	1								X	X	X					X	
Well #A9 (40 mL vial)	10/29/2019	10:00		X	WW	2											X	X				
Well #A9 (40 mL vial)	10/29/2019	10:00		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-29-19	
RECEIVED:		
RELINQUISHED:	10/29/19	1347
CEIVED:	10-29-19	1347
LINQUISHED:	10-29-19	15:47
CEIVED:	10-29-19	1547

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

PRESERVATIVE VERIFIED Initials

CONDITIONS UPON RECEIPT (CHECK ONE):

COOLED ☐ AMBIENT ☐ COMPLIANT ☐

2.9

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2679

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Wednesday, November 6, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2679

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/29/2019
Reported: 11/06/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A16	D9J2679-01	Wastewater	Grab		10/29/19 11:40	10/29/19 15:47
Well #A16 (filtered)	D9J2679-02	Groundwater	Grab		10/29/19 11:40	10/29/19 15:47

CERTIFICATE OF ANALYSIS

D9J2679

Analytical Testing Parameters

Client Sample ID:	Well #A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J2679-01	**Collection Date:**	10/29/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1								
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L	1		11/04/19 1519	11/05/19 1213	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**0.0191**	0.0106	mg/L	1		10/31/19 1800	10/31/19 1832	DCH
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**7.50**	1.00	mg/L	1	**A27**		10/30/19 1638	MAD
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**109**	4.00	mg/L	2	**M6**		10/31/19 1505	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**0.0695**	0.0500	mg/L	1			10/30/19 2148	DCH
Nitrite as N	<0.0100	0.0100	mg/L	1			10/30/19 2148	DCH

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.0331**	0.0050	mg/L	1	**Y1**	10/31/19 1335	11/01/19 1300	JDF
Copper	**0.0024**	0.0020	mg/L	1		10/31/19 1335	11/01/19 1300	JDF
Sodium	**56.1**	1.00	mg/L	1		10/31/19 1335	11/01/19 1300	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/31/19 0004	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/31/19 0004	JAN
Benzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Bromoform	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/31/19 0004	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/31/19 0004	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Chloroform	<4.00	4.00	ug/L	1			10/31/19 0004	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/31/19 0004	JAN

CERTIFICATE OF ANALYSIS

D9J2679

Client Sample ID:	Well #A16		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J2679-01	**Collection Date:**	10/29/2019 11:40

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/31/19 0004	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/31/19 0004	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/31/19 0004	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/31/19 0004	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Toluene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/31/19 0004	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/31/19 0004	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/31/19 0004	JAN
Surrogate: 4-Bromofluorobenzene	102	Limit: 70-130	% Rec	1			10/31/19 0004	JAN
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 70-130	% Rec	1			10/31/19 0004	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			10/31/19 0004	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/30/19 2129	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/30/19 2129	JAN
Surrogate: 4-Bromofluorobenzene	99.9	Limit: 70-130	% Rec	1			10/30/19 2129	JAN
Surrogate: 1,2-Dichloroethane-d4	98.4	Limit: 70-130	% Rec	1			10/30/19 2129	JAN
Surrogate: Toluene-d8	98.4	Limit: 70-130	% Rec	1			10/30/19 2129	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2679

Client Sample ID:	Well #A16 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J2679-02	**Collection Date:**	10/29/2019 11:40

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**0.0110**	0.0100	mg/L	1		10/29/19 2122	10/29/19 2351	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91914 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91914-BLK1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91914-BS1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DJ91914-DUP1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	0.0616	0.0106	mg/L		0.0638			3.39	20	
Matrix Spike (DJ91914-MS1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.33	0.0106	mg/L	1.25	0.0638	101	90-110			
Matrix Spike (DJ91914-MS2)		**Source: L9J0574-01**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	8.33	0.128	mg/L	1.25	6.99	107	90-110			
Batch DJ91930 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91930-BLK1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91930-BS1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ91930-DUP1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	0.200	0.0100	mg/L		0.202			0.995	20	
Matrix Spike (DJ91930-MS1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.23	0.0100	mg/L	1.00	0.202	102	90-110			
Matrix Spike (DJ91930-MS2)		**Source: D9J2680-02**	Prepared & Analyzed: 10/30/2019							
Ortho-phosphate as P	6.52	0.0400	mg/L	1.00	5.53	99.5	90-110			
Batch DJ91980 - Wet Chem - W - SM2320 B-2011										
Blank (DJ91980-BLK1)			Prepared & Analyzed: 10/30/2019							
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ91980-BS1)			Prepared & Analyzed: 10/30/2019							
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ91980-DUP1)		**Source: D9J2658-13**	Prepared & Analyzed: 10/30/2019							
Alkalinity to pH 4.5	62.5	1.00	mg/L		62.5			0.00	20	
Batch DJ91988 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91988-BLK1)			Prepared & Analyzed: 10/30/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91988-BS1)			Prepared & Analyzed: 10/30/2019							
Nitrate as N	4.80	0.0500	mg/L	5.00		95.9	90-110			
LCS (DJ91988-BS2)			Prepared & Analyzed: 10/30/2019							

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91988 - Wet Chem - W - SM4500-NO3 F-2011										
LCS (DJ91988-BS2)				Prepared & Analyzed: 10/30/2019						
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DJ91988-DUP1)		**Source: D9J2812-01**		Prepared & Analyzed: 10/30/2019						
Nitrite as N	<0.0100	0.0100	mg/L		ND				20	
Nitrate as N	<0.0500	0.0500	mg/L		ND				20	
Matrix Spike (DJ91988-MS1)		**Source: D9J2812-01**		Prepared & Analyzed: 10/30/2019						
Nitrite as N	0.975	0.0100	mg/L	1.00	ND	97.5	75-125			
Nitrate as N	4.62	0.0500	mg/L	5.00	ND	92.3	75-125			
Matrix Spike Dup (DJ91988-MSD1)		**Source: D9J2812-01**		Prepared & Analyzed: 10/30/2019						
Nitrite as N	0.971	0.0100	mg/L	1.00	ND	97.1	75-125	0.411	20	
Nitrate as N	4.64	0.0500	mg/L	5.00	ND	92.8	75-125	0.592	20	
Batch DJ92063 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ92063-BLK1)				Prepared & Analyzed: 10/31/2019						
Chloride	<2.00	2.00	mg/L							
LCS (DJ92063-BS1)				Prepared & Analyzed: 10/31/2019						
Chloride	19.7	2.00	mg/L	20.0		98.6	90-110			
Duplicate (DJ92063-DUP1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	107	4.00	mg/L		109			2.00	20	
Matrix Spike (DJ92063-MS1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	73.7	75-125			M6
Matrix Spike Dup (DJ92063-MSD1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	74.2	75-125	0.0881	20	M6
Batch DK90110 - Wet-Digestion-W - EPA 351.1										
Blank (DK90110-BLK1)				Prepared: 11/04/2019 Analyzed: 11/05/2019						
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DK90110-BS1)				Prepared: 11/04/2019 Analyzed: 11/05/2019						
Total Kjeldahl Nitrogen (TKN)	4.95	0.200	mg/L	5.00		99.0	90-110			
Duplicate (DK90110-DUP1)		**Source: D9J2761-04**		Prepared: 11/04/2019 Analyzed: 11/05/2019						
Total Kjeldahl Nitrogen (TKN)	4.37	0.200	mg/L		4.38			0.174	20	
Matrix Spike (DK90110-MS1)		**Source: D9J2761-04**		Prepared: 11/04/2019 Analyzed: 11/05/2019						
Total Kjeldahl Nitrogen (TKN)	13.7	0.200	mg/L	10.0	4.38	93.3	90-110			
Matrix Spike (DK90110-MS2)		**Source: L9J0585-01**		Prepared: 11/04/2019 Analyzed: 11/05/2019						
Total Kjeldahl Nitrogen (TKN)	11.4	0.200	mg/L	10.0	1.72	97.3	90-110			

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)				Prepared: 10/31/2019 Analyzed: 11/01/2019						
Boron	<0.0050	0.0050	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Copper	<0.0020	0.0020	mg/L							
Sodium	<1.00	1.00	mg/L							
LCS (DJ92037-BS1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.556	0.0050	mg/L	0.500		111	85-115			
Copper	0.528	0.0020	mg/L	0.500		106	85-115			
Sodium	10.7	1.00	mg/L	10.5		102	85-115			
Duplicate (DJ92037-DUP1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.138	0.0050	mg/L		0.141			2.07	20	
Copper	0.0053	0.0020	mg/L		0.0060			12.5	20	
Sodium	75.0	1.00	mg/L		75.7			0.995	20	
Matrix Spike (DJ92037-MS1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.682	0.0050	mg/L	0.500	0.141	108	70-130			
Copper	0.526	0.0020	mg/L	0.500	0.0060	104	70-130			
Sodium	86.5	1.00	mg/L	10.5	75.7	103	70-130			
Matrix Spike (DJ92037-MS2)		**Source: D9J2680-01**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.685	0.0050	mg/L	0.500	0.163	105	70-130			
Copper	0.509	0.0020	mg/L	0.500	0.0037	101	70-130			
Sodium	241	1.00	mg/L	10.5	229	114	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Acetone	40.6	10.0	ug/L	50.0		81.1	65-133			
Acrylonitrile	53.2	20.0	ug/L	50.0		106	60-140			
Benzene	57.2	5.00	ug/L	50.0		114	65-135			
Bromodichloromethane	54.0	5.00	ug/L	50.0		108	65-135			
Bromoform	50.5	5.00	ug/L	50.0		101	70-130			
Bromomethane	51.4	5.00	ug/L	50.0		103	15-185			
2-Butanone (MEK)	53.0	10.0	ug/L	50.0		106	77-140			
Carbon disulfide	51.6	5.00	ug/L	50.0		103	70-130			
Carbon tetrachloride	59.2	5.00	ug/L	50.0		118	70-130			
Chlorobenzene	53.0	5.00	ug/L	50.0		106	65-135			
Chloroethane (Ethyl chloride)	51.9	5.00	ug/L	50.0		104	40-160			
Chloroform	53.9	4.00	ug/L	50.0		108	70-135			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
LCS (DK90010-BS1)				Prepared & Analyzed: 10/30/2019						
Chloromethane	46.5	5.00	ug/L	50.0		93.0	1-205			
Dibromochloromethane	52.4	5.00	ug/L	50.0		105	70-135			
Dibromomethane (Methylene bromide)	53.2	5.00	ug/L	50.0		106	76-126			
1,2-Dichlorobenzene	52.3	5.00	ug/L	50.0		105	65-135			
1,3-Dichlorobenzene	53.4	5.00	ug/L	50.0		107	70-130			
1,4-Dichlorobenzene	53.9	5.00	ug/L	50.0		108	65-135			
Dichlorodifluoromethane (Freon-12)	43.0	5.00	ug/L	50.0		86.0	1-205			
1,2-Dichloroethane	53.3	5.00	ug/L	50.0		107	70-130			
1,1-Dichloroethane	54.9	5.00	ug/L	50.0		110	70-130			
cis-1,2-Dichloroethene	56.6	5.00	ug/L	50.0		113	82-137			
1,1-Dichloroethene	59.7	5.00	ug/L	50.0		119	50-150			
trans-1,2-Dichloroethene	55.3	4.00	ug/L	50.0		111	70-130			
1,2-Dichloropropane	53.8	5.00	ug/L	50.0		108	35-165			
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	51.2	5.00	ug/L	50.0		102	50-150			
Ethylbenzene	54.6	5.00	ug/L	50.0		109	60-140			
2-Hexanone (MBK)	49.7	10.0	ug/L	50.0		99.4	74-134			
Methyl tert-butyl ether (MTBE)	64.0	5.00	ug/L	50.0		128	81-140			
Methylene chloride (Dichloromethane)	50.1	1.00	ug/L	50.0		100	60-140			
4-Methyl-2-pentanone (MIBK)	47.6	10.0	ug/L	50.0		95.2	73-142			
Styrene	55.1	5.00	ug/L	50.0		110	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	57.1	5.00	ug/L	50.0		114	70-130			
Toluene	54.6	5.00	ug/L	50.0		109	70-130			
1,1,2-Trichloroethane	49.3	5.00	ug/L	50.0		98.5	70-130			
1,1,1-Trichloroethane	57.7	5.00	ug/L	50.0		115	70-130			
Trichloroethene	58.0	5.00	ug/L	50.0		116	65-135			
Trichlorofluoromethane (Freon 11)	60.2	5.00	ug/L	50.0		120	50-150			
Vinyl chloride	48.6	5.00	ug/L	50.0		97.2	5-195			
m,p-Xylene	106	10.0	ug/L	100		106	80-122			
o-Xylene	53.2	5.00	ug/L	50.0		106	81-125			
Vinyl acetate	56.4	5.00	ug/L	50.0		113	60-140			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**			Prepared & Analyzed: 10/31/2019						
Acetone	39.2	10.0	ug/L	50.0	ND	78.5	0-200			
Acrylonitrile	43.6	20.0	ug/L	50.0	ND	87.2	40-160			
Benzene	50.1	5.00	ug/L	50.0	ND	100	37-151			
Bromodichloromethane	46.6	5.00	ug/L	50.0	ND	93.2	35-155			
Bromoform	46.5	5.00	ug/L	50.0	ND	93.0	45-169			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Bromomethane	43.0	5.00	ug/L	50.0	ND	86.1	1-242			
2-Butanone (MEK)	44.4	10.0	ug/L	50.0	ND	88.7	0-200			
Carbon disulfide	44.6	5.00	ug/L	50.0	ND	89.3	0-200			
Carbon tetrachloride	50.0	5.00	ug/L	50.0	ND	100	70-140			
Chlorobenzene	48.4	5.00	ug/L	50.0	ND	96.8	37-160			
Chloroethane (Ethyl chloride)	46.4	5.00	ug/L	50.0	ND	92.7	14-230			
Chloroform	51.1	4.00	ug/L	50.0	4.21	93.9	51-138			
Chloromethane	40.2	5.00	ug/L	50.0	ND	80.4	1-273			
Dibromochloromethane	48.6	5.00	ug/L	50.0	ND	97.2	53-149			
Dibromomethane (Methylene bromide)	45.6	5.00	ug/L	50.0	ND	91.1	0-200			
1,2-Dichlorobenzene	47.7	5.00	ug/L	50.0	ND	95.5	18-190			
1,3-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	59-156			
1,4-Dichlorobenzene	47.2	5.00	ug/L	50.0	ND	94.3	18-190			
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	76.0	0-200			
1,2-Dichloroethane	45.6	5.00	ug/L	50.0	ND	91.2	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.2	59-155			
cis-1,2-Dichloroethene	49.7	5.00	ug/L	50.0	ND	99.4	0-200			
1,1-Dichloroethene	53.1	5.00	ug/L	50.0	ND	106	1-234			
trans-1,2-Dichloroethene	49.0	4.00	ug/L	50.0	ND	97.9	54-156			
1,2-Dichloropropane	45.0	5.00	ug/L	50.0	ND	90.0	1-210			
cis-1,3-Dichloropropene	45.0	5.00	ug/L	50.0	ND	89.9	1-227			
trans-1,3-Dichloropropene	43.8	5.00	ug/L	50.0	ND	87.6	17-183			
Ethylbenzene	50.1	5.00	ug/L	50.0	ND	100	37-162			
2-Hexanone (MBK)	44.5	10.0	ug/L	50.0	ND	88.9	0-200			
Methyl tert-butyl ether (MTBE)	55.4	5.00	ug/L	50.0	ND	111	0-200			
Methylene chloride (Dichloromethane)	42.1	1.00	ug/L	50.0	ND	84.1	1-221			
4-Methyl-2-pentanone (MIBK)	43.6	10.0	ug/L	50.0	ND	87.1	0-200			
Styrene	48.5	5.00	ug/L	50.0	ND	97.0	0-200			
1,1,2,2-Tetrachloroethane	44.9	5.00	ug/L	50.0	ND	89.7	46-157			
Tetrachloroethene	50.6	5.00	ug/L	50.0	ND	101	64-148			
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	50.3	5.00	ug/L	50.0	ND	101	52-162			
Trichloroethene	50.1	5.00	ug/L	50.0	ND	100	70-157			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0	ND	107	17-181			
Vinyl chloride	41.7	5.00	ug/L	50.0	ND	83.4	1-251			
m,p-Xylene	97.9	10.0	ug/L	100	ND	97.9	0-200			
o-Xylene	48.3	5.00	ug/L	50.0	ND	96.6	0-200			
Vinyl acetate	40.7	5.00	ug/L	50.0	ND	81.4	60-140			
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
Acetone	43.4	10.0	ug/L	50.0	ND	86.9	0-200	10.1	200	
Acrylonitrile	47.5	20.0	ug/L	50.0	ND	94.9	40-160	8.50	60	
Benzene	52.7	5.00	ug/L	50.0	ND	105	37-151	5.04	61	
Bromodichloromethane	50.2	5.00	ug/L	50.0	ND	100	35-155	7.48	56	
Bromoform	50.0	5.00	ug/L	50.0	ND	99.9	45-169	7.13	42	
Bromomethane	45.0	5.00	ug/L	50.0	ND	90.1	1-242	4.54	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.5	0-200	7.40	200	
Carbon disulfide	47.8	5.00	ug/L	50.0	ND	95.5	0-200	6.73	200	
Carbon tetrachloride	54.0	5.00	ug/L	50.0	ND	108	70-140	7.73	41	
Chlorobenzene	51.1	5.00	ug/L	50.0	ND	102	37-160	5.43	53	
Chloroethane (Ethyl chloride)	47.5	5.00	ug/L	50.0	ND	94.9	14-230	2.37	78	
Chloroform	54.6	4.00	ug/L	50.0	4.21	101	51-138	6.45	54	
Chloromethane	41.2	5.00	ug/L	50.0	ND	82.4	1-273	2.38	60	
Dibromochloromethane	51.0	5.00	ug/L	50.0	ND	102	53-149	4.86	50	
Dibromomethane (Methylene bromide)	50.9	5.00	ug/L	50.0	ND	102	0-200	11.1	200	
1,2-Dichlorobenzene	50.2	5.00	ug/L	50.0	ND	100	18-190	4.98	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	4.17	43	
1,4-Dichlorobenzene	49.5	5.00	ug/L	50.0	ND	99.0	18-190	4.86	57	
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	75.9	0-200	0.0527	200	
1,2-Dichloroethane	48.8	5.00	ug/L	50.0	ND	97.6	49-155	6.76	49	
1,1-Dichloroethane	50.4	5.00	ug/L	50.0	ND	101	59-155	8.91	40	
cis-1,2-Dichloroethene	52.6	5.00	ug/L	50.0	ND	105	0-200	5.65	200	
1,1-Dichloroethene	55.0	5.00	ug/L	50.0	ND	110	1-234	3.52	32	
trans-1,2-Dichloroethene	50.5	4.00	ug/L	50.0	ND	101	54-156	3.00	45	
1,2-Dichloropropane	49.7	5.00	ug/L	50.0	ND	99.4	1-210	9.89	55	
cis-1,3-Dichloropropene	47.2	5.00	ug/L	50.0	ND	94.4	1-227	4.86	58	
trans-1,3-Dichloropropene	46.6	5.00	ug/L	50.0	ND	93.3	17-183	6.33	86	
Ethylbenzene	52.1	5.00	ug/L	50.0	ND	104	37-162	3.84	63	
2-Hexanone (MBK)	47.9	10.0	ug/L	50.0	ND	95.8	0-200	7.45	200	
Methyl tert-butyl ether (MTBE)	59.2	5.00	ug/L	50.0	ND	118	0-200	6.75	200	
Methylene chloride (Dichloromethane)	45.5	1.00	ug/L	50.0	ND	91.0	1-221	7.81	28	
4-Methyl-2-pentanone (MIBK)	46.9	10.0	ug/L	50.0	ND	93.9	0-200	7.49	200	
Styrene	49.2	5.00	ug/L	50.0	ND	98.3	0-200	1.35	200	
1,1,2,2-Tetrachloroethane	47.6	5.00	ug/L	50.0	ND	95.2	46-157	5.88	61	
Tetrachloroethene	54.0	5.00	ug/L	50.0	ND	108	64-148	6.40	39	
Toluene	52.3	5.00	ug/L	50.0	ND	105	47-150	2.87	41	
1,1,2-Trichloroethane	48.2	5.00	ug/L	50.0	ND	96.3	52-150	5.59	45	
1,1,1-Trichloroethane	52.2	5.00	ug/L	50.0	ND	104	52-162	3.80	36	
Trichloroethene	51.9	5.00	ug/L	50.0	ND	104	70-157	3.51	48	
Trichlorofluoromethane (Freon 11)	56.3	5.00	ug/L	50.0	ND	113	17-181	5.27	84	
Vinyl chloride	43.6	5.00	ug/L	50.0	ND	87.2	1-251	4.48	66	
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200	2.30	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
o-Xylene	50.7	5.00	ug/L	50.0	ND	101	0-200	4.81	200	
Vinyl acetate	43.3	5.00	ug/L	50.0	ND	86.6	60-140	6.19	25	
Surrogate: 4-Bromofluorobenzene	*51.9*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.5*		ug/L	*50.0*		*97.0*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)				Prepared & Analyzed: 10/30/2019						
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)				Prepared & Analyzed: 10/30/2019						
Acrolein	50.9	20.0	ug/L	50.0		102	60-140			
2-Chloroethyl vinyl ether	54.9	20.0	ug/L	50.0		110	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS1)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
Acrolein	46.6	20.0	ug/L	50.0	ND	93.1	40-160			
2-Chloroethyl vinyl ether	49.8	20.0	ug/L	50.0	ND	99.5	1-305			
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DK90010-MSD1)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
Acrolein	48.6	20.0	ug/L	50.0	ND	97.1	40-160	4.23	60	
2-Chloroethyl vinyl ether	51.2	20.0	ug/L	50.0	ND	102	1-305	2.91	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.9*		ug/L	*50.0*		*97.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2679

Definitions

A27:	Headspace was present in the bottle used for the alkalinity analysis.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall
Project Manager
Reported: 11/06/2019 13:24

MICROBAC

Microbac Laboratories, Inc.

D9J2679

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A16 (250 mL)	10/29/2019	11:46		X	WW	1	X	X											X			
Well # A16 (250 mL)	10/29/2019	11:46		X	WW	1			X	X								X				
Well # A16 (250 mL)(filtered)	10/29/2019	11:46		X	WW	1					X							X				
Well # A16 (250 mL)	10/29/2019	11:46		X	WW	1						X						X				
Well # A16 (250 mL)	10/29/2019	11:46		X	WW	1							X					X				
Well #A16 (250 mL)	10/29/2019	11:46		X	WW	1								X	X	X					X	
Well #A16 (40 mL vial)	10/29/2019	11:46		X	WW	2											X	X				
Well #A16 (40 mL vial)	10/29/2019	11:46		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10-29-19	
RECEIVED:		
RELINQUISHED:	10/29/19	1347
ECEIVED:	10-29-19	1547
ELINQUISHED:	10-29-19	1547
ECEIVED:	10.29.19	1547

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

PRESERVATIVES VERIFIED Initials

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐ 2.9°C

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2680

Project Description

Wells - Quarterly

For:

Bob Blanchard

Veolia - Plymouth

131 Camelot Drive, ID #11773

Plymouth, MA 02360



Project Manager

Katherine A. Wall

Tuesday, November 5, 2019

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc. - Dayville. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

D9J2680

Veolia - Plymouth

Bob Blanchard
131 Camelot Drive, ID #11773
Plymouth, MA 02360

Project Name: Wells - Quarterly

Project / PO Number: 346346
Received: 10/29/2019
Reported: 11/05/2019

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Well #A8	D9J2680-01	Wastewater	Grab		10/29/19 11:10	10/29/19 15:47
Well #A8 (filtered)	D9J2680-02	Groundwater	Grab		10/29/19 11:10	10/29/19 15:47

CERTIFICATE OF ANALYSIS

D9J2680

Analytical Testing Parameters

Client Sample ID: Well #A8
Sample Matrix: Wastewater
Lab Sample ID: D9J2680-01
Collected By: Customer
Collection Date: 10/29/2019 11:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 351.1			**Method Notes:** D1					
Total Kjeldahl Nitrogen (TKN)	<0.800	0.800	mg/L	1		10/30/19 2013	11/04/19 1516	CLW
EPA 365.1, Rv 2.0								
Phosphorus - Total as P	**5.46**	0.0425	mg/L	4		10/31/19 1800	10/31/19 1857	DCH
Wet Chem - W/SM2320 B-2011								
Alkalinity to pH 4.5	**77.5**	1.00	mg/L	1	**A27**		10/30/19 1638	MAD
Wet Chem - W/SM4500-Cl E-2011								
Chloride	**320**	10.0	mg/L	5			10/31/19 1459	CLW
Wet Chem - W/SM4500-NO3 F-2011								
Nitrate as N	**4.18**	0.0500	mg/L	1			10/29/19 2140	DCH
Nitrite as N	<0.0100	0.0100	mg/L	1			10/29/19 2140	DCH

Metals, Total	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4								
Boron	**0.163**	0.0050	mg/L	1	**Y1**	10/31/19 1335	11/01/19 1310	JDF
Copper	**0.0037**	0.0020	mg/L	1		10/31/19 1335	11/01/19 1310	JDF
Sodium	**229**	1.00	mg/L	1		10/31/19 1335	11/01/19 1310	JDF

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acetone	<10.0	10.0	ug/L	1	**Y1**		10/31/19 0030	JAN
Acrylonitrile	<20.0	20.0	ug/L	1			10/31/19 0030	JAN
Benzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Bromodichloromethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Bromoform	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Bromomethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
2-Butanone (MEK)	<10.0	10.0	ug/L	1	**Y1**		10/31/19 0030	JAN
Carbon disulfide	<5.00	5.00	ug/L	1	**Y1**		10/31/19 0030	JAN
Carbon tetrachloride	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Chlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Chloroform	<4.00	4.00	ug/L	1			10/31/19 0030	JAN
Chloromethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Dibromochloromethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L	1	**Y1**		10/31/19 0030	JAN

CERTIFICATE OF ANALYSIS

D9J2680

Client Sample ID:	Well #A8		
Sample Matrix:	Wastewater	**Collected By:**	Customer
Lab Sample ID:	D9J2680-01	**Collection Date:**	10/29/2019 11:10

Volatile Organic Compounds - GC/MS	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
1,2-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
1,3-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
1,4-Dichlorobenzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
1,2-Dichloroethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
1,1-Dichloroethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
cis-1,2-Dichloroethene	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
1,1-Dichloroethene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
trans-1,2-Dichloroethene	<4.00	4.00	ug/L	1			10/31/19 0030	JAN
1,2-Dichloropropane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
cis-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
trans-1,3-Dichloropropene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Ethylbenzene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
2-Hexanone (MBK)	<10.0	10.0	ug/L	1	Y1		10/31/19 0030	JAN
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L	1			10/31/19 0030	JAN
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L	1	Y1		10/31/19 0030	JAN
Styrene	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Tetrachloroethene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Toluene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
1,1,2-Trichloroethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
1,1,1-Trichloroethane	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Trichloroethene	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
Vinyl chloride	<5.00	5.00	ug/L	1			10/31/19 0030	JAN
m,p-Xylene	<10.0	10.0	ug/L	1	Y1		10/31/19 0030	JAN
o-Xylene	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
Vinyl acetate	<5.00	5.00	ug/L	1	Y1		10/31/19 0030	JAN
Surrogate: 4-Bromofluorobenzene	101	Limit: 70-130	% Rec	1			10/31/19 0030	JAN
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 70-130	% Rec	1			10/31/19 0030	JAN
Surrogate: Toluene-d8	100	Limit: 70-130	% Rec	1			10/31/19 0030	JAN

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
EPA 624.1								
Acrolein	<20.0	20.0	ug/L	1			10/30/19 2155	JAN
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L	1			10/30/19 2155	JAN
Surrogate: 4-Bromofluorobenzene	98.0	Limit: 70-130	% Rec	1			10/30/19 2155	JAN
Surrogate: 1,2-Dichloroethane-d4	97.3	Limit: 70-130	% Rec	1			10/30/19 2155	JAN
Surrogate: Toluene-d8	101	Limit: 70-130	% Rec	1			10/30/19 2155	JAN

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Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2680

Client Sample ID:	Well #A8 (filtered)		
Sample Matrix:	Groundwater	**Collected By:**	Customer
Lab Sample ID:	D9J2680-02	**Collection Date:**	10/29/2019 11:10

Inorganics	Result	RL	Units	Dilution	Note	Prepared	Analyzed	Analyst
Wet Chem - W/EPA 365.1, Rv 2.0								
Ortho-phosphate as P	**5.53**	0.0400	mg/L	4			10/30/19 0223	DCH

Batch Quality Control Summary: Microbac Laboratories, Inc. - Dayville

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91914 - Wet-Digestion-W - EPA 365.1, Rv 2.0										
Blank (DJ91914-BLK1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	<0.0106	0.0106	mg/L							
LCS (DJ91914-BS1)			Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.01	0.0106	mg/L	1.00		101	90-110			
Duplicate (DJ91914-DUP1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	0.0616	0.0106	mg/L		0.0638			3.39	20	
Matrix Spike (DJ91914-MS1)		**Source: D9J2622-02**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	1.33	0.0106	mg/L	1.25	0.0638	101	90-110			
Matrix Spike (DJ91914-MS2)		**Source: L9J0574-01**	Prepared & Analyzed: 10/31/2019							
Phosphorus - Total as P	8.33	0.128	mg/L	1.25	6.99	107	90-110			
Batch DJ91920 - Wet Chem - W - SM4500-NO3 F-2011										
Blank (DJ91920-BLK1)			Prepared & Analyzed: 10/29/2019							
Nitrite as N	<0.0100	0.0100	mg/L							
Nitrate as N	<0.0500	0.0500	mg/L							
LCS (DJ91920-BS1)			Prepared & Analyzed: 10/29/2019							
Nitrate as N	5.05	0.0500	mg/L	5.00		101	90-110			
LCS (DJ91920-BS2)			Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.01	0.0100	mg/L	1.00		101	90-110			
Duplicate (DJ91920-DUP1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	0.251	0.0100	mg/L		0.253			0.992	20	
Nitrate as N	4.35	0.0500	mg/L		4.35			0.103	20	
Matrix Spike (DJ91920-MS1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.25	0.0100	mg/L	1.00	0.253	99.3	75-125			
Nitrate as N	9.01	0.100	mg/L	5.00	4.35	93.1	75-125			
Matrix Spike Dup (DJ91920-MSD1)		**Source: D9J2619-03**	Prepared & Analyzed: 10/29/2019							
Nitrite as N	1.25	0.0100	mg/L	1.00	0.253	99.4	75-125	0.0642	20	
Nitrate as N	8.91	0.100	mg/L	5.00	4.35	91.2	75-125	1.08	20	
Batch DJ91930 - Wet Chem - W - EPA 365.1, Rv 2.0										
Blank (DJ91930-BLK1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	<0.0100	0.0100	mg/L							
LCS (DJ91930-BS1)			Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.02	0.0100	mg/L	1.00		102	90-110			
Duplicate (DJ91930-DUP1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	0.200	0.0100	mg/L		0.202			0.995	20	
Matrix Spike (DJ91930-MS1)		**Source: D9J2658-09**	Prepared & Analyzed: 10/29/2019							
Ortho-phosphate as P	1.23	0.0100	mg/L	1.00	0.202	102	90-110			

Inorganics	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ91930 - Wet Chem - W - EPA 365.1, Rv 2.0										
Matrix Spike (DJ91930-MS2)		**Source: D9J2680-02**		Prepared & Analyzed: 10/30/2019						
Ortho-phosphate as P	6.52	0.0400	mg/L	1.00	5.53	99.5	90-110			
Batch DJ91980 - Wet Chem - W - SM2320 B-2011										
Blank (DJ91980-BLK1)				Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	<1.00	1.00	mg/L							
LCS (DJ91980-BS1)				Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	50.0	1.00	mg/L	50.0		100	90-110			
Duplicate (DJ91980-DUP1)		**Source: D9J2658-13**		Prepared & Analyzed: 10/30/2019						
Alkalinity to pH 4.5	62.5	1.00	mg/L		62.5			0.00	20	
Batch DJ91998 - Wet-Digestion-W - EPA 351.1										
Blank (DJ91998-BLK1)				Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	<0.200	0.200	mg/L							
LCS (DJ91998-BS1)				Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	5.06	0.200	mg/L	5.00		101	90-110			
Duplicate (DJ91998-DUP1)		**Source: D9J2644-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	18.9	0.400	mg/L		19.5			2.72	20	
Matrix Spike (DJ91998-MS1)		**Source: D9J2644-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	29.8	0.800	mg/L	10.0	19.5	103	90-110			
Matrix Spike (DJ91998-MS2)		**Source: D9J2670-01**		Prepared: 10/30/2019 Analyzed: 11/04/2019						
Total Kjeldahl Nitrogen (TKN)	9.56	0.200	mg/L	10.0	ND	95.6	90-110			
Batch DJ92063 - Wet Chem - W - SM4500-Cl E-2011										
Blank (DJ92063-BLK1)				Prepared & Analyzed: 10/31/2019						
Chloride	<2.00	2.00	mg/L							
LCS (DJ92063-BS1)				Prepared & Analyzed: 10/31/2019						
Chloride	19.7	2.00	mg/L	20.0		98.6	90-110			
Duplicate (DJ92063-DUP1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	107	4.00	mg/L		109			2.00	20	
Matrix Spike (DJ92063-MS1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	73.7	75-125			M6
Matrix Spike Dup (DJ92063-MSD1)		**Source: D9J2679-01**		Prepared & Analyzed: 10/31/2019						
Chloride	124	4.00	mg/L	20.0	109	74.2	75-125	0.0881	20	M6

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)				Prepared: 10/31/2019 Analyzed: 11/01/2019						
Boron	<0.0050	0.0050	mg/L							
Copper	<0.0020	0.0020	mg/L							

Metals, Total	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DJ92037 - 200.7 - W - EPA 200.7, Rv. 4.4										
Blank (DJ92037-BLK1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Sodium	<1.00	1.00	mg/L							
LCS (DJ92037-BS1)			Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.556	0.0050	mg/L	0.500		111	85-115			
Copper	0.528	0.0020	mg/L	0.500		106	85-115			
Sodium	10.7	1.00	mg/L	10.5		102	85-115			
Duplicate (DJ92037-DUP1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.138	0.0050	mg/L		0.141			2.07	20	
Copper	0.0053	0.0020	mg/L		0.0060			12.5	20	
Sodium	75.0	1.00	mg/L		75.7			0.995	20	
Matrix Spike (DJ92037-MS1)		**Source: D9J2640-06**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.682	0.0050	mg/L	0.500	0.141	108	70-130			
Copper	0.526	0.0020	mg/L	0.500	0.0060	104	70-130			
Sodium	86.5	1.00	mg/L	10.5	75.7	103	70-130			
Matrix Spike (DJ92037-MS2)		**Source: D9J2680-01**	Prepared: 10/31/2019 Analyzed: 11/01/2019							
Boron	0.685	0.0050	mg/L	0.500	0.163	105	70-130			
Copper	0.509	0.0020	mg/L	0.500	0.0037	101	70-130			
Sodium	241	1.00	mg/L	10.5	229	114	70-130			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Acetone	<10.0	10.0	ug/L							
Acrylonitrile	<20.0	20.0	ug/L							
Benzene	<5.00	5.00	ug/L							
Bromodichloromethane	<5.00	5.00	ug/L							
Bromoform	<5.00	5.00	ug/L							
Bromomethane	<5.00	5.00	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Carbon disulfide	<5.00	5.00	ug/L							
Carbon tetrachloride	<5.00	5.00	ug/L							
Chlorobenzene	<5.00	5.00	ug/L							
Chloroethane (Ethyl chloride)	<5.00	5.00	ug/L							
Chloroform	<4.00	4.00	ug/L							
Chloromethane	<5.00	5.00	ug/L							
Dibromochloromethane	<5.00	5.00	ug/L							
Dibromomethane (Methylene bromide)	<5.00	5.00	ug/L							
1,2-Dichlorobenzene	<5.00	5.00	ug/L							
1,3-Dichlorobenzene	<5.00	5.00	ug/L							
1,4-Dichlorobenzene	<5.00	5.00	ug/L							
Dichlorodifluoromethane (Freon-12)	<5.00	5.00	ug/L							

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)				Prepared & Analyzed: 10/30/2019						
1,2-Dichloroethane	<5.00	5.00	ug/L							
1,1-Dichloroethane	<5.00	5.00	ug/L							
cis-1,2-Dichloroethene	<5.00	5.00	ug/L							
1,1-Dichloroethene	<5.00	5.00	ug/L							
trans-1,2-Dichloroethene	<4.00	4.00	ug/L							
1,2-Dichloropropane	<5.00	5.00	ug/L							
cis-1,3-Dichloropropene	<5.00	5.00	ug/L							
trans-1,3-Dichloropropene	<5.00	5.00	ug/L							
Ethylbenzene	<5.00	5.00	ug/L							
2-Hexanone (MBK)	<10.0	10.0	ug/L							
Methyl tert-butyl ether (MTBE)	<5.00	5.00	ug/L							
Methylene chloride (Dichloromethane)	<1.00	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<10.0	10.0	ug/L							
Styrene	<5.00	5.00	ug/L							
1,1,2,2-Tetrachloroethane	<5.00	5.00	ug/L							
Tetrachloroethene	<5.00	5.00	ug/L							
Toluene	<5.00	5.00	ug/L							
1,1,2-Trichloroethane	<5.00	5.00	ug/L							
1,1,1-Trichloroethane	<5.00	5.00	ug/L							
Trichloroethene	<5.00	5.00	ug/L							
Trichlorofluoromethane (Freon 11)	<5.00	5.00	ug/L							
Vinyl chloride	<5.00	5.00	ug/L							
m,p-Xylene	<10.0	10.0	ug/L							
o-Xylene	<5.00	5.00	ug/L							
Vinyl acetate	<5.00	5.00	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)				Prepared & Analyzed: 10/30/2019						
Acetone	40.6	10.0	ug/L	50.0		81.1	65-133			
Acrylonitrile	53.2	20.0	ug/L	50.0		106	60-140			
Benzene	57.2	5.00	ug/L	50.0		114	65-135			
Bromodichloromethane	54.0	5.00	ug/L	50.0		108	65-135			
Bromoform	50.5	5.00	ug/L	50.0		101	70-130			
Bromomethane	51.4	5.00	ug/L	50.0		103	15-185			
2-Butanone (MEK)	53.0	10.0	ug/L	50.0		106	77-140			
Carbon disulfide	51.6	5.00	ug/L	50.0		103	70-130			
Carbon tetrachloride	59.2	5.00	ug/L	50.0		118	70-130			
Chlorobenzene	53.0	5.00	ug/L	50.0		106	65-135			
Chloroethane (Ethyl chloride)	51.9	5.00	ug/L	50.0		104	40-160			
Chloroform	53.9	4.00	ug/L	50.0		108	70-135			
Chloromethane	46.5	5.00	ug/L	50.0		93.0	1-205			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Dibromochloromethane	52.4	5.00	ug/L	50.0		105	70-135			
Dibromomethane (Methylene bromide)	53.2	5.00	ug/L	50.0		106	76-126			
1,2-Dichlorobenzene	52.3	5.00	ug/L	50.0		105	65-135			
1,3-Dichlorobenzene	53.4	5.00	ug/L	50.0		107	70-130			
1,4-Dichlorobenzene	53.9	5.00	ug/L	50.0		108	65-135			
Dichlorodifluoromethane (Freon-12)	43.0	5.00	ug/L	50.0		86.0	1-205			
1,2-Dichloroethane	53.3	5.00	ug/L	50.0		107	70-130			
1,1-Dichloroethane	54.9	5.00	ug/L	50.0		110	70-130			
cis-1,2-Dichloroethene	56.6	5.00	ug/L	50.0		113	82-137			
1,1-Dichloroethene	59.7	5.00	ug/L	50.0		119	50-150			
trans-1,2-Dichloroethene	55.3	4.00	ug/L	50.0		111	70-130			
1,2-Dichloropropane	53.8	5.00	ug/L	50.0		108	35-165			
cis-1,3-Dichloropropene	51.7	5.00	ug/L	50.0		103	25-175			
trans-1,3-Dichloropropene	51.2	5.00	ug/L	50.0		102	50-150			
Ethylbenzene	54.6	5.00	ug/L	50.0		109	60-140			
2-Hexanone (MBK)	49.7	10.0	ug/L	50.0		99.4	74-134			
Methyl tert-butyl ether (MTBE)	64.0	5.00	ug/L	50.0		128	81-140			
Methylene chloride (Dichloromethane)	50.1	1.00	ug/L	50.0		100	60-140			
4-Methyl-2-pentanone (MIBK)	47.6	10.0	ug/L	50.0		95.2	73-142			
Styrene	55.1	5.00	ug/L	50.0		110	82-125			
1,1,2,2-Tetrachloroethane	50.5	5.00	ug/L	50.0		101	60-140			
Tetrachloroethene	57.1	5.00	ug/L	50.0		114	70-130			
Toluene	54.6	5.00	ug/L	50.0		109	70-130			
1,1,2-Trichloroethane	49.3	5.00	ug/L	50.0		98.5	70-130			
1,1,1-Trichloroethane	57.7	5.00	ug/L	50.0		115	70-130			
Trichloroethene	58.0	5.00	ug/L	50.0		116	65-135			
Trichlorofluoromethane (Freon 11)	60.2	5.00	ug/L	50.0		120	50-150			
Vinyl chloride	48.6	5.00	ug/L	50.0		97.2	5-195			
m,p-Xylene	106	10.0	ug/L	100		106	80-122			
o-Xylene	53.2	5.00	ug/L	50.0		106	81-125			
Vinyl acetate	56.4	5.00	ug/L	50.0		113	60-140			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acetone	39.2	10.0	ug/L	50.0	ND	78.5	0-200			
Acrylonitrile	43.6	20.0	ug/L	50.0	ND	87.2	40-160			
Benzene	50.1	5.00	ug/L	50.0	ND	100	37-151			
Bromodichloromethane	46.6	5.00	ug/L	50.0	ND	93.2	35-155			
Bromoform	46.5	5.00	ug/L	50.0	ND	93.0	45-169			
Bromomethane	43.0	5.00	ug/L	50.0	ND	86.1	1-242			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike (DK90010-MS2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
2-Butanone (MEK)	44.4	10.0	ug/L	50.0	ND	88.7	0-200			
Carbon disulfide	44.6	5.00	ug/L	50.0	ND	89.3	0-200			
Carbon tetrachloride	50.0	5.00	ug/L	50.0	ND	100	70-140			
Chlorobenzene	48.4	5.00	ug/L	50.0	ND	96.8	37-160			
Chloroethane (Ethyl chloride)	46.4	5.00	ug/L	50.0	ND	92.7	14-230			
Chloroform	51.1	4.00	ug/L	50.0	4.21	93.9	51-138			
Chloromethane	40.2	5.00	ug/L	50.0	ND	80.4	1-273			
Dibromochloromethane	48.6	5.00	ug/L	50.0	ND	97.2	53-149			
Dibromomethane (Methylene bromide)	45.6	5.00	ug/L	50.0	ND	91.1	0-200			
1,2-Dichlorobenzene	47.7	5.00	ug/L	50.0	ND	95.5	18-190			
1,3-Dichlorobenzene	47.0	5.00	ug/L	50.0	ND	93.9	59-156			
1,4-Dichlorobenzene	47.2	5.00	ug/L	50.0	ND	94.3	18-190			
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	76.0	0-200			
1,2-Dichloroethane	45.6	5.00	ug/L	50.0	ND	91.2	49-155			
1,1-Dichloroethane	46.1	5.00	ug/L	50.0	ND	92.2	59-155			
cis-1,2-Dichloroethene	49.7	5.00	ug/L	50.0	ND	99.4	0-200			
1,1-Dichloroethene	53.1	5.00	ug/L	50.0	ND	106	1-234			
trans-1,2-Dichloroethene	49.0	4.00	ug/L	50.0	ND	97.9	54-156			
1,2-Dichloropropane	45.0	5.00	ug/L	50.0	ND	90.0	1-210			
cis-1,3-Dichloropropene	45.0	5.00	ug/L	50.0	ND	89.9	1-227			
trans-1,3-Dichloropropene	43.8	5.00	ug/L	50.0	ND	87.6	17-183			
Ethylbenzene	50.1	5.00	ug/L	50.0	ND	100	37-162			
2-Hexanone (MBK)	44.5	10.0	ug/L	50.0	ND	88.9	0-200			
Methyl tert-butyl ether (MTBE)	55.4	5.00	ug/L	50.0	ND	111	0-200			
Methylene chloride (Dichloromethane)	42.1	1.00	ug/L	50.0	ND	84.1	1-221			
4-Methyl-2-pentanone (MIBK)	43.6	10.0	ug/L	50.0	ND	87.1	0-200			
Styrene	48.5	5.00	ug/L	50.0	ND	97.0	0-200			
1,1,2,2-Tetrachloroethane	44.9	5.00	ug/L	50.0	ND	89.7	46-157			
Tetrachloroethene	50.6	5.00	ug/L	50.0	ND	101	64-148			
Toluene	50.8	5.00	ug/L	50.0	ND	102	47-150			
1,1,2-Trichloroethane	45.6	5.00	ug/L	50.0	ND	91.1	52-150			
1,1,1-Trichloroethane	50.3	5.00	ug/L	50.0	ND	101	52-162			
Trichloroethene	50.1	5.00	ug/L	50.0	ND	100	70-157			
Trichlorofluoromethane (Freon 11)	53.4	5.00	ug/L	50.0	ND	107	17-181			
Vinyl chloride	41.7	5.00	ug/L	50.0	ND	83.4	1-251			
m,p-Xylene	97.9	10.0	ug/L	100	ND	97.9	0-200			
o-Xylene	48.3	5.00	ug/L	50.0	ND	96.6	0-200			
Vinyl acetate	40.7	5.00	ug/L	50.0	ND	81.4	60-140			
Surrogate: 4-Bromofluorobenzene	*50.1*		ug/L	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)		**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019						
Acetone	43.4	10.0	ug/L	50.0	ND	86.9	0-200	10.1	200	
Acrylonitrile	47.5	20.0	ug/L	50.0	ND	94.9	40-160	8.50	60	
Benzene	52.7	5.00	ug/L	50.0	ND	105	37-151	5.04	61	
Bromodichloromethane	50.2	5.00	ug/L	50.0	ND	100	35-155	7.48	56	
Bromoform	50.0	5.00	ug/L	50.0	ND	99.9	45-169	7.13	42	
Bromomethane	45.0	5.00	ug/L	50.0	ND	90.1	1-242	4.54	61	
2-Butanone (MEK)	47.8	10.0	ug/L	50.0	ND	95.5	0-200	7.40	200	
Carbon disulfide	47.8	5.00	ug/L	50.0	ND	95.5	0-200	6.73	200	
Carbon tetrachloride	54.0	5.00	ug/L	50.0	ND	108	70-140	7.73	41	
Chlorobenzene	51.1	5.00	ug/L	50.0	ND	102	37-160	5.43	53	
Chloroethane (Ethyl chloride)	47.5	5.00	ug/L	50.0	ND	94.9	14-230	2.37	78	
Chloroform	54.6	4.00	ug/L	50.0	4.21	101	51-138	6.45	54	
Chloromethane	41.2	5.00	ug/L	50.0	ND	82.4	1-273	2.38	60	
Dibromochloromethane	51.0	5.00	ug/L	50.0	ND	102	53-149	4.86	50	
Dibromomethane (Methylene bromide)	50.9	5.00	ug/L	50.0	ND	102	0-200	11.1	200	
1,2-Dichlorobenzene	50.2	5.00	ug/L	50.0	ND	100	18-190	4.98	57	
1,3-Dichlorobenzene	49.0	5.00	ug/L	50.0	ND	97.9	59-156	4.17	43	
1,4-Dichlorobenzene	49.5	5.00	ug/L	50.0	ND	99.0	18-190	4.86	57	
Dichlorodifluoromethane (Freon-12)	38.0	5.00	ug/L	50.0	ND	75.9	0-200	0.0527	200	
1,2-Dichloroethane	48.8	5.00	ug/L	50.0	ND	97.6	49-155	6.76	49	
1,1-Dichloroethane	50.4	5.00	ug/L	50.0	ND	101	59-155	8.91	40	
cis-1,2-Dichloroethene	52.6	5.00	ug/L	50.0	ND	105	0-200	5.65	200	
1,1-Dichloroethene	55.0	5.00	ug/L	50.0	ND	110	1-234	3.52	32	
trans-1,2-Dichloroethene	50.5	4.00	ug/L	50.0	ND	101	54-156	3.00	45	
1,2-Dichloropropane	49.7	5.00	ug/L	50.0	ND	99.4	1-210	9.89	55	
cis-1,3-Dichloropropene	47.2	5.00	ug/L	50.0	ND	94.4	1-227	4.86	58	
trans-1,3-Dichloropropene	46.6	5.00	ug/L	50.0	ND	93.3	17-183	6.33	86	
Ethylbenzene	52.1	5.00	ug/L	50.0	ND	104	37-162	3.84	63	
2-Hexanone (MBK)	47.9	10.0	ug/L	50.0	ND	95.8	0-200	7.45	200	
Methyl tert-butyl ether (MTBE)	59.2	5.00	ug/L	50.0	ND	118	0-200	6.75	200	
Methylene chloride (Dichloromethane)	45.5	1.00	ug/L	50.0	ND	91.0	1-221	7.81	28	
4-Methyl-2-pentanone (MIBK)	46.9	10.0	ug/L	50.0	ND	93.9	0-200	7.49	200	
Styrene	49.2	5.00	ug/L	50.0	ND	98.3	0-200	1.35	200	
1,1,2,2-Tetrachloroethane	47.6	5.00	ug/L	50.0	ND	95.2	46-157	5.88	61	
Tetrachloroethene	54.0	5.00	ug/L	50.0	ND	108	64-148	6.40	39	
Toluene	52.3	5.00	ug/L	50.0	ND	105	47-150	2.87	41	
1,1,2-Trichloroethane	48.2	5.00	ug/L	50.0	ND	96.3	52-150	5.59	45	
1,1,1-Trichloroethane	52.2	5.00	ug/L	50.0	ND	104	52-162	3.80	36	
Trichloroethene	51.9	5.00	ug/L	50.0	ND	104	70-157	3.51	48	
Trichlorofluoromethane (Freon 11)	56.3	5.00	ug/L	50.0	ND	113	17-181	5.27	84	
Vinyl chloride	43.6	5.00	ug/L	50.0	ND	87.2	1-251	4.48	66	
m,p-Xylene	100	10.0	ug/L	100	ND	100	0-200	2.30	200	

Volatile Organic Compounds - GC/MS	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Matrix Spike Dup (DK90010-MSD2)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
o-Xylene	50.7	5.00	ug/L	50.0	ND	101	0-200	4.81	200	
Vinyl acetate	43.3	5.00	ug/L	50.0	ND	86.6	60-140	6.19	25	
Surrogate: 4-Bromofluorobenzene	*51.9*		ug/L	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.5*		ug/L	*50.0*		*97.0*	*70-130*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.0*		*98.8*	*70-130*			

Volatile Organic Compounds - GC/MS - Acrolein & CVE	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch DK90010 - 624.1 - EPA 624.1										
Blank (DK90010-BLK1)			Prepared & Analyzed: 10/30/2019							
Acrolein	<20.0	20.0	ug/L							
2-Chloroethyl vinyl ether	<20.0	20.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*50.6*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*		ug/L	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*51.0*		ug/L	*50.0*		*102*	*70-130*			
LCS (DK90010-BS1)			Prepared & Analyzed: 10/30/2019							
Acrolein	50.9	20.0	ug/L	50.0		102	60-140			
2-Chloroethyl vinyl ether	54.9	20.0	ug/L	50.0		110	1-305			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*		ug/L	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8	*48.8*		ug/L	*50.0*		*97.7*	*70-130*			
Matrix Spike (DK90010-MS1)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acrolein	46.6	20.0	ug/L	50.0	ND	93.1	40-160			
2-Chloroethyl vinyl ether	49.8	20.0	ug/L	50.0	ND	99.5	1-305			
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*49.1*		ug/L	*50.0*		*98.1*	*70-130*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.0*		*101*	*70-130*			
Matrix Spike Dup (DK90010-MSD1)	**Source: D9J2676-01**		Prepared & Analyzed: 10/31/2019							
Acrolein	48.6	20.0	ug/L	50.0	ND	97.1	40-160	4.23	60	
2-Chloroethyl vinyl ether	51.2	20.0	ug/L	50.0	ND	102	1-305	2.91	71	
Surrogate: 4-Bromofluorobenzene	*49.1*		ug/L	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*48.9*		ug/L	*50.0*		*97.7*	*70-130*			
Surrogate: Toluene-d8	*49.2*		ug/L	*50.0*		*98.3*	*70-130*			

MICROBAC®

Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D9J2680

Definitions

A27:	Headspace was present in the bottle used for the alkalinity analysis.
D1:	The sample was diluted during sample preparation (extraction, distillation or digestion) due to matrix interference.
M6:	Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level.
MCL:	US EPA Maximum Contaminant Level
RL:	Reporting Limit
RPD:	Relative Percent Difference
Y1:	Accreditation is not offered by the accrediting body for this analyte.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.9ºC

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville

M-CT008	Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Katherine Wall

Katherine A. Wall
Project Manager
Reported: 11/05/2019 15:13

MICROBAC

Microbac Laboratories, Inc.

D 9 J 2 6 8 0

Veolia - Plymouth

FOR LAB USE ONLY

Lab WO#

Project Manager KAW

Copy of Report To

CUSTOMER: VEOLIA WATER NORTH AMERICA
ADDRESS: 131 CAMELOT DRIVE
PLYMOUTH, MA 02360
DELIVERY: ROBERT BLANCHARD
E-MAIL: robert.blanchard@veolia.com
PHONE: 508-830-4159 FAX: 508-732-0238

Billing Information

BILL TO: VEOLIA WATER NORTH AMERICA
ADDRESS: 125 SOUTH STREET SUITE 173
MILWAUKEE, WI
PURCHASE ORDER #
ATTENTION: ACCOUNTS PAYABLE
PHONE: 866-688-0988

Project Information

PROJECT: PLYMOUTH, MA WWTP
LOCATION: ID 11773
WELLS - QUARTERLY
ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL
ROBERT BLANCHARD
PHONE: CELL - 508-328-5758
FAX: 508-732-0238

Sample Identification	Date Collected	Time Collected	Sample Type: COMPOSITE	Sample Type: GRAB	Sample Matrix	Number of Bottles	Analysis: TKN	TOTAL PHOS.	NITRITE	NITRATE	ORTHO-PHOSPHATE	ALKALINITY	CHLORIDE	COPPER	BORON	SODIUM	EPA 624	Preservatives: NON-PRES	HS2O4	HCL	HNO3	OTHER
Well # A8 (250 mL)	10/29/2019	11:20		X	WW	1	X	X											X			
Well # A8 (250 mL)	10/29/2019	11:20		X	WW	1			X	X								X				
Well # A8 (250 mL)(filtered)	10/29/2019	11:20		X	WW	1					X							X				
Well # A8 (250 mL)	10/29/2019	11:20		X	WW	1						X						X				
Well # A8 (250 mL)	10/29/2019	11:20		X	WW	1							X					X				
Well #A8 (250 mL)	10/29/2019	11:20		X	WW	1								X	X	X					X	
Well #A8 (40 mL vial)	10/29/2019	11:20		X	WW	2											X	X				
Well #A8 (40 mL vial)	10/29/2019	11:20		X	WW	2											X			X		

CUSTODY TRANSFER	DATE	TIME
SAMPLER:	10.29.19	
RECEIVED:		
RELINQUISHED:	10/29/19	13:47
RECEIVED:	10-29-19	1347
RELINQUISHED:	10.29.19	15:47
RECEIVED:	10.29.19	1547

TURN AROUND (INDICATE IN CALENDAR DAYS):

FAX ☐ HARD COPY ☐ E-MAIL ☐

EXPIDATED SERVICE MAY BE SUBJECT TO SURCHARGE

PRESERVATIVE VERIFIED Initials

COMMENTS:

CONDITIONS UPON RECEIPT (CHECK ONE): COMPLIANT ☐

COOLED ☐ AMBIENT ☐