APPENDIX B ANALYTICAL LABORATORY REPORTS





April 26, 2017

Ryan Niles TRC Environmental Corp 650 Suffolk Street STE 200 Lowell, MA 01854

Re: PTS File No: 46705R1

Physical Properties Data – Revised Report Atlantic Bridge Project; 140143.0000.4903

Dear Mr. Niles:

Please find enclosed revised report for Physical Properties analyses conducted upon samples received from your Atlantic Bridge Project; 140143.0000.4903 project. The report was revised to add annotation to the analytical report documenting conditions under which the modified centrifugal test (Free Product Mobility) was conducted. All analyses were performed by applicable ASTM, EPA, or API methodologies.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2502.

Sincerely,

PTS Laboratories, Inc.

Michael Mark Brady, P.G. Laboratory Director

Encl.

PTS Laboratories

Project Name: Atlantic Bridge Project Project Number: 140143.0000.4903

PTS File No: 46705R1

Client: TRC Solutions

TEST PROGRAM - 20170127

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Grain Size Analyses	Pore Fluid Saturation Package	Free Product Mobility	O/W Imbibition Capillary Pressure Curve	NAPL Permeability API RP40	Hydraulic Conductivity API RP40	Comments
		Plugs:	1/4:3/4	Grab	Vert. 1.5"	Vert. 1.5"	Vert. 1"	Vert. 1"	Vert. 1"	
Date Received: 20161216	0.40	0.05								
B406A-A	8-10	0.95	1							Labella I B400A A South to the day Fe
B406A-B	10-12	1.45	2		10.9-11.1	11.1-11.3	11.3-11.5	Х	Х	Labeled B406A-A, include hydraulic conductivity and LNAPL permeability
B406A-C	12-14	1.40	2	12.6-12.8	12-12.2	12.2-12.4	12.4-12.6			Labeled B406A-B
B406A-D	14-16	1.15	2		14-14.2	14.2-14.4	14.4-14.6			Labeled B406A-C
B406A-E	16-18	1.10	2							Labeled B406A-D
B404A-A	8-10	1.70	2							
B404A-B	10-12	0.80	1		10.2-10.4	10.4-10.6	10.6-10.8			
B404A-C	12-14	0.75	1		12-12.2	12.2-12.4	12.4-12.6	х	Х	include hydraulic conductivity and LNAPL permeability
B404A-D	14-16	0.85	1	14.6-14.8	14-14.2	14.2-14.4	14.4-14.6			
B404A-E	16-18	0.85	1							
B412A-A	10-12	1.25	2							
B412A-B	12-14	1.35	2		12-12.2	12.2-12.4	12.4-12.6	х	Х	include hydraulic conductivity and LNAPL permeability
B412A-C	14-16	0.90	1	14.6-14.8	14-14.2	14.2-14.4	14.4-14.6			
B412A-D	16-18	0.55	1		16-16.2	16.2-16.4	16.4-16.55			
B412A-E	18-20	0.90	1							
B413A-A	10-12	1.00	1							
B413A-B	12-14	0.90	1		12-12.2	12.2-12.4	12.4-12.6			
B413A-C	14-16	1.20	2	14.6-14.8	14-14.2	14.2-14.4	14.4-14.6	х	Х	include hydraulic conductivity and LNAPL permeability
B413A-D	16-18	0.90	1		16-16.2	16.2-16.4	16.4-16.6			
B413A-E	18-20	0.65	1							
TOTALS:	20 Cores	20.60	28	4	12	12	12	4	4	36

Laboratory Test Program Notes

Contaminant identification:

Standard TAT for basic analysis is 10-15 business days.

Samples received cryogenically preserved will be stored frozen at standard core storage rates from sample date of receipt. Core storage charges will be billed monthly or quarterly depending upon project.

Sample locations to be selected by TRC Solutions personnel from core photography.

Grain Size Analysis: Laser or sieve method; includes tabular data, graphics and statistical sorting in Excel format.

Pore Fluid Saturation Package: API RP40 Dean-Stark Method: Includes initial pore fluid saturations, total porosity, air-filled porosity, grain density, dry bulk density and moisture content.

Hydraulic conductivity and LNAPL permeability added for four (4) O/W Imbibition Pc tests per C. Race/TRC 20170123. Use NAPL MW-201 (PTS File No. 47030).

Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density.

Free Product Mobility – Extended Run tests are to be conducted at 30xG for 24 hours per C. Race/TRC 20170201.

Additional NAPL (MW-201, MW-410, MW-414 composite) received frm TRC on 20170216 to complete remaining O/W Pc tests.

PHYSICAL PROPERTIES DATA - PORE FLUID SATURATIONS

Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

API RP 40 /

		METHODS:	ASTM D2216	API RI	P 40	API F	RP 40	API F	RP 40
		SAMPLE	MOISTURE	DENS	ITY	POROSIT	Y, %Vb (2)		FLUID
SAMPLE	DEPTH,	ORIENTATION	CONTENT,	DRY BULK,	GRAIN,		AIR	SATURATIO	NS, % Pv (3)
ID.	ft.	(1)	% weight	g/cc	g/cc	TOTAL	FILLED	WATER	NAPL
B406A-B	11.0	V	23.6	1.05	2.38	55.9	31.0	28.4	16.3
B406A-C	12.1	V	17.5	1.62	2.60	37.8	9.0	42.1	34.1
B406A-D	14.1	V	18.8	1.60	2.68	40.2	9.6	36.3	39.8
B404A-B	10.3	V	29.6	1.27	2.42	47.5	9.7	59.8	19.7
B404A-C	12.1	V	17.7	1.61	2.54	36.8	8.3	65.7	11.8
B404A-D	14.1	V	25.3	1.18	2.30	48.8	18.9	59.2	2.0
B412A-B	12.1	V	31.9	1.25	2.36	46.8	6.5	55.7	30.5
B412A-C	14.1	V	20.2	1.36	2.51	45.7	18.0	52.7	7.8
B412A-D	16.1	V	20.3	1.30	2.43	46.3	19.8	49.7	7.5
B413A-B	12.1	V	30.4	1.24	2.40	48.5	10.6	53.5	24.6
B413A-C	14.1	V	29.2	1.27	2.41	47.6	10.1	38.7	40.1
B413A-D	16.1	V	27.3	1.22	2.31	47.1	13.6	59.0	12.2

⁽¹⁾ Sample Orientation: H = horizontal; V = vertical; R = remold

⁽²⁾ Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.

⁽³⁾ Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc, NAPL = 0.9724 g/cc.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

(Centrifugal method: samples spun under air for 24 hours)

				METHODS:	API R	P 40	API RP 40			DEAN-STARK	
					DEM	NTV				RATIONS (3), % Pv	
			SAMPLE		DENS		TOTAL	Initial Fluid		After Centrif	•
SAMPLE ID.		DEPTH, ft.	ORIENTATION (1)	ANALYSIS DATE	DRY BULK, g/cc	GRAIN, g/cc	POROSITY (2), %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
D400A D		44.0		20470200	0.00	0.04	50.0	CO 4	24.2	24.0	24.4
B406A-B		11.2	V	20170209	0.89	2.21	59.9	62.4	21.2	24.8	21.1
	NOTE:	Trace dark b	rown LNAPL prod	uced. Produce	d water clear.						
B406A-C		12.3	V	20170209	1.57	2.68	41.4	34.6	49.8	14.4	22.0
	NOTE:	Dark brown	LNAPL produced.	Produced water	r clear.						
B406A-D		14.3	V	20170209	1.49	2.69	44.4	38.0	43.2	10.1	30.5
D-100A-D	NOTE:		LNAPL produced.			2.00	77.7	30.0	70.2	10.1	50.5
	NOTE.	Dark brown	LNAPL produced.	Produced water	r clear.						
B404A-B		10.5	V	20170209	1.40	2.46	43.3	52.4	20.1	24.5	20.1
	NOTE:	No visible N	APL produced. Pr	oduced water c	loudy with brown	color and no hyd	drocarbon odor.				
B404A-C		12.3	V	20170213	1.14	2.25	49.1	59.2	21.1	23.0	18.9
D404A-C	NOTE.					2.25	43.1	39.2	21.1	23.0	10.9
	NOTE:	Dark brown	DNAPL produced.	Produced water	er clear.						
B404A-D		14.3	V	20170213	1.41	2.38	40.7	78.2	1.8	32.8	1.8
	NOTE:	No visible N	APL produced. Pr	oduced water c	lear with no hydro	carbon odor.					
B412A-B		12.3	V	20170213	1.02	2.13	51.9	56.6	23.4	25.4	21.2
D4 12A-D	NOTE					2.13	31.9	30.0	23.4	25.4	21.2
	NOTE:	Dark brown	LNAPL produced.	Produced Wate	r ciear.						
B412A-C		14.3	V	20170213	1.48	2.44	39.4	80.7	12.0	30.6	11.6
	NOTE:	Trace dark b	rown LNAPL prod	uced. Produce	d water clear.						

⁽¹⁾ Sample Orientation: H = horizontal; V = vertical; R = remold

⁽²⁾ Total Porosity = all interconnected pore channels.

⁽³⁾ Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc, NAPL = 0.9724 g/cc.

Swi = Initial Water Saturation as received prior to centrifuging at 1000xG, Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG.

Srw = Residual Water Saturation after centrifuging at 1000xG, Sor = Residual NAPL Saturation after centrifuging at 1000xG.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

(Centrifugal method: samples spun under air for 24 hours)

			METHODS:	API	RP 40	API RP 40			DEAN-STARK	
		SAMPLE		DEN	SITY	TOTAL		Saturations		uge at 30xG
SAMPLE ID.	DEPTH,	ORIENTATION (1)	ANALYSIS DATE	DRY BULK, g/cc	GRAIN, g/cc	POROSITY (2), %Vb	WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
		\.,'/	271.12	9.00	g, 00	,,,,,	0/11/0/11/10/1	0,1101111011	0/11/0/11/10/1	0,1101111011
B412A-D	16.3	V	20170214	1.27	2.39	46.7	66.8	8.7	19.7	7.8
No	OTE: Dark brown	LNAPL produced.	Produced water	er clear.						
B413A-B	12.3	V	20170214	0.97	2.17	55.4	57.9	30.4	28.1	27.8
No	OTE: Dark brown	LNAPL produced.	Produced water	er clear.						
B413A-C	14.3	V	20170214	1.08	2.31	53.1	57.2	31.8	24.9	30.0
NO	OTE: Brown LNA	PL produced. Produced.	duced water cle	ar.						
B413A-D	16.3	V	20170214	1.15	2.42	52.4	47.7	9.5	17.2	9.4
No	OTE: Trace LNAP	L produced. Prod	uced water clea	r.						

⁽¹⁾ Sample Orientation: H = horizontal; V = vertical; R = remold

⁽²⁾ Total Porosity = all interconnected pore channels.

⁽³⁾ Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc, NAPL = 0.9724 g/cc.

Swi = Initial Water Saturation as received prior to centrifuging at 1000xG, Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG.

Srw = Residual Water Saturation after centrifuging at 1000xG, Sor = Residual NAPL Saturation after centrifuging at 1000xG.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

SAMPLE PROPERTIES - OIL/WATER CAPILLARY PRESSURE

Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

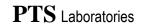
API RP 40 /

		METHODS:	ASTM D2216	API R	P 40		RP 40	API RP 40
		SAMPLE	MOISTURE	DENS	SITY	POROSIT	Y, %Vb (2)	TOTAL PORE FLUID
SAMPLE	DEPTH,	ORIENTATION	CONTENT,	DRY BULK,	GRAIN,		AIR	SATURATIONS (3),
ID.	ft.	(1)	% weight	g/cc	g/cc	TOTAL	FILLED	% Pv
B406A-B	11.4	V	17.5	1.42	2.37	40.0	15.1	62.3
B406A-C	12.5	V	22.0	1.50	2.68	44.0	10.9	75.1
B406A-D	14.5	V	22.3	1.47	2.68	45.2	12.4	72.5
B404A-B	10.7	V	27.8	1.25	2.49	49.8	15.1	69.6
B404A-C	12.5	V	18.4	1.37	2.32	41.1	15.9	61.3
B404A-D	14.5	V	13.0	1.35	2.42	44.3	26.8	39.6
B412A-B	12.5	V	58.9	0.83	2.19	62.0	13.0	79.1
B412A-C	14.5	V	46.5	0.99	2.29	56.7	10.6	81.2
B412A-D	16.45	V	62.4	0.79	2.11	62.8	13.7	78.1
B413A-B	12.5	V	70.7	0.76	2.19	65.5	12.0	81.7
B413A-C	14.5	V	64.7	0.82	2.19	62.7	9.9	84.2
B413A-D	16.5	V	17.2	1.23	2.53	51.3	30.0	41.5

⁽¹⁾ Sample Orientation: H = horizontal; V = vertical; R = remold

⁽²⁾ Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids.

⁽³⁾ Fluid densities used to calculate pore fluid saturations: Water = 0.9996 g/cc; MW-5 NAPL = 0.9724 g/cc Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected



PERMEABILITY DATA - OIL/WATER CAPILLARY PRESSURE

Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

METHODS: API RP 40; EPA 9100

		WILTHOUG.	0D3					
<u>,</u>			25	5 PSI CONFINING STRES	S			
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	SPECIFIC PERMEABILITY TO WATER, millidarcy (2,3)	HYDRAULIC CONDUCTIVITY, cm/s (3)	SPECIFIC PERMEABILITY TO NAPL, millidarcy (4)			
B406A-B	11.4	V	703	6.99E-04	491			
B406A-C	12.5	V	Permeability Analyses Not Requested					
B406A-D	14.5	V	Permeability Analyses Not Requested					
B404A-B	10.7	V	Permeability Analyses Not Re	equested				
B404A-C	12.5	V	7320	7.29E-03	18000			
B404A-D	14.5	V	Permeability Analyses Not Re	equested				
B412A-B	12.5	V	7950	7.89E-03	23700			
B412A-C	14.5	V	Permeability Analyses Not Re	equested				
B412A-D	16.45	V	Permeability Analyses Not Re	equested				
B413A-B	12.5	V	Permeability Analyses Not Re	equested				
B413A-C	14.5	V	6790	6.72E-03	21900			
B413A-D	16.5	V	Permeability Analyses Not Re	equested				

⁽¹⁾ Sample Orientation: H = horizontal; V = vertical; R = remold

⁽²⁾ Effective (Native) = With as-received pore fluids in place.

⁽³⁾ Permeability/conductivity measured at saturated condition.

⁽⁴⁾ Specific (intrinsic) permeability.

OIL/WATER CAPILLARY PRESSURE TABULAR DATA

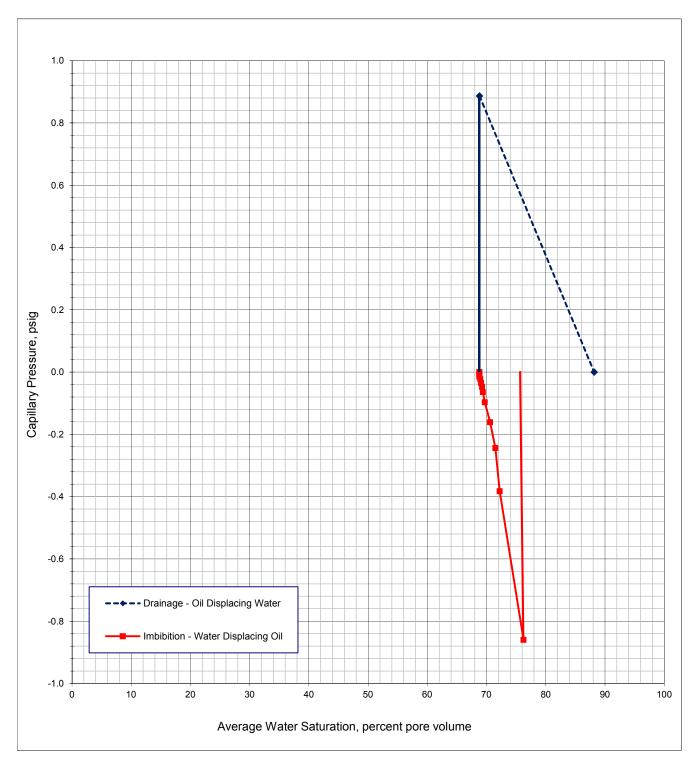
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

				nple ID		
Capillary	Pressure	Height Above	B406A-B at 11.4 ft.			
' '	1	Water Table,		ion, % pore volume		
psi	cm water	ft	Water	Oil (NAPL)		
			Drainage - Oil	Displacing Water		
0.000	0.00	0.00	88.2	11.8		
0.887	62.4	75.2	68.8	31.2		
			Spontaneo	ous Imbibition		
0.000	0.00	0.00	68.8	31.2		
0.000	0.00	0.00	68.8	31.2		
			Imbibition - Wa	ter Displacing Oil		
0.000	0.00	0.00	68.8	31.2		
-0.004	-0.31	0.38	68.8	31.2		
-0.009	-0.62	0.75	68.8	31.2		
-0.015	-1.06	1.28	68.8	31.2		
-0.023	-1.64	1.98	68.9	31.1		
-0.035	-2.48	3.00	69.1	30.9		
-0.048	-3.37	4.06	69.2	30.8		
-0.065	-4.54	5.47	69.4	30.6		
-0.097	-6.83	8.23	69.7	30.3		
-0.161	-11.4	13.7	70.6	29.4		
-0.244	-17.2	20.7	71.5	28.5		
-0.383	-26.9	32.5	72.2	27.8		
-0.860	-60.5	72.9	76.2	23.8		

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

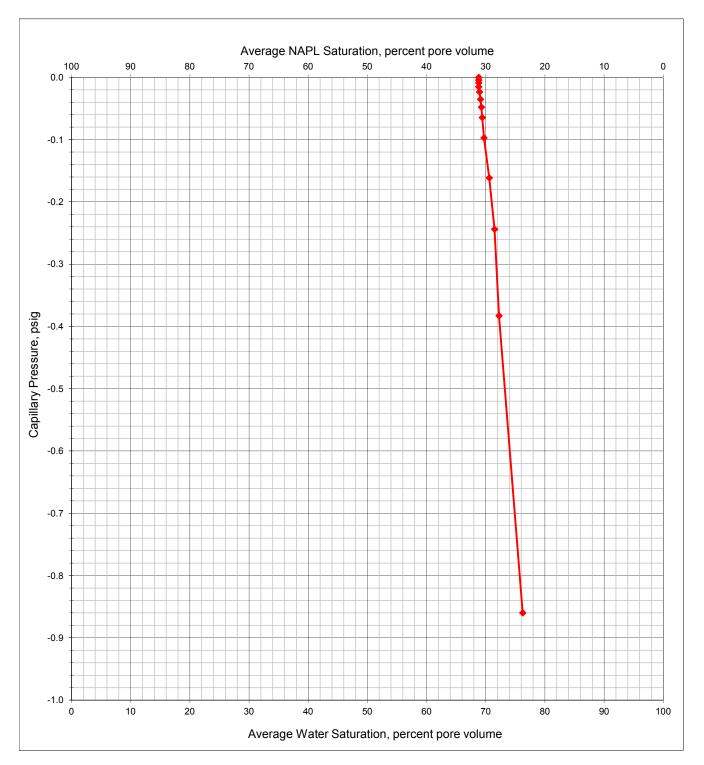
Project Name: Atlantic Bridge Project Sample ID: B406A-B Project No: 140143.0000.4903 Depth, ft.: 11.4



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B406A-B Project No: 140143.0000.4903 Depth, ft.: 11.4



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

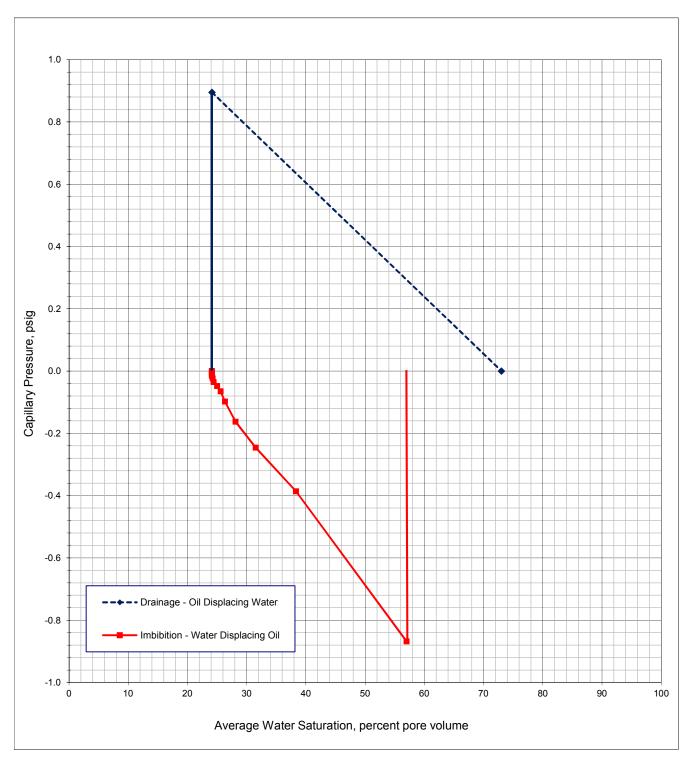
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

			Sample ID			
Capillary F	Pressure	Height Above		C at 12.5 ft.		
		Water Table,	Average Saturat	ion, % pore volume		
psi	cm water	ft	Water	Oil (NAPL)		
			Drainage - Oil	Displacing Water		
0.000	0.00	0.00	73.0	27.0		
0.895	62.9	75.9	24.1	75.9		
			Spontaneo	ous Imbibition		
0.000	0.00	0.00	24.1	75.9		
0.000	0.00	0.00	24.1	75.9		
			Imbibition - Wa	ter Displacing Oil		
0.000	0.00	0.00	24.1	75.9		
-0.005	-0.32	0.38	24.1	75.9		
-0.009	-0.63	0.76	24.1	75.9		
-0.015	-1.07	1.30	24.1	75.9		
-0.024	-1.65	2.00	24.3	75.7		
-0.036	-2.51	3.02	24.4	75.6		
-0.048	-3.40	4.10	25.0	75.0		
-0.065	-4.58	5.53	25.6	74.4		
-0.098	-6.89	8.31	26.4	73.6		
-0.163	-11.5	13.8	28.1	71.9		
-0.246	-17.3	20.9	31.5	68.5		
-0.387	-27.2	32.8	38.4	61.6		
-0.868	-61.0	73.6	57.0	43.0		

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

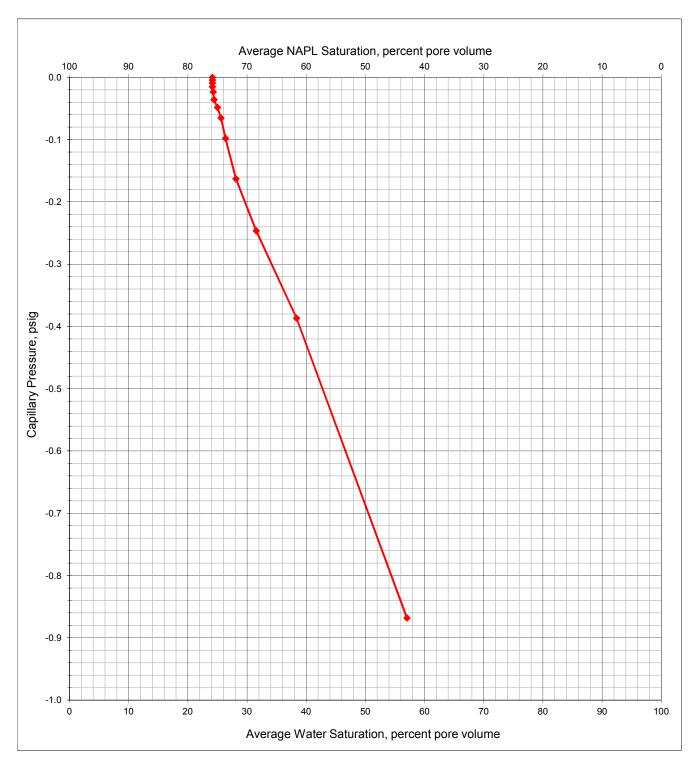
Project Name: Atlantic Bridge Project Sample ID: B406A-C Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B406A-C Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

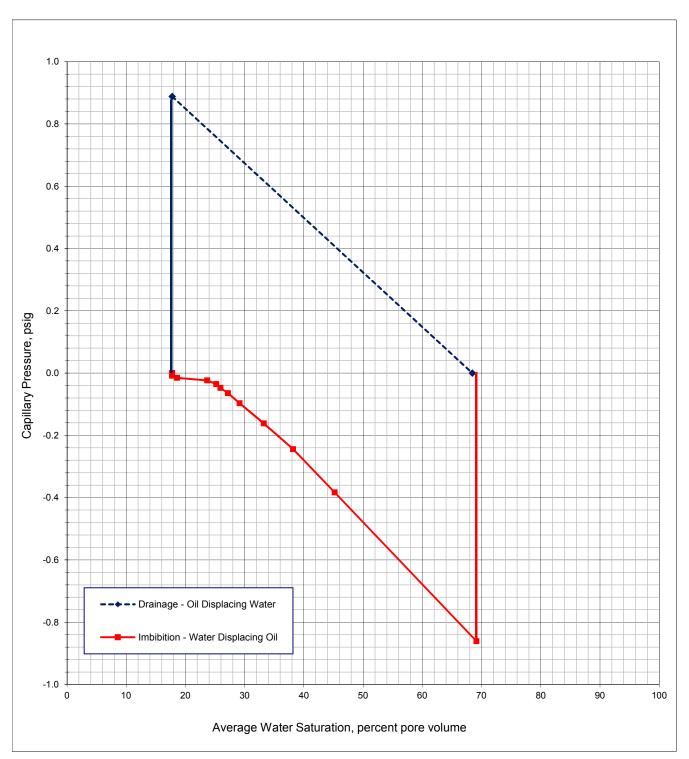
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

		Sample ID				
Pressure	Height Above	B406A-D at 14.5 ft.				
- lessuie	Water Table,	Average Saturation, % pore volume				
cm water	ft	Water	Oil (NAPL)			
		•	Displacing Water			
0.00	0.00	68.4	31.6			
62.5	75.3	17.8	82.2			
		Spontaneous Imbibition				
0.00	0.00	17.8	82.2			
0.00	0.00	17.8	82.2			
		Imbibition Wa	stor Displacing Oil			
			. •			
			82.2			
			82.2			
-0.62	0.75	17.8	82.2			
-1.07	1.29	18.6	81.4			
-1.64	1.98	23.7	76.3			
-2.49	3.00	25.2	74.8			
-3.37	4.07	25.9	74.1			
-4.54	5.48	27.2	72.8			
-6.83	8.24	29.2	70.8			
-11.4	13.7	33.2	66.8			
-17.2	20.7	38.2	61.8			
-27.0	32.5	45.2	54.8			
-60.5	73.0	69.1	30.9			
	0.00 62.5 0.00 0.00 -0.31 -0.62 -1.07 -1.64 -2.49 -3.37 -4.54 -6.83 -11.4 -17.2	Cm water Water Table, ft	Height Above Water Table, Average Saturate			

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

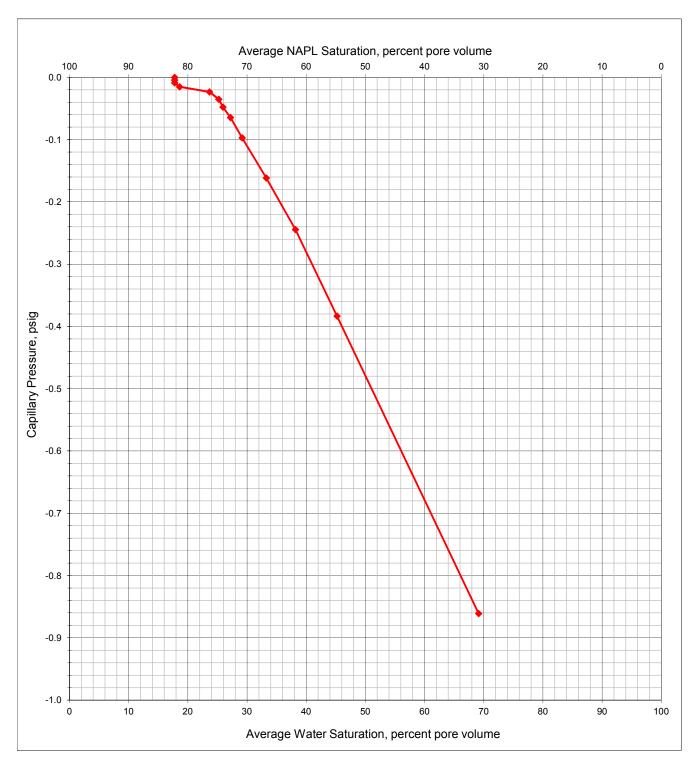
Project Name: Atlantic Bridge Project Sample ID: B406A-D Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B406A-D Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

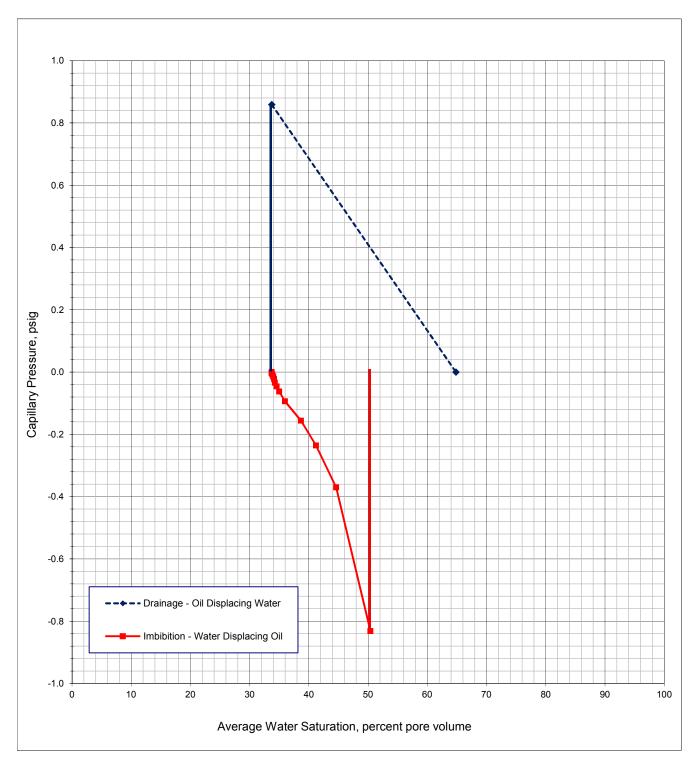
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

mple ID	- Cun			
B at 10.7 ft.	B404A-E	Height Above	Dressure	Capillary F
tion, % pore volume	Average Saturati	Water Table,	Fiessuie	Capillary
Oil (NAPL)	Water	ft	cm water f	
Dianlasina Water	Drainage Oil			
Displacing Water		0.00	0.00	0.000
35.2	64.8	0.00	0.00	0.000
66.3	33.7	72.9	60.4	0.859
ous Imbibition	Spontaneo			
66.3	33.7	0.00	0.00	0.000
66.3	33.7	0.00	0.00	0.000
ater Displacing Oil	Imbibition - Wa			
. •		0.00	0.00	0.000
66.0	34.0	1.24	-1.03	-0.015
65.9	34.1	1.91	-1.59	-0.023
65.7	34.3	2.90	-2.40	-0.034
65.4	34.6	3.93	-3.26	-0.046
65.0	35.0	5.29	-4.39	-0.062
64.0	36.0	7.96	-6.60	-0.094
61.3	38.7	13.2	-11.0	-0.156
58.8	41.2	20.0	-16.6	-0.236
55.4	44.6	31.4	-26.0	-0.370
49.6	50.4	70.5	-58.5	-0.832
66.3 66.3 ater Displacing Oil 66.3 66.3 66.1 66.0 65.9 65.7 65.4 65.0 64.0 61.3 58.8 55.4	33.7 33.7 Imbibition - Wa 33.7 33.9 34.0 34.1 34.3 34.6 35.0 36.0 38.7 41.2 44.6	0.00 0.00 0.37 0.72 1.24 1.91 2.90 3.93 5.29 7.96 13.2 20.0 31.4	0.00 0.00 -0.30 -0.60 -1.03 -1.59 -2.40 -3.26 -4.39 -6.60 -11.0 -16.6 -26.0	0.000 0.000 -0.004 -0.009 -0.015 -0.023 -0.034 -0.046 -0.062 -0.094 -0.156 -0.236 -0.370

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

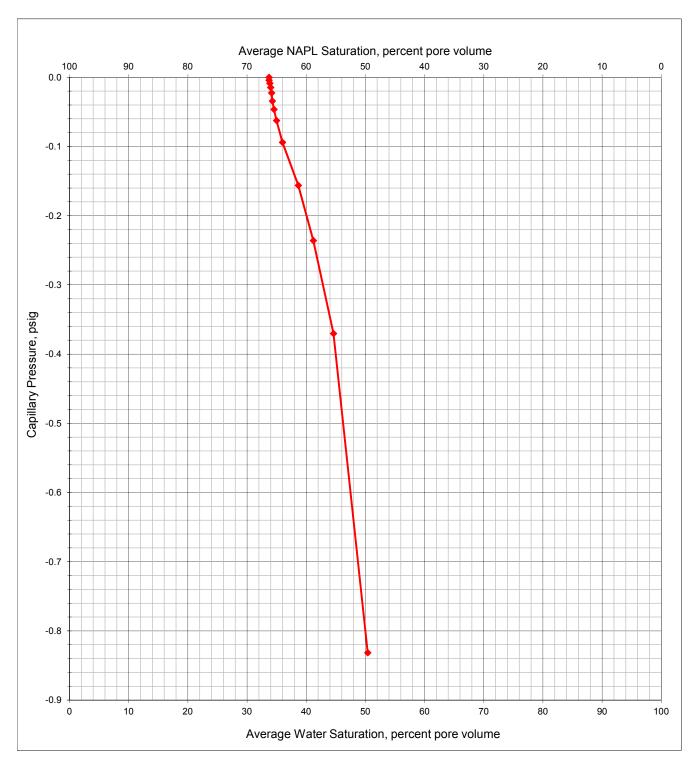
Project Name: Atlantic Bridge Project Sample ID: B404A-B Project No: 140143.0000.4903 Depth, ft.: 10.7



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B404A-B Project No: 140143.0000.4903 Depth, ft.: 10.7



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

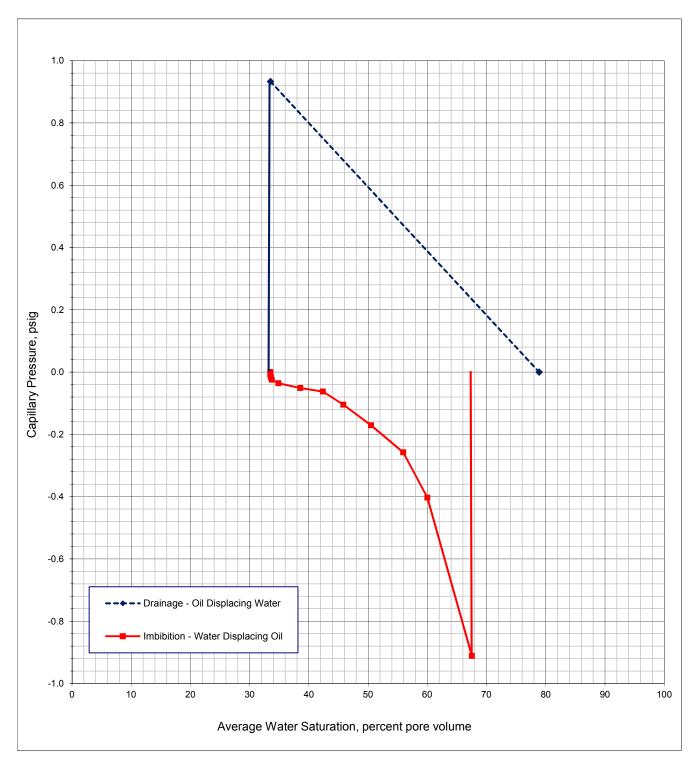
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

			Sample ID			
	Capillary Pressure	Height Above	B404A-C at 12.5 ft.			
,	Capillary Fressure	Water Table,	Average Saturation, % pore volume			
psi	cm water	ft	Water	Oil (NAPL)		
			Drainage - Oil	Displacing Water		
0.000	0.00	0.00	78.9	21.1		
0.933	65.6	79.2	33.5	66.5		
			Spontaneo	us Imbibition		
0.000	0.00	0.00	33.5	66.5		
0.000	0.00	0.00	33.5	66.5		
			Imbibition - Wa	ter Displacing Oil		
0.000	0.00	0.00	33.5	66.5		
-0.005	-0.32	0.39	33.5	66.5		
-0.009	-0.64	0.78	33.5	66.5		
-0.017	-1.21	1.46	33.6	66.4		
-0.025	-1.72	2.08	33.7	66.3		
-0.036	-2.53	3.05	34.9	65.1		
-0.051	-3.60	4.34	38.6	61.4		
-0.063	-4.41	5.32	42.4	57.6		
-0.105	-7.38	8.90	45.8	54.2		
-0.171	-12.0	14.5	50.5	49.5		
-0.258	-18.1	21.9	55.9	44.1		
-0.404	-28.4	34.2	60.0	40.0		
-0.912	-64.1	77.3	67.5	32.5		

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

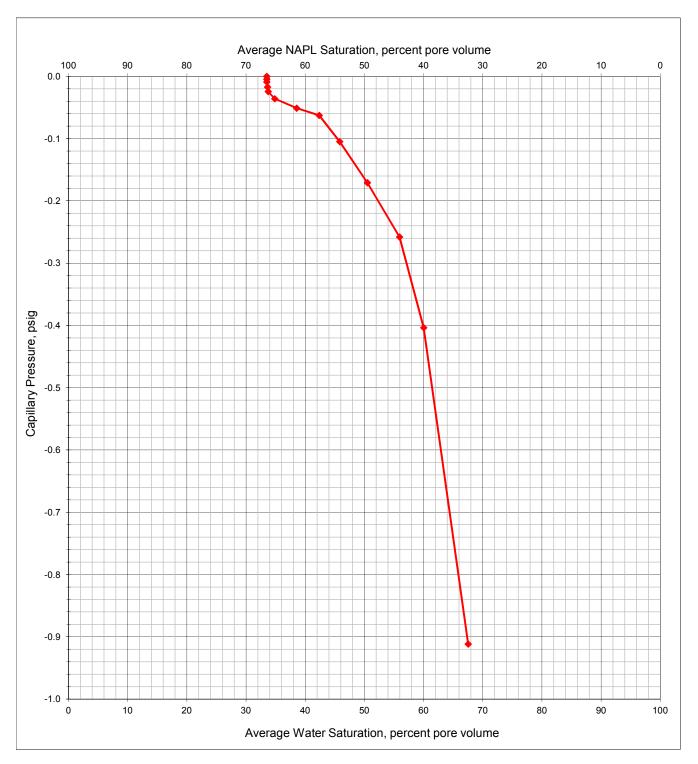
Project Name: Atlantic Bridge Project Sample ID: B404A-C Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B404A-C Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

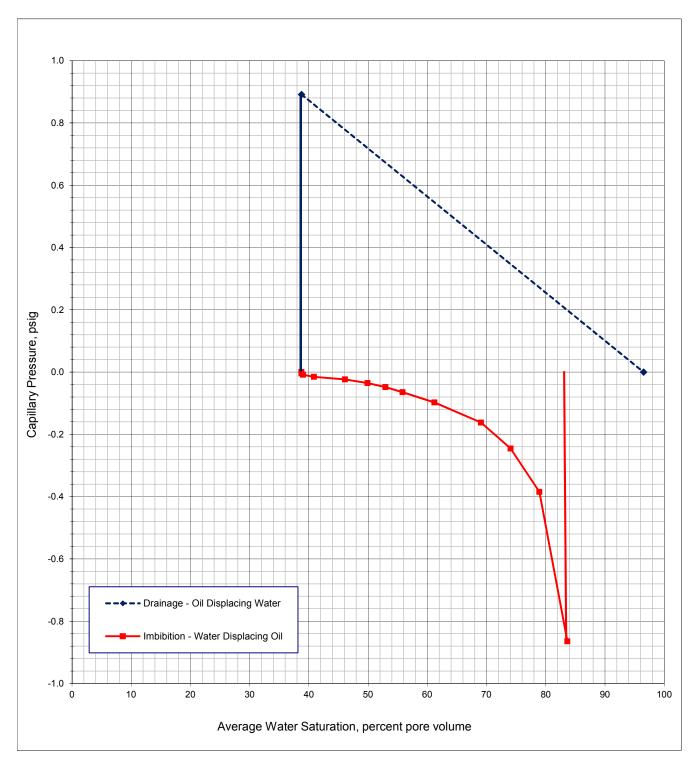
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

		Sample ID			
Pressure	Height Above	B404A-D at 14.5 ft.			
TC33dTC	Water Table,	Average Saturation, % pore volume			
cm water	ft	Water	Oil (NAPL)		
		Drainage - Oil	Displacing Water		
0.00	0.00	96.5	3.5		
62.7	75.6	38.7	61.3		
		Spontaneo	ous Imbibition		
0.00	0.00	38.7	61.3		
0.00	0.00	38.7	61.3		
		Imbibition - Wa	iter Displacing Oil		
0.00	0.00	38.7	61.3		
-0.32	0.38	38.7	61.3		
-0.62	0.75	39.0	61.0		
-1.07	1.29	40.8	59.2		
-1.65	1.99	46.1	53.9		
-2.50	3.01	49.9	50.1		
-3.39	4.08	52.9	47.1		
-4.56	5.50	55.8	44.2		
-6.86	8.28	61.2	38.8		
-11.4	13.8	69.1	30.9		
-17.2	20.8	74.1	25.9		
-27.1	32.7	78.9	21.1		
-60.8	73.3	83.6	16.4		
	0.00 62.7 0.00 0.00 0.00 -0.32 -0.62 -1.07 -1.65 -2.50 -3.39 -4.56 -6.86 -11.4 -17.2	Cm water Water Table, ft	Height Above Water Table, Average Saturate		

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

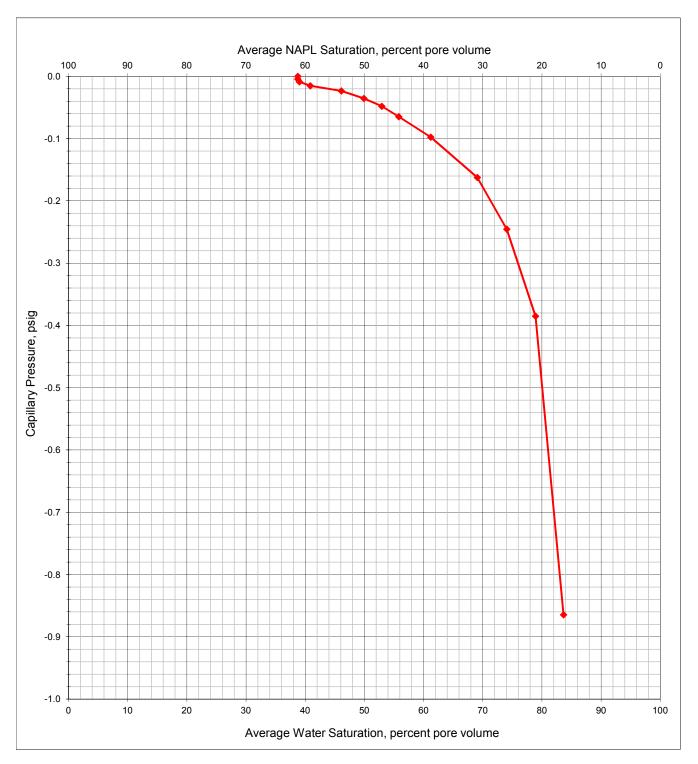
Project Name: Atlantic Bridge Project Sample ID: B404A-D Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B404A-D Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

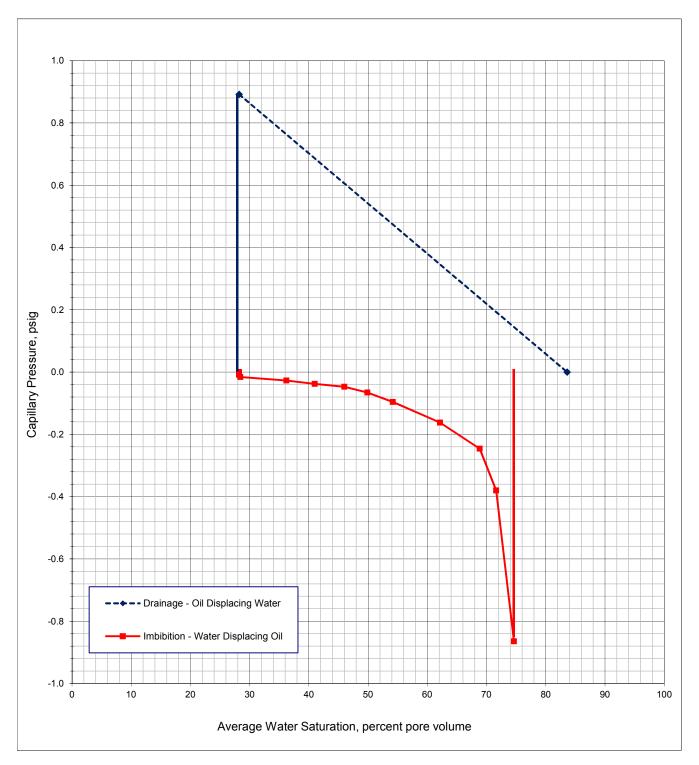
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

			San	nple ID	
Capillary Pressure		Height Above	B412A-B at 12.5 ft. Average Saturation, % pore volume		
Capillary	Capillary Fressure				
psi	cm water	ft	Water	Oil (NAPL)	
			Drainage - Oil Displacing Water		
0.000	0.00	0.00	83.6	16.4	
0.892	62.7	75.6	28.2	71.8	
			Spontaneous Imbibition		
0.000	0.00	0.00	28.2	71.8	
0.000	0.00	0.00	28.2	71.8	
			Imbibition - Water Displacing Oil		
0.000	0.00	0.00	28.2	71.8	
-0.004	-0.30	0.36	28.2	71.8	
-0.009	-0.61	0.74	28.2	71.8	
-0.016	-1.11	1.34	28.4	71.6	
-0.027	-1.90	2.30	36.2	63.8	
-0.038	-2.65	3.20	41.0	59.0	
-0.047	-3.33	4.02	46.0	54.0	
-0.066	-4.61	5.56	49.9	50.1	
-0.096	-6.75	8.15	54.2	45.8	
-0.162	-11.4	13.8	62.1	37.9	
-0.246	-17.3	20.9	68.8	31.2	
-0.380	-26.7	32.3	71.6	28.4	
-0.864	-60.8	73.3	74.6	25.4	

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

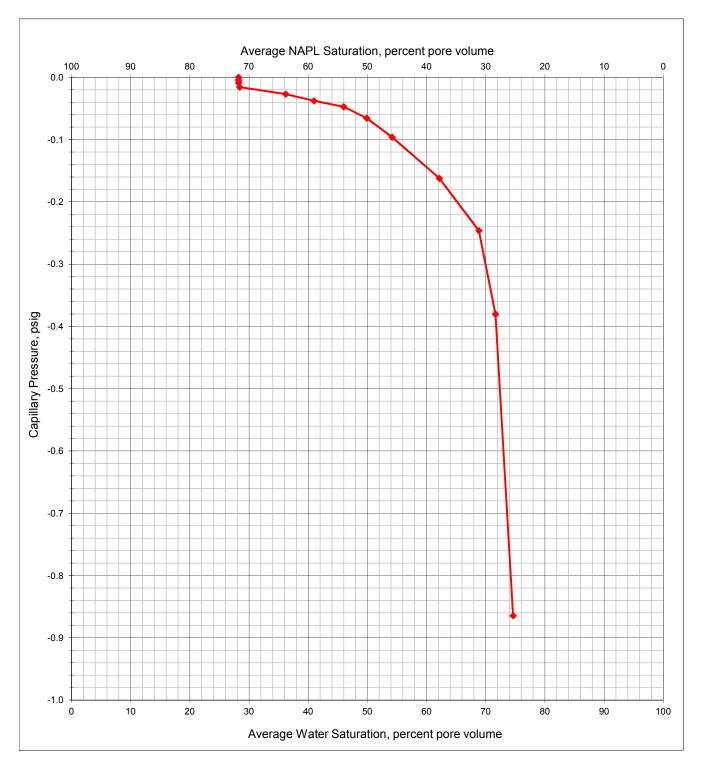
Project Name: Atlantic Bridge Project Sample ID: B412A-B Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B412A-B Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

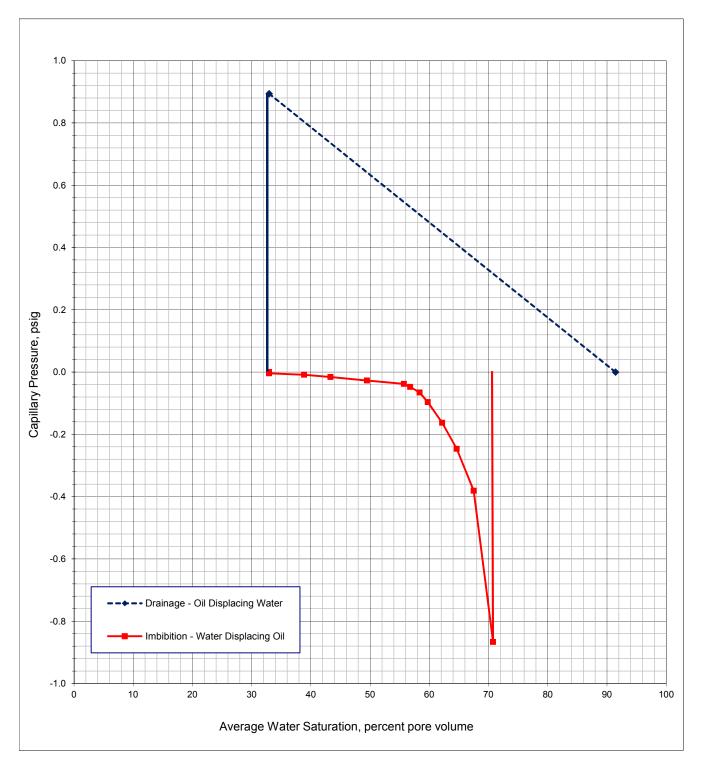
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

				nple ID	
Capillary Pressure		Height Above	B412A-C at 14.5 ft.		
	Dapmary 1 ressure	Water Table,	Average Saturation, % pore volume		
psi	cm water	ft	Water	Oil (NAPL)	
			Drainage - Oil Displacing Water		
0.000	0.00	0.00	91.4	8.6	
0.894	62.9	75.8	32.9	67.1	
0.004	02.9	73.0	02.0	07.1	
			Spontaneous Imbibition		
0.000	0.00	0.00	32.9	67.1	
0.000	0.00	0.00	32.9	67.1	
			Imbibition - Water Displacing Oil		
0.000	0.00	0.00	32.9	67.1	
-0.004	-0.30	0.37	32.9	67.1	
-0.009	-0.62	0.74	38.9	61.1	
-0.016	-1.11	1.34	43.3	56.7	
-0.027	-1.91	2.30	49.5	50.5	
-0.038	-2.66	3.21	55.7	44.3	
-0.048	-3.34	4.03	56.8	43.2	
-0.066	-4.62	5.58	58.4	41.6	
-0.096	-6.77	8.17	59.7	40.3	
-0.163	-11.4	13.8	62.2	37.8	
-0.247	-17.4	20.9	64.6	35.4	
-0.381	-26.8	32.3	67.5	32.5	
-0.867	-60.9	73.5	70.8	29.2	

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

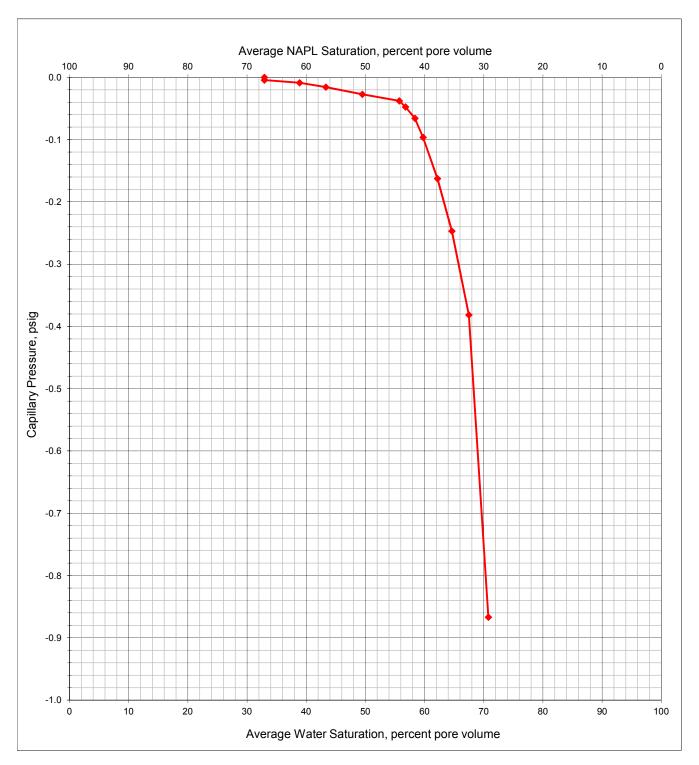
Project Name: Atlantic Bridge Project Sample ID: B412A-C Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B412A-C Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

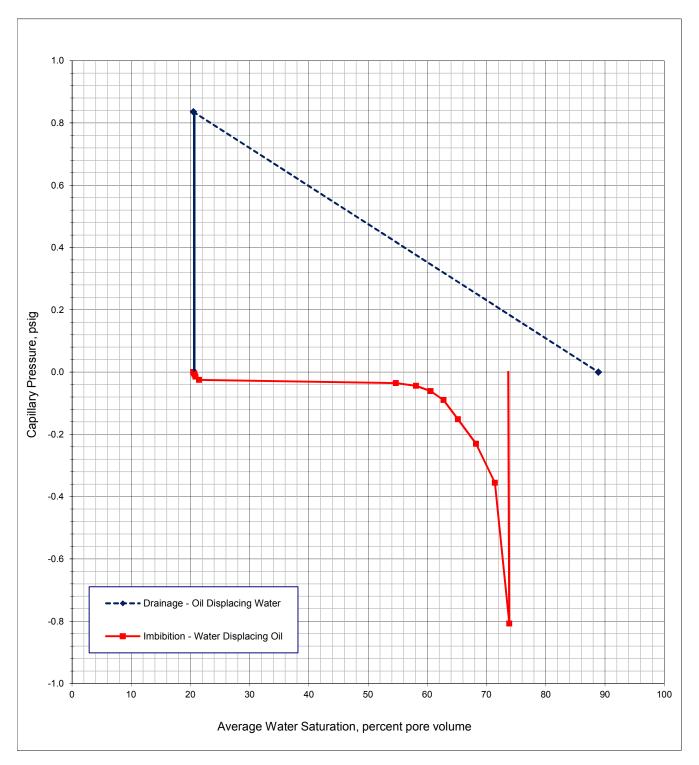
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

		Height Above		nple ID	
Capillary F	Capillary Pressure		B412A-D at 16.45 ft.		
noi	cm water	Water Table, ft	Average Saturation, % pore volume		
psi	cm water	μ π	Water	Oil (NAPL)	
			Drainage - Oil Displacing Water		
0.000	0.00	0.00	88.9	11.1	
0.836	58.8	70.9	20.5	79.5	
			Spontaneous Imbibition		
0.000	0.00	0.00	20.5	79.5	
0.000	0.00	0.00	20.5	79.5	
			Imbibition - Water Displacing Oil		
0.000	0.00	0.00	20.5	79.5	
-0.004	-0.28	0.34	20.6	79.4	
-0.008	-0.57	0.69	20.7	79.3	
-0.015	-1.04	1.25	20.9	79.1	
-0.025	-1.78	2.14	21.5	78.5	
-0.035	-2.48	2.99	54.7	45.3	
-0.044	-3.11	3.76	58.1	41.9	
-0.061	-4.31	5.20	60.5	39.5	
-0.090	-6.31	7.61	62.7	37.3	
-0.151	-10.7	12.8	65.2	34.8	
-0.230	-16.2	19.5	68.2	31.8	
-0.355	-25.0	30.1	71.4	28.6	
-0.808	-56.8	68.5	73.8	26.2	

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

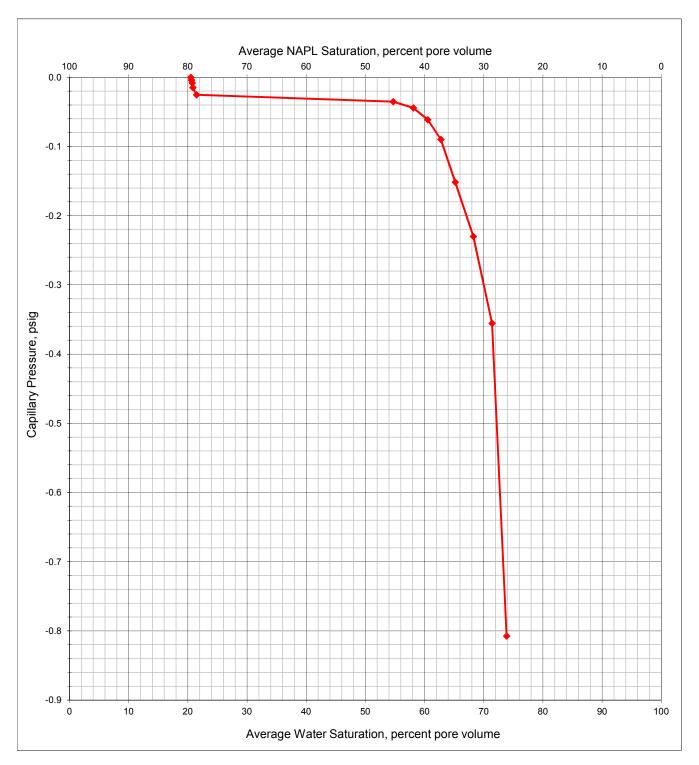
Project Name: Atlantic Bridge Project Sample ID: B412A-D Project No: 140143.0000.4903 Depth, ft.: 16.45



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B412A-D Project No: 140143.0000.4903 Depth, ft.: 16.45



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

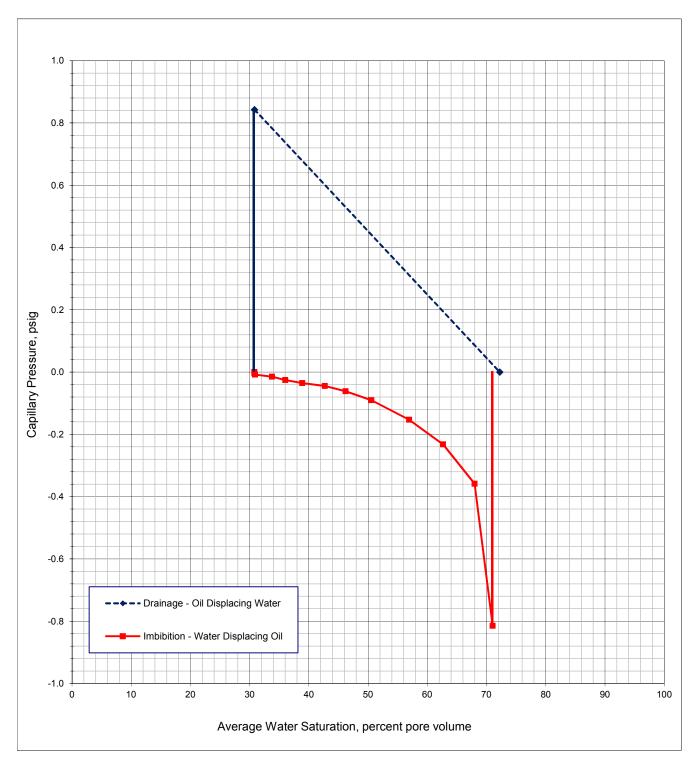
ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

		San	nple ID	
Capillary Pressure		B413A-B at 12.5 ft. Average Saturation, % pore volume		
				cm water
		Drainage - Oil Displacing Water		
0.00	0.00		27.8	
59.3	71.5	30.8	69.2	
		Spontaneous Imbibition		
0.00	0.00	30.8	69.2	
0.00	0.00	30.8	69.2	
		lmhihitian Wa	ster Dienlesing Oil	
		Imbibition - Water Displacing Oil		
			69.2	
			69.2	
-0.58	0.70	30.9	69.1	
-1.04	1.26	33.8	66.2	
-1.79	2.16	36.0	64.0	
-2.50	3.02	38.9	61.1	
-3.14	3.79	42.7	57.3	
-4.35	5.24	46.2	53.8	
-6.36	7.68	50.6	49.4	
-10.7	13.0	56.9	43.1	
	19.7	62.7	37.3	
-25.2		68.0	32.0	
-57.3	69.1	71.0	29.0	
	0.00 59.3 0.00 0.00 0.00 -0.28 -0.58 -1.04 -1.79 -2.50 -3.14 -4.35 -6.36 -10.7 -16.3 -25.2	cm water water Table, ft 0.00 0.00 59.3 71.5 0.00 0.00 0.00 0.00 0.00 0.00 -0.28 0.34 -0.58 0.70 -1.04 1.26 -1.79 2.16 -2.50 3.02 -3.14 3.79 -4.35 5.24 -6.36 7.68 -10.7 13.0 -16.3 19.7 -25.2 30.4	Height Above Water Table, Average Saturate	

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

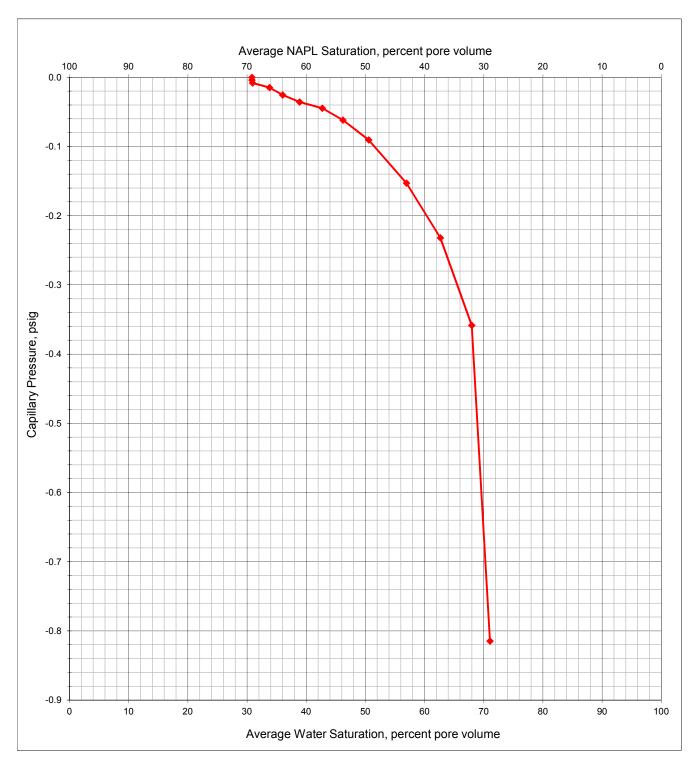
Project Name: Atlantic Bridge Project Sample ID: B413A-B Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B413A-B Project No: 140143.0000.4903 Depth, ft.: 12.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

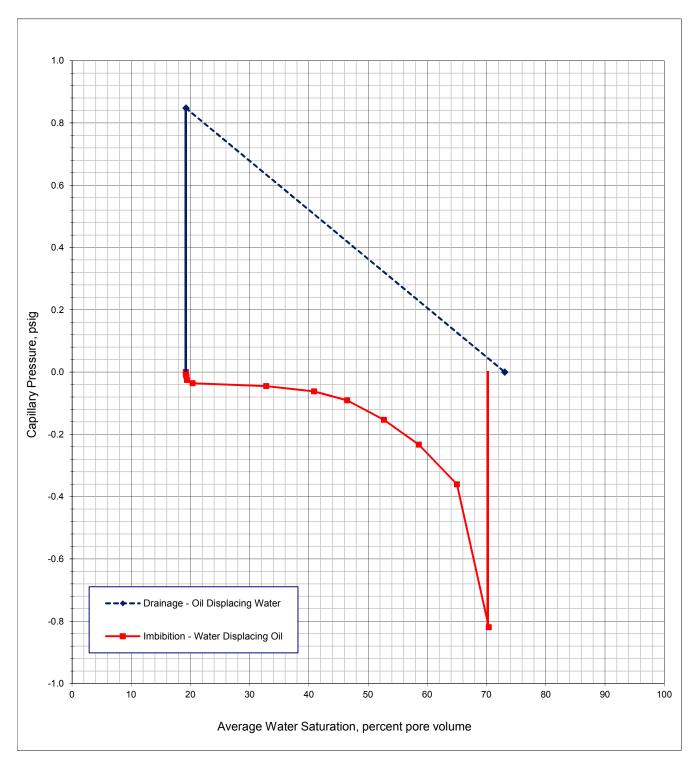
Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

			Sample ID				
Capillary	Proceuro	Height Above	B413A-C at 14.5 ft.				
Capillary	riessuie	Water Table,	Average Saturat	ion, % pore volume			
psi	cm water	ft	Water	Oil (NAPL)			
			Drainago - Oil	Displacing Water			
0.000	0.00	0.00	73.1	26.9			
0.848				80.8			
0.040	59.6	71.9	19.2	00.0			
			Spontaneo	ous Imbibition			
0.000	0.00	0.00	19.2	80.8			
0.000	0.00	0.00	19.2	80.8			
			lood thirt on NAV	den Diende den Oil			
				ter Displacing Oil			
0.000	0.00	0.00	19.2	80.8			
-0.004	-0.29	0.35	19.2	80.8			
-0.008	-0.58	0.70	19.2	80.8			
-0.015	-1.05	1.27	19.3	80.7			
-0.026	-1.80	2.18	19.4	80.6			
-0.036	-2.51	3.03	20.4	79.6			
-0.045	-3.16	3.81	32.8	67.2			
-0.062	-4.37	5.27	40.9	59.1			
-0.091	-6.40	7.72	46.5	53.5			
-0.154	-10.8	13.0	52.7	47.3			
-0.233	-16.4	19.8	58.6	41.4			
-0.361	-25.4	30.6	65.0	35.0			
-0.819	-57.6	69.5	70.4	29.6			
-0.036 -0.045 -0.062 -0.091 -0.154 -0.233 -0.361	-2.51 -3.16 -4.37 -6.40 -10.8 -16.4 -25.4	3.03 3.81 5.27 7.72 13.0 19.8 30.6	20.4 32.8 40.9 46.5 52.7 58.6 65.0	79.6 67.2 59.1 53.5 47.3 41.4 35.0			

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

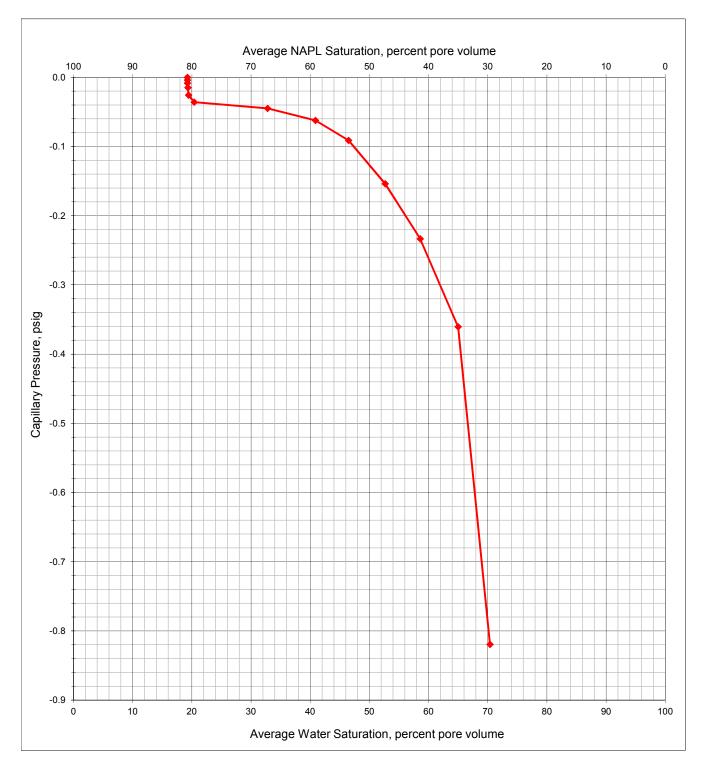
Project Name: Atlantic Bridge Project Sample ID: B413A-C Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B413A-C Project No: 140143.0000.4903 Depth, ft.: 14.5



OIL/WATER CAPILLARY PRESSURE TABULAR DATA

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

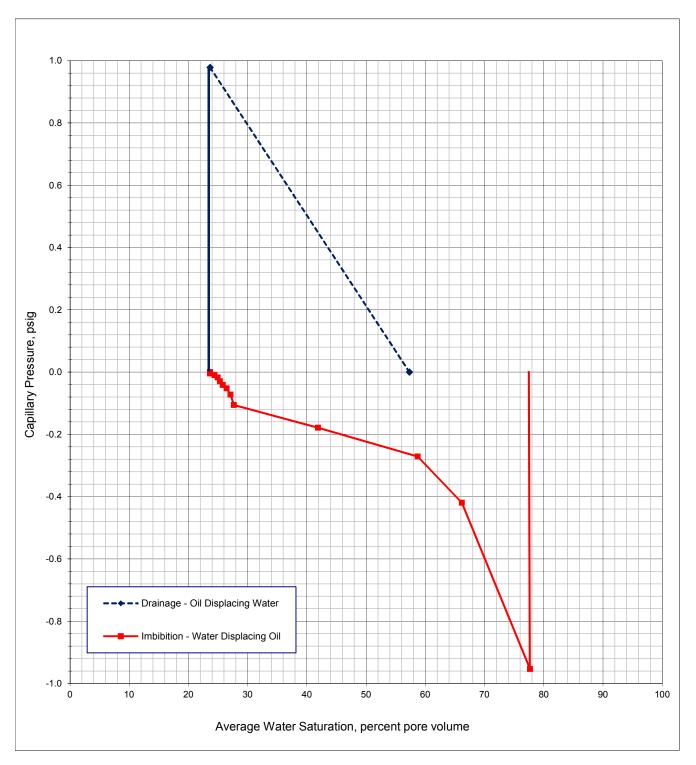
Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

			San	nple ID			
Capillany	/ Pressure Height Above		B413A-D at 16.5 ft.				
Сарінату і	- lessule	Water Table,	Average Saturat	ion, % pore volume			
psi	cm water	ft	Water	Oil (NAPL)			
			Drainaga Oil	Displacing Water			
0.000	0.00	0.00	•	. •			
0.000	0.00	0.00	57.3	42.7			
0.978	68.8	83.0	23.6	76.4			
			Spontaneo	ous Imbibition			
0.000	0.00	0.00	23.6	76.4			
0.000	0.00	0.00	23.6	76.4			
			Imbibition - Wa	iter Displacing Oil			
0.000	0.00	0.00	23.6	76.4			
-0.005	-0.33	0.40	23.6	76.4			
-0.010	-0.68	0.82	24.4	75.6			
-0.017	-1.22	1.47	25.0	75.0 75.0			
-0.030	-2.10	2.53	25.3	74.7			
-0.042	-2.93	3.53	25.8	74.2			
-0.052	-3.68	4.43	26.5	73.5			
-0.032			27.1				
	-5.09	6.13		72.9			
-0.106	-7.45	8.98	27.7	72.3			
-0.179	-12.6	15.2	41.9	58.1			
-0.271	-19.1	23.0	58.7	41.3			
-0.420	-29.5	35.6	66.2	33.8			
-0.953	-67.0	80.9	77.7	22.3			

OIL/WATER DRAINAGE & IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

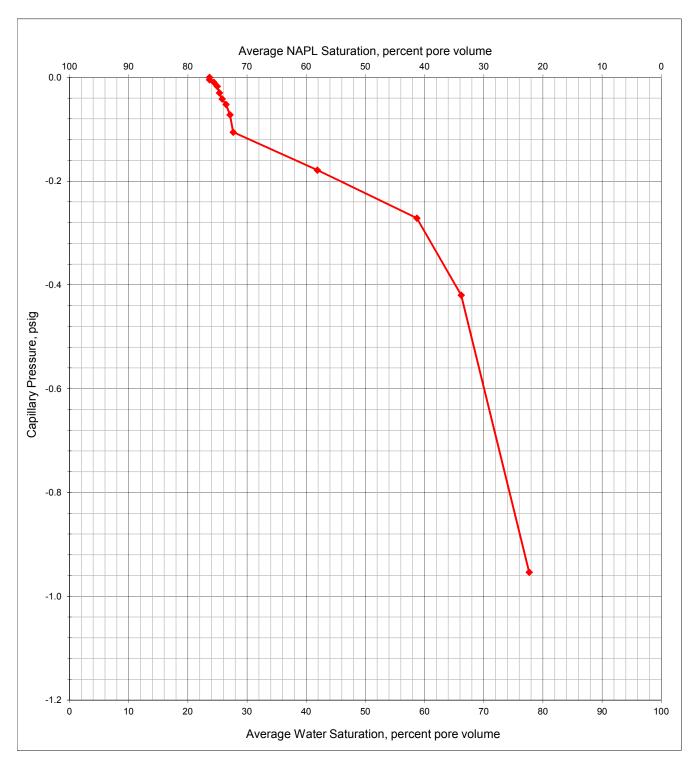
Project Name: Atlantic Bridge Project Sample ID: B413A-D Project No: 140143.0000.4903 Depth, ft.: 16.5



OIL/WATER IMBIBITION CAPILLARY PRESSURE GRAPH

ASTM D6836; Method E (Centrifugal Method: Single point drainage followed by imbibition)

Project Name: Atlantic Bridge Project Sample ID: B413A-D Project No: 140143.0000.4903 Depth, ft.: 16.5



TRC Solutions PTS File No: 46705R1

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422M)

PROJECT NAME: Atlantic Bridge Project PROJECT NO: 140143.0000.4903

		Mean Grain Size Description USCS/ASTM	Median Grain Size,	P: Gravel	article Size	Distribution, Sand Size	, wt. perce	ent Silt/Clay
Sample ID	Depth, ft.	(1)	mm		Coarse	Medium	Fine	
B406A-C	12.6-12.8	Fine sand	0.255	0.53	0.37	15.77	78.99	4.35
B404A-D	14.6-14.8	Gravel	13.468	76.88	8.61	9.69	3.72	1.10
B412A-C	14.6-14.8	Coarse sand	2.585	37.40	18.00	24.74	14.21	5.65
B413A-C	14.6-14.8	Gravel	3.861	44.50	20.57	18.85	11.65	4.42

PTS Laboratories, Inc. Particle Size Analysis - ASTM D422M Client: TRC Solutions PTS File No: 46705R1 Project: Atlantic Bridge Project Sample ID: B406A-C **Project No:** 140143.0000.4903 Depth, ft: 12.6-12.8 Sand Silt/Clay Gravel coarse medium fine 30 100 90 25 80 % 70 Retained Weight, % 20 Cumulative Weight, 60 15 50 40 10 30 20 5 10 0 9 PAN 9 1/2 7 4 9 25 35 4 45 8 8 120 200 270 8 Sieve Size U.S. Sample Incremental Cumulative Cumulative Weight Percent greater than Phi Opening Phi of Sieve Weight Weight, Weight, Weight Particle Size Millimeters percent Inches Screen No. grams percent percent Value Inches Millimeters 0.9844 25.002 -4.64 0.00 0.00 0.00 0.47 0.0285 0.723 5 1/2 0.4922 12.501 -3.64 0.00 0.00 0.00 10 0.88 0.0214 0.544 0.3740 9.500 -3.253/8 0.00 0.00 0.00 16 1.22 0.0169 0.430 1/4 25 0.2500 6.351 -2.670.71 0.53 0.53 1.49 0.0140 0.355 0.1873 4.757 -2.25 4 0.00 0.00 0.53 40 1.78 0.0115 0.291 0.1324 3.364 -1.75 6 0.09 0.07 0.60 50 1.97 0.0100 0.255 2.000 10 0.40 0.30 0.90 60 0.0088 0.0787 -1 00 2.16 0.223 0.0557 1.414 -0.50 14 0.53 0.40 1.30 75 2.46 0.0072 0.182 1.000 0.0394 0.00 18 1.33 1.00 2.30 84 0.0058 0.147 2.77 0.0278 0.707 0.50 25 3.84 2.89 5.19 90 3.02 0.0049 0.123 35 95 0.500 1.00 8.47 6.37 11.56 3.67 0.0031 0.079 0.0197 0.0166 0.420 1.25 40 6.80 5.11 16.67 0.0139 0.354 1.50 45 11 35 8.53 25.20 Folk-Ward 1.97 **Inman** 1.97 Measure Trask 0.0098 0.250 35.05 26.35 51.55 Median, phi 2.00 60 0.0100 0.0070 2.50 80 Median, in. 0.0100 0.0100 0.177 34.22 25.73 77.28 0.0049 0.125 3.00 120 16.72 12.57 89.85 Median, mm 0.255 0.255 0.255 0.0029 0.074 3.75 200 7.72 5.80 95.65 0.0021 4.25 270 2.27 97.36 Mean, phi 1.90 1.99 1.99 0.053 1.71 0.0015 0.037 4.75 400 1.44 1.08 98.44 Mean, in. 0.0106 0.0099 0.0099 PAN 2.07 1.56 100.00 Mean, mm 0.269 0.251 0.253 1.396 0.872 0.775 Sorting 0.997 0.044 Skewness 0.028 Kurtosis 0.205 1.063 1.363 Grain Size Description Fine sand (based on Mean from Trask (ASTM-USCS Scale) Description Retained Weight on Sieve # Percent Gravel 10 0.37 Coarse Sand 40 15.77 Medium Sand

100.00

100.00

133.01

TOTALS

78.99

4.35

100

200

<200

Total

Fine Sand

Silt/Clay

PTS Laboratories, Inc. Particle Size Analysis - ASTM D422M Client: TRC Solutions PTS File No: 46705R1 B404A-D Project: Atlantic Bridge Project Sample ID: **Project No:** 140143.0000.4903 Depth, ft: 14.6-14.8 Sand Silt/Clay Gravel fine coarse medium 60 100 90 50 80 % 70 Retained Weight, % 40 Cumulative Weight, 60 30 50 40 20 30 20 10 10 0 PAN ဖ 9 1/2 7 4 9 25 35 4 45 9 8 120 200 270 9 Sieve Size U.S. Sample Incremental Cumulative Cumulative Weight Percent greater than Phi Opening Phi of Sieve Weight Weight, Weight, Weight Particle Size Millimeters percent Inches Screen No. grams percent percent Value Inches Millimeters 0.9844 25.002 -4.64 0.00 0.00 0.00 -4.55 0.9253 23.503 5 1/2 0.8698 0.4922 12.501 -3.64 65.46 56.02 56.02 10 -4.47 22.093 0.8076 0.3740 9.500 -3.253/8 10.97 9.39 65.41 16 -4.36 20.512 1/4 25 0.2500 6.351 -2.678.95 7.66 73.07 -4.200.7225 18.350 0.1873 4.757 -2.25 4 4.46 3.82 76.88 40 -3.93 0.6001 15.242 0.1324 3.364 -1.75 6 4.07 3.48 80.37 50 -3.750.5302 13.468 2.000 10 60 11.128 0.0787 -1 00 5 99 5.13 85 49 -3.480.4381 0.0557 1.414 -0.50 14 3.44 2.94 88.44 75 -2.460.2160 5.487 1.000 0.0394 0.00 18 2.54 2.17 90.61 84 0.0916 -1.222.327 0.0278 0.707 0.50 25 2.48 2.12 92.73 90 -0.14 0.0434 1.102 35 95 0.500 1.00 2.06 1.76 94.50 1.18 0.0173 0.440 0.0197 0.0166 0.420 1.25 40 08.0 0.68 95.18 0.0139 0.354 1.50 45 0.80 0.68 95.87 Measure Trask Inman Folk-Ward 0.0098 0.250 0.98 96.84 vledian, phi 2.00 60 1.14 0.0070 0.5302 0.5302 0.5302 2.50 80 0.90 0.77 97.61 Median, in. 0.177 0.0049 0.125 3.00 120 0.78 0.67 98.28 Median, mm 13.468 13.468 13.468 0.0029 0.074 3.75 200 0.73 0.62 98.90 0.0021 4.25 270 0.40 0.34 99.25 Mean, phi -3.58 -2.79 -3.11 0.053 0.0015 0.037 4.75 400 0.34 0.29 99.54 Mean, in. 0.4692 0.2720 0.3398 PAN 0.54 0.46 100.00 Mean, mm 11.919 6.909 8.631 1.570 1.654 1.829 Sorting 0.667 Skewness 0.745 0.613 Kurtosis 0.306 0.828 1.350 **Grain Size Description** Gravel (based on Mean from Trask (ASTM-USCS Scale) Description Retained Weight on Sieve # Percent Gravel 10 Coarse Sand 8.61 40 9.69 Medium Sand 200 3.72 Fine Sand <200 1.10 Silt/Clay

100.00

116.85

TOTALS

100

Total

PTS Laboratories, Inc. Particle Size Analysis - ASTM D422M Client: TRC Solutions PTS File No: 46705R1 Project: Atlantic Bridge Project Sample ID: B412A-C **Project No:** 140143.0000.4903 Depth, ft: 14.6-14.8 Sand Silt/Clay Gravel coarse medium fine 16 100 90 14 80 12 % 70 Retained Weight, % Cumulative Weight, 10 60 8 50 40 6 30 4 20 2 10 0 PAN 3/8 ဖ 1/2 7 9 4 9 25 35 4 45 9 8 120 200 270 6 Sieve Size U.S. Sample Incremental Cumulative Cumulative Weight Percent greater than Phi Opening Phi of Sieve Weight Weight, Weight, Weight Particle Size Millimeters percent Inches Screen No. grams percent percent Value Inches Millimeters 0.9844 25.002 -4.64 0.00 0.00 0.00 -4.17 0.7087 18.000 5 1/2 0.4922 12.501 -3.64 10.55 10.55 10 -3.70 0.5102 12.959 8.44 0.3740 9.500 -3.253/8 3.65 4.56 15.11 16 -3.21 0.3653 9.279 1/4 25 0.2500 6.351 -2.6712.17 15.21 30.32 -2.870.2878 7.311 0.1873 4.757 -2.25 4 5.67 7.09 37.40 40 -2.07 0.1649 4.188 0.1324 3.364 -1.75 6 5.65 7.06 44.46 50 -1.370.1018 2.585 2.000 10 10.93 55.40 60 -0.68 0.0630 1.601 0.0787 -1 00 8.75 0.0557 1.414 -0.50 14 5.74 7.17 62.57 75 0.63 0.0254 0.646 1.000 5.99 0.0394 0.00 18 4.79 68.56 84 0.293 1.77 0.0115 0.0278 0.707 0.50 25 4.21 5.26 73.82 90 2.76 0.0058 0.148 35 95 0.500 1.00 78.34 3.95 0.0025 0.065 0.0197 3.62 4.52 0.0166 0.420 1.25 40 1.44 1.80 80.14 0.0139 0.354 1.50 45 1.55 1.94 82.08 Folk-Ward -1.37 Measure Inman -1.37 Trask 0.0098 0.250 3.55 85.63 2.00 60 2.84 Median, phi 0.1018 0.0070 80 2.25 88.44 Median, in. 0.1018 0.1018 0.177 2.50 2.81 0.0049 0.125 3.00 120 2.39 2.99 91.43 Median, mm 2.585 2.585 2.585 0.0029 0.074 3.75 200 2.34 2.92 94.35 0.0021 4.25 270 1.27 1.59 95.94 Mean, phi -1.99 -0.72 -0.94 0.053 0.0015 0.037 4.75 400 1.00 1.25 97.19 Mean, in. 0.1566 0.0649 0.0754 PAN 2.81 100.00 Mean, mm 3.979 1.649 1.916 2.25 3.364 2.492 2.477 Sorting 0.841 0.286 Skewness 0.260 Kurtosis 0.260 0.630 0.951 **Grain Size Description** Coarse sand (based on Mean from Trask) (ASTM-USCS Scale) Description Retained Weight on Sieve # Percent Gravel 10 18.00 Coarse Sand 40 24.74 Medium Sand 200 14.21 Fine Sand

100.00

100.00

80.02

TOTALS

5.65

100

<200

Total

Silt/Clay

PTS Laboratories, Inc. Particle Size Analysis - ASTM D422M Client: TRC Solutions PTS File No: 46705R1 Project: Atlantic Bridge Project Sample ID: B413A-C **Project No:** 140143.0000.4903 Depth, ft: 14.6-14.8 Sand Silt/Clay Gravel coarse medium fine 20 100 18 90 80 16 % 14 70 Retained Weight, % Cumulative Weight, 12 60 10 50 8 40 6 30 4 20 2 10 PAN ဖ 1/2 7 9 4 9 25 35 4 45 9 8 120 200 270 6 Sieve Size U.S. Sample Incremental Cumulative Cumulative Weight Percent greater than Phi Opening Phi of Sieve Weight Weight, Weight, Weight Particle Size Millimeters percent Inches Screen No. grams percent percent Value Inches Millimeters 0.9844 25.002 -4.64 0.00 0.00 0.00 -4.37 0.8146 20.691 5 1/2 0.4922 12.501 -3.64 18.31 10 -4.10 0.6741 13.84 18.31 17.123 0.5371 0.3740 9.500 -3.253/8 5.76 7.62 25.93 16 -3.77 13.643 1/4 10.68 25 0.2500 6.351 -2.678.07 36.61 -3.300.3868 9.824 0.1873 4.757 -2.25 4 5.97 7.90 44.50 40 -2.49 0.2208 5.609 0.1324 3.364 -1.75 6 6.90 9.13 53.63 50 -1.950.1520 3.861 2.000 10 11.44 60 0.0992 2.519 0.0787 -1 00 8.65 65.07 -1.330.0557 1.414 -0.50 14 4.14 5.48 70.55 75 0.03 0.0386 0.979 1.000 3.18 4.21 0.0394 0.00 18 74.76 84 0.0164 0.417 1.26 0.0278 0.707 0.50 25 3.05 4.03 78.79 90 2.34 0.0078 0.197 35 95 0.500 1.00 2.82 3.57 0.0033 0.084 0.0197 3.73 82.52 0.0166 0.420 1.25 40 1.06 1.40 83.93 0.0139 0.354 1.50 45 1.25 1.65 85.58 Folk-Ward -1.95 Measure Trask Inman -1.95 0.0098 0.250 2.83 88.41 2.00 60 2.14 Median, phi 0.1520 0.0070 80 2.32 90.73 Median, in. 0.1520 0.1520 0.177 2.50 1.75 0.0049 0.125 3.00 120 1.83 2.42 93.15 Median, mm 3.861 3.861 3.861 0.0029 0.074 3.75 200 1.84 2.43 95.58 0.0021 4.25 270 1.03 1.36 96.94 Mean, phi -2.43-1.25 -1.49 0.053 0.0015 0.037 4.75 400 0.82 1.08 98.03 Mean, in. 0.2127 0.0939 0.1103 PAN 1.49 100.00 Mean, mm 5.402 2.386 2.801 1.97 2.516 2.461 3.167 Sorting 0.333 Skewness 0.803 0.276 Kurtosis 0.261 0.5/8 0.979 **Grain Size Description** Gravel (based on Mean from Trask (ASTM-USCS Scale) Description Retained Weight on Sieve # Percent Gravel 10 20.57 Coarse Sand 40 18.85 Medium Sand 200 11.65 Fine Sand <200 4.42 Silt/Clay

100.00

75.59

TOTALS

100

Total

PTS Laboratories, lnc.	s, inc.		CHAIN	OF CUSTODY RECORD	TODY	RECOR	Ω			PAGE	ie 1 OF 1
COMPANY					A	ANALYSIS	REQUEST	 			PO# 103297
TRC											TURNAROUND TIME
ADDRESS Two Liberty Square, 6th Floor	CITY or Boston		ZIP CODE 02109			Q	75937	40 or D5			24 HOURS 5 DAYS 72 HOURS NORMAL 72
PROJECT MÁNAGER		la (email		-		O MT8		=		Ē
Rick Paquette		crace@trcs	crace@trcsolutions.com			R∃T	SA 10	N D¢			0-1
Atlantic Bridge Project		-	617-385-6033	DA9	3E	GE O' WA	0td	ITSA	3E		SAMPLE INTEGRITY (CHECK):
PROJECT NUMBER			FAX NUMBER	KAGI	CKA	-ILLE	H Id⁄	'NOI	CKAC		DTS OI IOTE NO
140143.0000.4903				DA9 i	KAGE	AG TR R RIA	۲), ,	YCK JIBNJ	АЧ И		Q16-170R1
6 & 50 Bridge Street, Weymouth, MA	outh, MA			SOND	IDA9	IO98 ,JATO	a) Y	1T81C 18-Y∃	oisu		PTS FILE:
SAMPLER SIGNATURE				E H OF : HOPEF TOPEF	YTIRA_ YTIRA_ BYOPG	NART F DT :YTIE 3 :YTIE	FIC GR	NALKLI I SIZE [яенс Нитн РВОРІ		46705
SAMPLE ID	DATE	TIME	DEPTH, FT	SOIL P	CAPILI	HO9AV BOHO9	BNTK I	ИІАПЭ // :DOT	IOAAV		COMMENTS
V B466A-A	12/15/16	1120	8-10		×						Additional analyses to be
B4664-B	121.5/16	1130	10-12		×						determined based on core
1 B4064-C	nlistle	1135	15-14		×						photography.
1 BY664-15	2/12/12	liys	14-16		×						
J-4994-E	12/15/16	1150	16-18		×						
B-464A-A	islislie	1255	8-10		×						
P 4644 - B	12/15/16	1305	10-12		×						
13 4042-C	12/15/16	1310	12-14		×						
B4044-D	12/15/16	1315	14-16		×						
734044-E	12/15/16	0261	16-18		×						
1. REKINDUISHED BY	<u></u>	2. RECENTED	SEDENCE CO		3. RELINQUISHED	QUISHED BY			4. REC	a	ВҮ
COMPANY		COMPAN	175 In (COMPANY	Y			COMPANY	γN⊀	
DATE TIME	TIME / Y00	DATE いしい	-	IME 245	DATE .		TIME		DATE		TIME

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 279-1150

SAMPLE INTEGRITY (CHECK):
INTACT TEMP(F) 33 determined based on core 5 DAYS NORMAL Additional analyses to be 103297 COMMENTS Q16-170R1 L O TURNAROUND TIME PTS QUOTE NO. photography 24 HOURS 72 HOURS PTS FILE: OTHER: INTACT PO# PAGE FREE PRODUCT MOBILITY PACKAGE VAPOR INTRUSION PACKAGE ATTERBERG LIMITS, ASTM D4318 OC: WALKLEY-BLACK SRAIN SIZE DISTRIBUTION, ASTM D422 or 4464M 4YDRAULIC CONDUCTIVITY, EPA9100/API RP40 or D5084 ANALYSIS REQUEST орчя іча утіліваэмяэч яід BULK DENSITY (DRY), API RP40 or ASTM D2937 SPECIFIC GRAVITY, ASTM D854 CHAIN OF CUSTODY RECORD POROSITY: EFFECTIVE, ASTM D425M RELINQUISHED POROSITY: TOTAL, AIR FILLED, WATER FILLED APOR TRANSPORT PACKAGE × × PHOTOLOG: CORE PHOTOGRAPHY × × × × × × × × FLUID PROPERTIES PACKAGE ABAXOAY Y LIHAJJIYAC TCEQ/TNRCC PROPERTIES PACKAGE OHE FLUID SATURATIONS PACKAGE HYDRAULIC CONDUCTIVITY PACKAGE SOIL PROPERTIES PACKAGE NUMBER OF SAMPLES 617-385-6033 ZIP CODE 口 02109 crace@trcsolutions.com PHONE NUMBER FAX NUMBER 2/8/ 18-20 DEPTH, アーゴ 10-12 81-91 カノー 10-12 81-91 RECEIVED BY 9/161 91-21 1 0830 0820 0855 6835 0845 1015 1030 1845 TIME 1625 16 35 112/15/16 Boston 12/15110 1/1/2/16 12/15/116 0//S/h2 21/2//21 17/12/1/2 12/15/16 DATE 12/12/16 **PTS** Laboratories, Inc. 1/J×1/h1 6 & 50 Bridge Street, Weymouth, MA 6th Floor Atlantic Bridge Project Two Liberty Square, \Box B413A-E SAMPLER SIGNATURE B48A-D B4134-C 140143.0000.4903 4124 - D RYBA-B RYILA-C 4131-A ないる市 PROJECT MANAGER SAMPLE BY124-B PROJECT NUMBER R412A-A Rick Paquette PROJECT NAME SITE LOCATION ADDRESS COMPAN $\Delta \Delta$

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 279-1150

COMPANY

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1

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17/16/16

1480

12/15/16

Page 50 of 50

REVING

COMPANY

TIME

DATE



ANALYTICAL REPORT

Lab Number: L1610843

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Ryan Niles
Phone: (617) 385-6033

Project Name: WEYMOUTH C/S

Project Number: 140143.0000.7478

Report Date: 04/21/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number:

L1610843

Report Date:

04/21/16

Alpha Sample ID Client ID Matrix Sample Location Date/Time Receive Date

L1610843-01 B105 (14-17) SOIL WEYMOUTH, MA 04/12/16 09:15 04/13/16



Project Name:WEYMOUTH C/SLab Number:L1610843Project Number:140143.0000.7478Report Date:04/21/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1610843Project Number:140143.0000.7478Report Date:04/21/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questic	JI15.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

Case Narrative (continued)

MCP Related Narratives

VPH

L1610843-01: The sample has elevated detection limits due to the dilution required by the sample matrix.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

EPH

L1610843-01: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the target compounds present in the sample.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1610843-01: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and oterphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

The WG884842-2/-3 LCS/LCSD RPD, associated with L1610843-01, is above the acceptance criteria for C9-C18 aliphatics (31%).

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.

Custen Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

Date: 04/21/16



ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1610843

SAMPLE RESULTS

Lab ID: L1610843-01 D Date Collected: 04/12/16 09:15

Client ID: B105 (14-17) Date Received: 04/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 04/16/16 23:03

Analyst: KD Percent Solids: 89%

Quality Control Information

Condition of sample received:SatisfactorySample Temperature upon receipt:Received on IceWere samples received in methanol?Covering the SoilMethanol ratio:1:1 +/- 25%

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab				
C5-C8 Aliphatics	ND	mg/kg	12.5		4
C9-C12 Aliphatics	ND	mg/kg	12.5		4
C9-C10 Aromatics	45.0	mg/kg	12.5		4
C5-C8 Aliphatics, Adjusted	ND	mg/kg	12.5		4
C9-C12 Aliphatics, Adjusted	ND	mg/kg	12.5		4
Benzene	ND	mg/kg	0.502		4
Toluene	ND	mg/kg	0.502		4
Ethylbenzene	ND	mg/kg	0.502		4
p/m-Xylene	ND	mg/kg	0.502		4
o-Xylene	ND	mg/kg	0.502		4
Methyl tert butyl ether	ND	mg/kg	0.251		4
Naphthalene	ND	mg/kg	1.00		4

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	101		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Extraction Method:

EPA 3546

Project Name: WEYMOUTH C/S Lab Number: L1610843

SAMPLE RESULTS

Lab ID: L1610843-01 D Date Collected: 04/12/16 09:15

Client ID: B105 (14-17) Date Received: 04/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 98,EPH-04-1.1 Extraction Date: 04/18/16 22:54
Analytical Date: 04/21/16 11:32 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 04/20/16
Percent Solids: 89%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Satisfactory

Received on Ice

Extracted Per the Method

Qualifier MDL **Parameter** Result Units RL **Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab** C9-C18 Aliphatics 4570 20 mg/kg 148 --C19-C36 Aliphatics 9110 mg/kg 148 20 C11-C22 Aromatics 9070 mg/kg 148 20 9070 C11-C22 Aromatics, Adjusted mg/kg 148 20 --7.41 Naphthalene ND mg/kg 20 --ND 7.41 20 2-Methylnaphthalene mg/kg Acenaphthylene ND mg/kg 7.41 20 --ND Acenaphthene mg/kg 7.41 20 --Fluorene ND 7.41 20 mg/kg Phenanthrene ND 7.41 20 mg/kg --Anthracene ND mg/kg 7.41 20 Fluoranthene ND 7.41 mg/kg --20 Pyrene ND mg/kg 7.41 20 ND Benzo(a)anthracene 7.41 20 mg/kg ND Chrysene mg/kg 7.41 20 --ND Benzo(b)fluoranthene mg/kg 7.41 20 ND Benzo(k)fluoranthene mg/kg 7.41 20 Benzo(a)pyrene ND mg/kg 7.41 20 --Indeno(1,2,3-cd)Pyrene ND mg/kg 7.41 20 Dibenzo(a,h)anthracene ND 7.41 20 mg/kg ND Benzo(ghi)perylene 7.41 20 mg/kg --



Project Name: WEYMOUTH C/S Lab Number: L1610843

SAMPLE RESULTS

Lab ID: L1610843-01 D Date Collected: 04/12/16 09:15

Client ID: B105 (14-17) Date Received: 04/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	0	Q	40-140				
o-Terphenyl	0	Q	40-140				
2-Fluorobiphenyl	81		40-140				
2-Bromonaphthalene	69		40-140				



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 04/16/16 10:02

Analyst: KD

Parameter	Result	Qualifier	Units		RL	MDL	
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	ample(s):	01	Batch:	WG884467-3	
C5-C8 Aliphatics	ND		mg/kg	2	2.67		
C9-C12 Aliphatics	ND		mg/kg		2.67		
C9-C10 Aromatics	ND		mg/kg	2	2.67		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2	2.67		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2	2.67		
Benzene	ND		mg/kg	0	.107		
Toluene	ND		mg/kg	0	.107		
Ethylbenzene	ND		mg/kg	0	.107		
p/m-Xylene	ND		mg/kg	0	.107		
o-Xylene	ND		mg/kg	0	.107		
Methyl tert butyl ether	ND		mg/kg	0	.053		
Naphthalene	ND		mg/kg	0	.213		

			Acceptance			
Surrogate	%Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	107		70-130			
2,5-Dibromotoluene-FID	111		70-130			



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.7478

Lab Number: L1610843

Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

04/20/16 11:07

SR

Extraction Method: EPA 3546 04/18/16 22:54 Extraction Date: EPH-04-1 Cleanup Method:

04/21/16

Cleanup Date: 04/19/16

arameter	Result	Qualifier	Units	RL		MDL
xtractable Petroleum Hydrocarbo	ns - Westbo	rough Lab	for sample(s):	01	Batch:	WG884842-1
C9-C18 Aliphatics	ND		mg/kg	6.45		
C19-C36 Aliphatics	ND		mg/kg	6.45		
C11-C22 Aromatics	ND		mg/kg	6.45		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.45		
Naphthalene	ND		mg/kg	0.322		
2-Methylnaphthalene	ND		mg/kg	0.322		
Acenaphthylene	ND		mg/kg	0.322		
Acenaphthene	ND		mg/kg	0.322		
Fluorene	ND		mg/kg	0.322		
Phenanthrene	ND		mg/kg	0.322		
Anthracene	ND		mg/kg	0.322		
Fluoranthene	ND		mg/kg	0.322		
Pyrene	ND		mg/kg	0.322		
Benzo(a)anthracene	ND		mg/kg	0.322		
Chrysene	ND		mg/kg	0.322		
Benzo(b)fluoranthene	ND		mg/kg	0.322		
Benzo(k)fluoranthene	ND		mg/kg	0.322		
Benzo(a)pyrene	ND		mg/kg	0.322		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322		
Dibenzo(a,h)anthracene	ND		mg/kg	0.322		
Benzo(ghi)perylene	ND		mg/kg	0.322		

		Acceptance						
Surrogate	%Recovery	Qualifier	Criteria					
Chloro-Octadecane	60		40-140					
o-Terphenyl	64		40-140					
2-Fluorobiphenyl	66		40-140					
2-Bromonaphthalene	66		40-140					



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1610843

Report Date: 04/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ugh Lab Assoc	iated sample(s)	: 01 Batch:	WG884467-1	WG884467-2		
C5-C8 Aliphatics	86		92		70-130	6	25
C9-C12 Aliphatics	102		108		70-130	6	25
C9-C10 Aromatics	102		109		70-130	7	25
Benzene	99		106		70-130	7	25
Toluene	101		108		70-130	7	25
Ethylbenzene	104		110		70-130	6	25
p/m-Xylene	102		109		70-130	7	25
o-Xylene	103		111		70-130	7	25
Methyl tert butyl ether	105		114		70-130	8	25
Naphthalene	100		109		70-130	9	25
1,2,4-Trimethylbenzene	102		109		70-130	7	25
Pentane	77		81		70-130	6	25
2-Methylpentane	89		96		70-130	7	25
2,2,4-Trimethylpentane	94		100		70-130	7	25
n-Nonane	100		105		30-130	5	25
n-Decane	102		107		70-130	5	25
n-Butylcyclohexane	105		111		70-130	6	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number:

L1610843

Report Date:

04/21/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG884467-1 WG884467-2

Surrogate	LCS %Recovery			Qual	Acceptance ual Criteria	
2,5-Dibromotoluene-PID	100		105		70-130	
2,5-Dibromotoluene-FID	102		109		70-130	



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1610843

Report Date: 04/21/16

arameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
xtractable Petroleum Hydrocarbons - Westb	oorough Lab Ass	sociated samp	le(s): 01 Batc	h: WG884842-2 WG884842	-3	
C9-C18 Aliphatics	98		72	40-140	31	Q 25
C19-C36 Aliphatics	80		79	40-140	1	25
C11-C22 Aromatics	78		73	40-140	7	25
Naphthalene	58		68	40-140	16	25
2-Methylnaphthalene	62		70	40-140	12	25
Acenaphthylene	59		62	40-140	5	25
Acenaphthene	65		67	40-140	3	25
Fluorene	69		69	40-140	0	25
Phenanthrene	76		71	40-140	7	25
Anthracene	80		73	40-140	9	25
Fluoranthene	80		73	40-140	9	25
Pyrene	83		74	40-140	11	25
Benzo(a)anthracene	78		71	40-140	9	25
Chrysene	82		77	40-140	6	25
Benzo(b)fluoranthene	84		76	40-140	10	25
Benzo(k)fluoranthene	88		79	40-140	11	25
Benzo(a)pyrene	70		64	40-140	9	25
Indeno(1,2,3-cd)Pyrene	83		75	40-140	10	25
Dibenzo(a,h)anthracene	59		55	40-140	7	25
Benzo(ghi)perylene	82		74	40-140	10	25
Nonane (C9)	50		61	30-140	20	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1610843

Report Date: 04/21/16

Parameter	LCS %Recovery	Qual S	LCSD %Recove	ry		covery mits	RPD	Qual	RPD Limits	
Extractable Petroleum Hydrocarbons -	Westborough Lab Assoc	ciated sample((s): 01	Batch:	WG884842-2	WG884842-3	3			
Decane (C10)	58		67		40	-140	14		25	
Dodecane (C12)	63		70		40	-140	11		25	
Tetradecane (C14)	65		72		40	-140	10		25	
Hexadecane (C16)	69		74		40	-140	7		25	
Octadecane (C18)	76		77		40	-140	1		25	
Nonadecane (C19)	77		77		40	-140	0		25	
Eicosane (C20)	78		78		40	-140	0		25	
Docosane (C22)	78		78		40	-140	0		25	
Tetracosane (C24)	78		78		40	-140	0		25	
Hexacosane (C26)	78		78		40	-140	0		25	
Octacosane (C28)	78		78		40	-140	0		25	
Triacontane (C30)	78		78		40	-140	0		25	
Hexatriacontane (C36)	80		79		40	-140	1		25	

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	%Recovery Qual		Qual	Criteria	
Chloro-Octadecane	54		54		40-140	
o-Terphenyl	85		72		40-140	
2-Fluorobiphenyl	64		62		40-140	
2-Bromonaphthalene	69		62		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



INORGANICS & MISCELLANEOUS



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/12/16 09:15

Client ID: B105 (14-17) Date Received: 04/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.0		%	0.100	NA	1	-	04/14/16 20:28	121,2540G	AS



 Project Name:
 WEYMOUTH C/S
 Lab Number: L1610843

 Project Number:
 140143.0000.7478
 Report Date: 04/21/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	Temp						
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1610843-01A	Vial MeOH preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(28)
L1610843-01B	Vial MeOH preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(28)
L1610843-01C	Glass 250ml/8oz unpreserved	Α	N/A	2.1	Υ	Absent	TS(7),EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

GLOSSARY

Acronyms

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).

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.

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.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 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.

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.

- 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

TIC

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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).

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

Data Qualifiers

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:04211615:17

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1610843

 Project Number:
 140143.0000.7478
 Report Date:
 04/21/16

REFERENCES

- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.
- Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.
- 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.



Serial_No:04211615:17

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 6

Page 1 of 1

Published Date: 2/3/2016 10:23:10 AM

Certification Information

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

Westborough Facility

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate

(soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-

Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation **EPA 9038:** NPW: Sulfate

EPA 9050A: NPW: Specific Conductance EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols EPA 9251: NPW: Chloride SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids EPA 1631E: SCM: Mercury EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

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, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: 8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A: Lead; 8270D: bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; EPA 200.7: Ba,Be,Ca,Cd,Cr,Cu,Na; EPA 245.1: Mercury;

EPA 300.0: 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, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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Page 24 of 24	O= Other							'								-		- V	Fo	RM NO:	01-01 (re	. 12-Mar-2012)	



ANALYTICAL REPORT

Lab Number: L1614457

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Ryan Niles
Phone: (617) 385-6033

Project Name: WEYMOUTH C/S

Project Number: 140143.0000.7478

Report Date: 05/18/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457 **Report Date:** 05/18/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1614457-01	B/MW 204 (6-8')	SOIL	WEYMOUTH, MA	05/10/16 12:05	05/12/16
L1614457-02	B/MW 204 (8-10')	SOIL	WEYMOUTH, MA	05/10/16 12:50	05/12/16
L1614457-03	B/MW 202 (5-7')	SOIL	WEYMOUTH, MA	05/11/16 09:15	05/12/16
L1614457-04	B/MW 202 (9-11')	SOIL	WEYMOUTH, MA	05/11/16 09:45	05/12/16
L1614457-05	B/MW 203 (5-7')	SOIL	WEYMOUTH, MA	05/11/16 14:30	05/12/16
L1614457-06	B/MW 203 (9-11')	SOIL	WEYMOUTH, MA	05/12/16 07:00	05/12/16
L1614457-07	B/MW 205 (6-8')	SOIL	WEYMOUTH, MA	05/12/16 10:00	05/12/16
L1614457-08	B/MW 205 (10-12')	SOIL	WEYMOUTH, MA	05/12/16 10:20	05/12/16
L1614457-09	B/MW 201 (6-8')	SOIL	WEYMOUTH, MA	05/12/16 12:45	05/12/16
L1614457-10	B/MW 201 (10-12')	SOIL	WEYMOUTH, MA	05/12/16 13:00	05/12/16
L1614457-11	DUP-1	SOIL	WEYMOUTH, MA	05/10/16 00:00	05/12/16



Project Name:WEYMOUTH C/SLab Number:L1614457Project Number:140143.0000.7478Report Date:05/18/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1614457Project Number:140143.0000.7478Report Date:05/18/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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	Client S	services a	at 800	-624-9220	with	any	questions.	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

EPH

L1614457-10 and -11: The sample has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

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:

Title: Technical Director/Representative Date: 05/18/16

600, Sharow Kelly Stenstrom

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-01 Date Collected: 05/10/16 12:05

Client ID: B/MW 204 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24

Analytical Date: 05/13/16 21:45 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 92%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	b				
C9-C18 Aliphatics	7.97		mg/kg	7.24		1
C19-C36 Aliphatics	51.7		mg/kg	7.24		1
C11-C22 Aromatics	48.2		mg/kg	7.24		1
C11-C22 Aromatics, Adjusted	33.5		mg/kg	7.24		1
Naphthalene	ND		mg/kg	0.362		1
2-Methylnaphthalene	ND		mg/kg	0.362		1
Acenaphthylene	ND		mg/kg	0.362		1
Acenaphthene	ND		mg/kg	0.362		1
Fluorene	ND		mg/kg	0.362		1
Phenanthrene	2.03		mg/kg	0.362		1
Anthracene	ND		mg/kg	0.362		1
Fluoranthene	2.57		mg/kg	0.362		1
Pyrene	2.89		mg/kg	0.362		1
Benzo(a)anthracene	1.34		mg/kg	0.362		1
Chrysene	1.50		mg/kg	0.362		1
Benzo(b)fluoranthene	0.986		mg/kg	0.362		1
Benzo(k)fluoranthene	0.908		mg/kg	0.362		1
Benzo(a)pyrene	1.02		mg/kg	0.362		1
Indeno(1,2,3-cd)Pyrene	0.694		mg/kg	0.362		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.362		1
Benzo(ghi)perylene	0.710		mg/kg	0.362		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/10/16 12:05

Client ID: B/MW 204 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	85		40-140	
o-Terphenyl	81		40-140	
2-Fluorobiphenyl	73		40-140	
2-Bromonaphthalene	76		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/10/16 12:50

Client ID: B/MW 204 (8-10') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Sample Location: WEYMOUTH, MA Field Prep: Not Specif Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24
Analytical Date: 05/17/16 19:01 Cleanup Method1: EPH-04-1

Analytical Date: 05/17/16 19:01 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 05/13/16
Percent Solids: 73%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	9.11		1
C19-C36 Aliphatics	ND		mg/kg	9.11		1
C11-C22 Aromatics	ND		mg/kg	9.11		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	9.11		1
Naphthalene	ND		mg/kg	0.456		1
2-Methylnaphthalene	ND		mg/kg	0.456		1
Acenaphthylene	ND		mg/kg	0.456		1
Acenaphthene	ND		mg/kg	0.456		1
Fluorene	ND		mg/kg	0.456		1
Phenanthrene	ND		mg/kg	0.456		1
Anthracene	ND		mg/kg	0.456		1
Fluoranthene	ND		mg/kg	0.456		1
Pyrene	ND		mg/kg	0.456		1
Benzo(a)anthracene	ND		mg/kg	0.456		1
Chrysene	ND		mg/kg	0.456		1
Benzo(b)fluoranthene	ND		mg/kg	0.456		1
Benzo(k)fluoranthene	ND		mg/kg	0.456		1
Benzo(a)pyrene	ND		mg/kg	0.456		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.456		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.456		1
Benzo(ghi)perylene	ND		mg/kg	0.456		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/10/16 12:50

Client ID: B/MW 204 (8-10') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	44		40-140				
o-Terphenyl	50		40-140				
2-Fluorobiphenyl	61		40-140				
2-Bromonaphthalene	59		40-140				



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-03 Date Collected: 05/11/16 09:15

Client ID: B/MW 202 (5-7') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/17/16 10:56
Analytical Date: 05/18/16 10:27 Cleanup Method1: EPH-04-1

Analyst: DV Cleanup Date1: 05/17/16
Percent Solids: 83%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier Units	s RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b			
C9-C18 Aliphatics	ND	mg/kç	7.70		1
C19-C36 Aliphatics	13.3	mg/kg	7.70		1
C11-C22 Aromatics	26.4	mg/kg	7.70		1
C11-C22 Aromatics, Adjusted	25.4	mg/kg	7.70		1
Naphthalene	ND	mg/kg	0.385		1
2-Methylnaphthalene	ND	mg/kg	0.385		1
Acenaphthylene	ND	mg/kg	0.385		1
Acenaphthene	ND	mg/kg	0.385		1
Fluorene	ND	mg/kg	0.385		1
Phenanthrene	0.542	mg/kg	0.385		1
Anthracene	ND	mg/kg	0.385		1
Fluoranthene	ND	mg/kg	0.385		1
Pyrene	ND	mg/kç	0.385		1
Benzo(a)anthracene	ND	mg/kg	0.385		1
Chrysene	0.416	mg/kg	0.385		1
Benzo(b)fluoranthene	ND	mg/kç	0.385		1
Benzo(k)fluoranthene	ND	mg/kç	0.385		1
Benzo(a)pyrene	ND	mg/kç	0.385		1
Indeno(1,2,3-cd)Pyrene	ND	mg/kç	0.385		1
Dibenzo(a,h)anthracene	ND	mg/kç	0.385		1
Benzo(ghi)perylene	ND	mg/kg	0.385		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-03 Date Collected: 05/11/16 09:15

Client ID: B/MW 202 (5-7') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	88		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	80		40-140	
2-Bromonaphthalene	81		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/11/16 09:45

Client ID: B/MW 202 (9-11') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 05/13/16 00:24

 Analytical Date:
 05/13/16 20:08
 Cleanup Method1:
 EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 90%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics ND mg/kg 7.01 1 C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylnee ND mg/kg 0.350 1 Acenaphthylnee ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Pyrene							
C9-C18 Aliphatics ND mg/kg 7.01 1 C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthyrene ND mg/kg 0.350 1	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1	Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
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C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(k)f	C19-C36 Aliphatics	ND		mg/kg	7.01		1
Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a	C11-C22 Aromatics	ND		mg/kg	7.01		1
2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 In	C11-C22 Aromatics, Adjusted	ND		mg/kg	7.01		1
Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 D	Naphthalene	ND		mg/kg	0.350		1
Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	2-Methylnaphthalene	ND		mg/kg	0.350		1
Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Acenaphthylene	ND		mg/kg	0.350		1
Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Acenaphthene	ND		mg/kg	0.350		1
Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Fluorene	ND		mg/kg	0.350		1
Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Phenanthrene	ND		mg/kg	0.350		1
Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Anthracene	ND		mg/kg	0.350		1
Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Fluoranthene	ND		mg/kg	0.350		1
Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Pyrene	ND		mg/kg	0.350		1
Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(a)anthracene	ND		mg/kg	0.350		1
Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Chrysene	ND		mg/kg	0.350		1
Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(b)fluoranthene	ND		mg/kg	0.350		1
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(k)fluoranthene	ND		mg/kg	0.350		1
Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(a)pyrene	ND		mg/kg	0.350		1
- · · · · · · · · · · · · · · · · · · ·	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.350		1
Benzo(ghi)perylene ND mg/kg 0.350 1	Dibenzo(a,h)anthracene	ND		mg/kg	0.350		1
	Benzo(ghi)perylene	ND		mg/kg	0.350		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/11/16 09:45

Client ID: B/MW 202 (9-11') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	96		40-140			
o-Terphenyl	69		40-140			
2-Fluorobiphenyl	75		40-140			
2-Bromonaphthalene	75		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/11/16 14:30

Client ID: B/MW 203 (5-7') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24

Analytical Date: 05/13/16 22:49 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 05/13/16

Analyst: SR Cleanup Date1:
Percent Solids: 89%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b				
C9-C18 Aliphatics	ND		mg/kg	7.29		1
C19-C36 Aliphatics	50.1	ı	mg/kg	7.29		1
C11-C22 Aromatics	27.8		mg/kg	7.29		1
C11-C22 Aromatics, Adjusted	27.8		mg/kg	7.29		1
Naphthalene	ND		mg/kg	0.364		1
2-Methylnaphthalene	ND		mg/kg	0.364		1
Acenaphthylene	ND	l	mg/kg	0.364		1
Acenaphthene	ND	ı	mg/kg	0.364		1
Fluorene	ND		mg/kg	0.364		1
Phenanthrene	ND	l	mg/kg	0.364		1
Anthracene	ND	ı	mg/kg	0.364		1
Fluoranthene	ND	ı	mg/kg	0.364		1
Pyrene	ND	I	mg/kg	0.364		1
Benzo(a)anthracene	ND	ı	mg/kg	0.364		1
Chrysene	ND	I	mg/kg	0.364		1
Benzo(b)fluoranthene	ND	I	mg/kg	0.364		1
Benzo(k)fluoranthene	ND		mg/kg	0.364		1
Benzo(a)pyrene	ND		mg/kg	0.364		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.364		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.364		1
Benzo(ghi)perylene	ND		mg/kg	0.364		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/11/16 14:30

Client ID: B/MW 203 (5-7') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	92		40-140		
o-Terphenyl	77		40-140		
2-Fluorobiphenyl	76		40-140		
2-Bromonaphthalene	78		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-06 Date Collected: 05/12/16 07:00

Client ID: B/MW 203 (9-11') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24
Analytical Date: 05/13/16 22:17 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 84%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Qualifier MDL **Parameter** Result Units RL **Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab** C9-C18 Aliphatics ND 7.72 mg/kg --1 1 C19-C36 Aliphatics 12.3 mg/kg 7.72 19.7 C11-C22 Aromatics mg/kg 7.72 1 C11-C22 Aromatics, Adjusted 18.2 mg/kg 7.72 1 --Naphthalene ND mg/kg 0.386 1 --ND 0.386 1 2-Methylnaphthalene mg/kg Acenaphthylene ND mg/kg 0.386 1 --ND 0.386 1 Acenaphthene mg/kg --Fluorene ND 0.386 1 mg/kg Phenanthrene 0.662 0.386 1 mg/kg --Anthracene ND mg/kg 0.386 1 Fluoranthene ND 0.386 1 mg/kg --Pyrene 0.431 mg/kg 0.386 1 ND Benzo(a)anthracene 0.386 1 mg/kg 0.442 Chrysene mg/kg 0.386 1 --ND 1 Benzo(b)fluoranthene mg/kg 0.386 ND Benzo(k)fluoranthene mg/kg 0.386 1 Benzo(a)pyrene ND 0.386 1 mg/kg --Indeno(1,2,3-cd)Pyrene ND mg/kg 0.386 1 Dibenzo(a,h)anthracene ND 0.386 1 mg/kg ND Benzo(ghi)perylene 0.386 1 mg/kg --



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-06 Date Collected: 05/12/16 07:00

Client ID: B/MW 203 (9-11') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	100		40-140			
o-Terphenyl	80		40-140			
2-Fluorobiphenyl	74		40-140			
2-Bromonaphthalene	76		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-07 Date Collected: 05/12/16 10:00

Client ID: B/MW 205 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 05/13/16 00:24

 Analytical Date:
 05/13/16 20:41
 Cleanup Method1:
 EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 97%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	nb				
C9-C18 Aliphatics	ND		mg/kg	6.50		1
C19-C36 Aliphatics	8.44		mg/kg	6.50		1
C11-C22 Aromatics	ND		mg/kg	6.50		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.50		1
Naphthalene	ND		mg/kg	0.325		1
2-Methylnaphthalene	ND		mg/kg	0.325		1
Acenaphthylene	ND		mg/kg	0.325		1
Acenaphthene	ND		mg/kg	0.325		1
Fluorene	ND		mg/kg	0.325		1
Phenanthrene	ND		mg/kg	0.325		1
Anthracene	ND		mg/kg	0.325		1
Fluoranthene	ND		mg/kg	0.325		1
Pyrene	ND		mg/kg	0.325		1
Benzo(a)anthracene	ND		mg/kg	0.325		1
Chrysene	ND		mg/kg	0.325		1
Benzo(b)fluoranthene	ND		mg/kg	0.325		1
Benzo(k)fluoranthene	ND		mg/kg	0.325		1
Benzo(a)pyrene	ND		mg/kg	0.325		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.325		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.325		1
Benzo(ghi)perylene	ND		mg/kg	0.325		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-07 Date Collected: 05/12/16 10:00

Client ID: B/MW 205 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	90		40-140			
o-Terphenyl	78		40-140			
2-Fluorobiphenyl	75		40-140			
2-Bromonaphthalene	76		40-140			



Project Name: Lab Number: WEYMOUTH C/S L1614457

Project Number: 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Date Collected: Lab ID: L1614457-08 05/12/16 10:20

Client ID: Date Received: 05/12/16 B/MW 205 (10-12') WEYMOUTH, MA Field Prep: Sample Location: Not Specified

Matrix: Soil

Extraction Method: EPA 3546 Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 05/13/16 00:24 Analytical Date: 05/13/16 19:04 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16 Percent Solids: 67%

Quality Control Information

Condition of sample received: Satisfactory Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	9.55		1
C19-C36 Aliphatics	10.1		mg/kg	9.55		1
C11-C22 Aromatics	ND		mg/kg	9.55		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	9.55		1
Naphthalene	ND		mg/kg	0.478		1
2-Methylnaphthalene	ND		mg/kg	0.478		1
Acenaphthylene	ND		mg/kg	0.478		1
Acenaphthene	ND		mg/kg	0.478		1
Fluorene	ND		mg/kg	0.478		1
Phenanthrene	ND		mg/kg	0.478		1
Anthracene	ND		mg/kg	0.478		1
Fluoranthene	ND		mg/kg	0.478		1
Pyrene	ND		mg/kg	0.478		1
Benzo(a)anthracene	ND		mg/kg	0.478		1
Chrysene	ND		mg/kg	0.478		1
Benzo(b)fluoranthene	ND		mg/kg	0.478		1
Benzo(k)fluoranthene	ND		mg/kg	0.478		1
Benzo(a)pyrene	ND		mg/kg	0.478		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.478		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.478		1
Benzo(ghi)perylene	ND		mg/kg	0.478		1



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/12/16 10:20

Client ID: B/MW 205 (10-12') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	85		40-140		
o-Terphenyl	71		40-140		
2-Fluorobiphenyl	78		40-140		
2-Bromonaphthalene	79		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-09 Date Collected: 05/12/16 12:45

Client ID: B/MW 201 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24
Analytical Date: 05/14/16 00:07 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 90%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Qualifier MDL **Parameter** Result Units RL **Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab** C9-C18 Aliphatics 11.4 7.01 mg/kg --1 73.0 1 C19-C36 Aliphatics mg/kg 7.01 C11-C22 Aromatics 38.2 mg/kg 7.01 1 C11-C22 Aromatics, Adjusted 32.8 mg/kg 7.01 1 --Naphthalene ND mg/kg 0.350 1 --ND 0.350 1 2-Methylnaphthalene mg/kg Acenaphthylene ND mg/kg 0.350 1 --ND 1 Acenaphthene mg/kg 0.350 --Fluorene ND 0.350 1 mg/kg Phenanthrene 0.385 0.350 1 mg/kg --Anthracene 0.592 mg/kg 0.350 1 Fluoranthene 0.350 1 1.58 mg/kg --Pyrene 1.29 mg/kg 0.350 1 Benzo(a)anthracene 0.460 0.350 1 mg/kg 0.735 Chrysene mg/kg 0.350 1 --1 Benzo(b)fluoranthene 0.358 mg/kg 0.350 ND Benzo(k)fluoranthene mg/kg 0.350 1 Benzo(a)pyrene ND 0.350 1 mg/kg --Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND 0.350 1 mg/kg ND Benzo(ghi)perylene 0.350 1 mg/kg --



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/12/16 12:45

Client ID: B/MW 201 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	80		40-140		
o-Terphenyl	72		40-140		
2-Fluorobiphenyl	65		40-140		
2-Bromonaphthalene	67		40-140		



EPA 3546

Extraction Method:

Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/12/16 13:00

Client ID: B/MW 201 (10-12') Date Received: 05/12/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24
Analytical Date: 05/14/16 00:39 Cleanup Method1: EPH-04-1

Analytical Date: 05/14/16 00:39 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 05/13/16
Percent Solids: 80%

Quality Control Information

Soil

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbor	s - Westborough La	ab				
C9-C18 Aliphatics	677		mg/kg	15.9		2
C19-C36 Aliphatics	3260		mg/kg	15.9		2
C11-C22 Aromatics	2330		mg/kg	15.9		2
C11-C22 Aromatics, Adjusted	2330		mg/kg	15.9		2
Naphthalene	ND		mg/kg	0.794		2
2-Methylnaphthalene	ND		mg/kg	0.794		2
Acenaphthylene	ND		mg/kg	0.794		2
Acenaphthene	ND		mg/kg	0.794		2
Fluorene	ND		mg/kg	0.794		2
Phenanthrene	ND		mg/kg	0.794		2
Anthracene	ND		mg/kg	0.794		2
Fluoranthene	ND		mg/kg	0.794		2
Pyrene	ND		mg/kg	0.794		2
Benzo(a)anthracene	ND		mg/kg	0.794		2
Chrysene	ND		mg/kg	0.794		2
Benzo(b)fluoranthene	ND		mg/kg	0.794		2
Benzo(k)fluoranthene	ND		mg/kg	0.794		2
Benzo(a)pyrene	ND		mg/kg	0.794		2
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.794		2
Dibenzo(a,h)anthracene	ND		mg/kg	0.794		2
Benzo(ghi)perylene	ND		mg/kg	0.794		2



Matrix:

Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: Date Collected: 05/12/16 13:00

Client ID: B/MW 201 (10-12') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	86		40-140			
o-Terphenyl	85		40-140			
2-Fluorobiphenyl	82		40-140			
2-Bromonaphthalene	81		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-11 Date Collected: 05/10/16 00:00

Client ID: DuP-1 Date Received: 05/12/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 05/13/16 00:24
Analytical Date: 05/14/16 01:11 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 05/13/16

Percent Solids: 78%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	818		mg/kg	24.3		3			
C19-C36 Aliphatics	4310		mg/kg	24.3		3			
C11-C22 Aromatics	3420		mg/kg	24.3		3			
C11-C22 Aromatics, Adjusted	3420		mg/kg	24.3		3			
Naphthalene	ND		mg/kg	1.22		3			
2-Methylnaphthalene	ND		mg/kg	1.22		3			
Acenaphthylene	ND		mg/kg	1.22		3			
Acenaphthene	ND		mg/kg	1.22		3			
Fluorene	ND		mg/kg	1.22		3			
Phenanthrene	ND		mg/kg	1.22		3			
Anthracene	ND		mg/kg	1.22		3			
Fluoranthene	ND		mg/kg	1.22		3			
Pyrene	ND		mg/kg	1.22		3			
Benzo(a)anthracene	ND		mg/kg	1.22		3			
Chrysene	ND		mg/kg	1.22		3			
Benzo(b)fluoranthene	ND		mg/kg	1.22		3			
Benzo(k)fluoranthene	ND		mg/kg	1.22		3			
Benzo(a)pyrene	ND		mg/kg	1.22		3			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	1.22		3			
Dibenzo(a,h)anthracene	ND		mg/kg	1.22		3			
Benzo(ghi)perylene	ND		mg/kg	1.22		3			



Project Name: WEYMOUTH C/S Lab Number: L1614457

SAMPLE RESULTS

Lab ID: L1614457-11 Date Collected: 05/10/16 00:00

Client ID: DUP-1 Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	138		40-140			
o-Terphenyl	109		40-140			
2-Fluorobiphenyl	69		40-140			
2-Bromonaphthalene	70		40-140			



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.7478

Lab Number: L1614457

Report Date: 05/18/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 05/17/16 15:22

Analyst:

DV

Extraction Method: EPA 3546 05/13/16 00:24 Extraction Date: EPH-04-1 Cleanup Method:

Cleanup Date: 05/13/16

Extractable Petroleum Hydrocarbons - WG893488-1 C9-C18 Aliphatics C19-C36 Aliphatics	ND ND ND ND	ough Lab f	mg/kg mg/kg mg/kg mg/kg mg/kg	01-02,04-11 6.39 6.39 6.39 6.39	Batch:
·	ND ND ND		mg/kg mg/kg	6.39 6.39	
C19-C36 Aliphatics	ND ND ND		mg/kg	6.39	
	ND ND				
C11-C22 Aromatics	ND		mg/kg	6 39	
C11-C22 Aromatics, Adjusted				0.00	
Naphthalene			mg/kg	0.320	
2-Methylnaphthalene	ND		mg/kg	0.320	
Acenaphthylene	ND		mg/kg	0.320	
Acenaphthene	ND		mg/kg	0.320	
Fluorene	ND		mg/kg	0.320	
Phenanthrene	ND		mg/kg	0.320	
Anthracene	ND		mg/kg	0.320	
Fluoranthene	ND		mg/kg	0.320	
Pyrene	ND		mg/kg	0.320	
Benzo(a)anthracene	ND		mg/kg	0.320	
Chrysene	ND		mg/kg	0.320	
Benzo(b)fluoranthene	ND		mg/kg	0.320	
Benzo(k)fluoranthene	ND		mg/kg	0.320	
Benzo(a)pyrene	ND		mg/kg	0.320	
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.320	
Dibenzo(a,h)anthracene	ND		mg/kg	0.320	
Benzo(ghi)perylene	ND		mg/kg	0.320	



Extraction Method: EPA 3546

Project Name: Lab Number: WEYMOUTH C/S L1614457

Project Number: 140143.0000.7478 Report Date: 05/18/16

> **Method Blank Analysis Batch Quality Control**

Analytical Method: 98,EPH-04-1.1 Analytical Date: 05/17/16 15:22

Extraction Date: 05/13/16 00:24 Analyst: DV EPH-04-1 Cleanup Method:

Cleanup Date: 05/13/16

Result Qualifier Units RLMDL **Parameter** Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02,04-11 Batch: WG893488-1

			Acceptance			
Surrogate	%Recovery	Qualifier	Criteria			
Chloro-Octadecane	45		40-140			
o-Terphenyl	58		40-140			
2-Fluorobiphenyl	65		40-140			
2-Bromonaphthalene	62		40-140			



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.7478

Lab Number: L1614457 Report Date: 05/18/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

05/18/16 08:52

DV

Extraction Method: EPA 3546 Extraction Date: 05/17/16 10:56 EPH-04-1 Cleanup Method:

Cleanup Date: 05/17/16

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 03 Batch: WG894809-1 C9-C18 Aliphatics ND mg/kg 6.63 C19-C36 Aliphatics ND mg/kg 6.63 C11-C22 Aromatics ND mg/kg 6.63 C11-C22 Aromatics, Adjusted ND mg/kg 0.332 Naphthalene ND mg/kg 0.332 2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Pluorene ND mg/kg 0.332 Pluorene ND mg/kg 0.332 Pluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg	Parameter	Result	Qualifier	Units	RL		MDL
C19-C36 Aliphatics ND mg/kg 6.63 C11-C22 Aromatics ND mg/kg 6.63 C11-C22 Aromatics, Adjusted ND mg/kg 6.63 Naphthalene ND mg/kg 0.332 2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 <th>Extractable Petroleum Hydroca</th> <th>rbons - Westbo</th> <th>rough Lab</th> <th>for sample(s):</th> <th>03</th> <th>Batch:</th> <th>WG894809-1</th>	Extractable Petroleum Hydroca	rbons - Westbo	rough Lab	for sample(s):	03	Batch:	WG894809-1
C11-C22 Aromatics ND mg/kg 6.63 C11-C22 Aromatics, Adjusted ND mg/kg 6.63 Naphthalene ND mg/kg 0.332 2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 <td>C9-C18 Aliphatics</td> <td>ND</td> <td></td> <td>mg/kg</td> <td>6.63</td> <td></td> <td></td>	C9-C18 Aliphatics	ND		mg/kg	6.63		
C11-C22 Aromatics, Adjusted ND mg/kg 6.63 Naphthalene ND mg/kg 0.332 2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332	C19-C36 Aliphatics	ND		mg/kg	6.63		
Naphthalene ND mg/kg 0.332 2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Benzo(a)hynthracene ND mg/kg 0.332 </td <td>C11-C22 Aromatics</td> <td>ND</td> <td></td> <td>mg/kg</td> <td>6.63</td> <td></td> <td></td>	C11-C22 Aromatics	ND		mg/kg	6.63		
2-Methylnaphthalene ND mg/kg 0.332 Acenaphthylene ND mg/kg 0.332 Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	C11-C22 Aromatics, Adjusted	ND		mg/kg	6.63		
Acenaphthylene ND mg/kg 0.332 Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Naphthalene	ND		mg/kg	0.332		
Acenaphthene ND mg/kg 0.332 Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	2-Methylnaphthalene	ND		mg/kg	0.332		
Fluorene ND mg/kg 0.332 Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Acenaphthylene	ND		mg/kg	0.332		
Phenanthrene ND mg/kg 0.332 Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Acenaphthene	ND		mg/kg	0.332		
Anthracene ND mg/kg 0.332 Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Fluorene	ND		mg/kg	0.332		
Fluoranthene ND mg/kg 0.332 Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Phenanthrene	ND		mg/kg	0.332		
Pyrene ND mg/kg 0.332 Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Anthracene	ND		mg/kg	0.332		
Benzo(a)anthracene ND mg/kg 0.332 Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Fluoranthene	ND		mg/kg	0.332		
Chrysene ND mg/kg 0.332 Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Pyrene	ND		mg/kg	0.332		
Benzo(b)fluoranthene ND mg/kg 0.332 Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Benzo(a)anthracene	ND		mg/kg	0.332		
Benzo(k)fluoranthene ND mg/kg 0.332 Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Chrysene	ND		mg/kg	0.332		
Benzo(a)pyrene ND mg/kg 0.332 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Benzo(b)fluoranthene	ND		mg/kg	0.332		
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.332 Dibenzo(a,h)anthracene ND mg/kg 0.332	Benzo(k)fluoranthene	ND		mg/kg	0.332		
Dibenzo(a,h)anthracene ND mg/kg 0.332	Benzo(a)pyrene	ND		mg/kg	0.332		
3 3	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.332		
Benzo(ghi)perylene ND mg/kg 0.332	Dibenzo(a,h)anthracene	ND		mg/kg	0.332		
	Benzo(ghi)perylene	ND		mg/kg	0.332		

Commonato	0/ 🗖	Acceptance			
Surrogate	%Recovery	Qualifier	Criteria		
Chloro-Octadecane	100		40-140		
o-Terphenyl	78		40-140		
2-Fluorobiphenyl	77		40-140		
2-Bromonaphthalene	76		40-140		
2 Bromonapharaiono	70		10 1 10		



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

Report Date: 05/18/16

Parameter	LCS %Recovery	Qual %	LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westh	oorough Lab As	sociated sample(s)): 01-02,04-11	Batch:	WG893488-2	WG893488-3		
C9-C18 Aliphatics	73		73		40-140	0		25
C19-C36 Aliphatics	88		92		40-140	4		25
C11-C22 Aromatics	57		64		40-140	12		25
Naphthalene	52		54		40-140	4		25
2-Methylnaphthalene	54		58		40-140	7		25
Acenaphthylene	47		51		40-140	8		25
Acenaphthene	54		58		40-140	7		25
Fluorene	56		61		40-140	9		25
Phenanthrene	57		63		40-140	10		25
Anthracene	58		64		40-140	10		25
Fluoranthene	59		66		40-140	11		25
Pyrene	59		66		40-140	11		25
Benzo(a)anthracene	56		63		40-140	12		25
Chrysene	59		66		40-140	11		25
Benzo(b)fluoranthene	58		66		40-140	13		25
Benzo(k)fluoranthene	56		65		40-140	15		25
Benzo(a)pyrene	48		55		40-140	14		25
Indeno(1,2,3-cd)Pyrene	54		64		40-140	17		25
Dibenzo(a,h)anthracene	52		61		40-140	16		25
Benzo(ghi)perylene	52		62		40-140	18		25
Nonane (C9)	56		51		30-140	9		25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

arameter	LCS %Recovery		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbons - Westb	oorough Lab As	sociated sample(s)	: 01-02,04-11	Batch:	WG893488-2	WG893488-3		
Decane (C10)	65		63		40-140	3		25
Dodecane (C12)	70		70		40-140	0		25
Tetradecane (C14)	74		75		40-140	1		25
Hexadecane (C16)	79		81		40-140	3		25
Octadecane (C18)	86		89		40-140	3		25
Nonadecane (C19)	88		90		40-140	2		25
Eicosane (C20)	88		92		40-140	4		25
Docosane (C22)	89		93		40-140	4		25
Tetracosane (C24)	88		92		40-140	4		25
Hexacosane (C26)	87		91		40-140	4		25
Octacosane (C28)	86		90		40-140	5		25
Triacontane (C30)	84		88		40-140	5		25
Hexatriacontane (C36)	73		86		40-140	16		25

LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
85		87		40-140	
63		70		40-140	
65		69		40-140	
65		69		40-140	
0		0			
0		0			
	%Recovery 85 63 65 65 0	%Recovery Qual 85 63 65 65 0	%Recovery Qual %Recovery 85 87 63 70 65 69 65 69 0 0	%Recovery Qual %Recovery Qual 85 87 63 70 65 69 65 69 65 69 0 0	%Recovery Qual %Recovery Qual Criteria 85 87 40-140 63 70 40-140 65 69 40-140 65 69 40-140 0 0 0



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westb	oorough Lab Ass	sociated samp	e(s): 03 Bate	ch: WG894809-2 WG894809	-3	
C9-C18 Aliphatics	76		72	40-140	5	25
C19-C36 Aliphatics	86		90	40-140	5	25
C11-C22 Aromatics	74		74	40-140	0	25
Naphthalene	62		58	40-140	7	25
2-Methylnaphthalene	67		63	40-140	6	25
Acenaphthylene	62		59	40-140	5	25
Acenaphthene	67		65	40-140	3	25
Fluorene	70		70	40-140	0	25
Phenanthrene	72		74	40-140	3	25
Anthracene	73		75	40-140	3	25
Fluoranthene	74		78	40-140	5	25
Pyrene	75		78	40-140	4	25
Benzo(a)anthracene	71		75	40-140	5	25
Chrysene	74		78	40-140	5	25
Benzo(b)fluoranthene	76		81	40-140	6	25
Benzo(k)fluoranthene	75		79	40-140	5	25
Benzo(a)pyrene	63		67	40-140	6	25
Indeno(1,2,3-cd)Pyrene	73		79	40-140	8	25
Dibenzo(a,h)anthracene	69		74	40-140	7	25
Benzo(ghi)perylene	72		77	40-140	7	25
Nonane (C9)	56		52	30-140	7	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits	
Extractable Petroleum Hydrocarbons - Wes	stborough Lab Ass	ociated sampl	e(s): 03 Ba	tch: WG8948	309-2 WG894809	-3		
Decane (C10)	64		61		40-140	5	25	
Dodecane (C12)	72		67		40-140	7	25	
Tetradecane (C14)	77		72		40-140	7	25	
Hexadecane (C16)	82		81		40-140	1	25	
Octadecane (C18)	86		90		40-140	5	25	
Nonadecane (C19)	88		92		40-140	4	25	
Eicosane (C20)	88		92		40-140	4	25	
Docosane (C22)	86		91		40-140	6	25	
Tetracosane (C24)	84		89		40-140	6	25	
Hexacosane (C26)	83		87		40-140	5	25	
Octacosane (C28)	81		86		40-140	6	25	
Triacontane (C30)	80		84		40-140	5	25	
Hexatriacontane (C36)	79		84		40-140	6	25	

LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
86		91		40-140	
84		85		40-140	
73		76		40-140	
74		77		40-140	
0		0			
0		0			
	%Recovery 86 84 73 74 0	%Recovery Qual 86 84 73 74 0	%Recovery Qual %Recovery 86 91 84 85 73 76 74 77 0 0	%Recovery Qual %Recovery Qual 86 91 84 85 73 76 74 77 0 0	%Recovery Qual %Recovery Qual Criteria 86 91 40-140 84 85 40-140 73 76 40-140 74 77 40-140 0 0



METALS



Project Name: Lab Number: WEYMOUTH C/S L1614457 **Project Number:** 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-01 Client ID: B/MW 204 (6-8') Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 92% Date Collected: 05/10/16 12:05 Date Received: 05/12/16

Field Prep: Not Specified

i ordoni Condo.	0270					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	- Westbor	ough Lab									
Antimony, Total	ND		mg/kg	2.1		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Arsenic, Total	30		mg/kg	0.42		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Barium, Total	51		mg/kg	0.42		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Beryllium, Total	0.66		mg/kg	0.21		1	05/13/16 13:0	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.42		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Chromium, Total	15		mg/kg	0.42		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Lead, Total	32		mg/kg	2.1		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Mercury, Total	0.218		mg/kg	0.078		1	05/13/16 16:2	5 05/13/16 18:48	EPA 7471B	97,7471B	EA
Nickel, Total	19		mg/kg	1.0		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.1		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.42		1	05/13/16 13:0	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.1		1	05/13/16 13:0	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Vanadium, Total	82		mg/kg	0.42		1	05/13/16 13:0	4 05/15/16 12:30	EPA 3050B	97,6010C	FB
Zinc, Total	62		mg/kg	2.1		1	05/13/16 13:04	4 05/15/16 12:30	EPA 3050B	97,6010C	FB



Project Name: Lab Number: WEYMOUTH C/S L1614457 **Project Number:** 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-02 Client ID: B/MW 204 (8-10') Sample Location: WEYMOUTH, MA

Matrix: Soil Percent Solids: 73% Date Collected: 05/10/16 12:50 Date Received: 05/12/16

Field Prep: Not Specified

1 Orooni Condo.	1070					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	- Westbor	ough Lab									
Antimony, Total	3.8		mg/kg	2.7		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Arsenic, Total	90		mg/kg	0.55		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Barium, Total	94		mg/kg	0.55		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Beryllium, Total	2.6		mg/kg	0.27		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.55		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Chromium, Total	24		mg/kg	0.55		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Lead, Total	16		mg/kg	2.7		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Mercury, Total	0.142		mg/kg	0.110		1	05/13/16 16:2	5 05/13/16 18:50	EPA 7471B	97,7471B	EA
Nickel, Total	15		mg/kg	1.4		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.7		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.55		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.7		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Vanadium, Total	71		mg/kg	0.55		1	05/13/16 13:0	4 05/15/16 12:35	EPA 3050B	97,6010C	FB
Zinc, Total	17		mg/kg	2.7		1	05/13/16 13:04	4 05/15/16 12:35	EPA 3050B	97,6010C	FB



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-03
Client ID: B/MW 202 (5-7')
Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 83%

Date Collected: 05/11/16 09:15
Date Received: 05/12/16
Field Prep: Not Specified

Field Prep: Not Specified TCLP/SPLP Ext. Date: 05/13/16 12:39

Percent Solids:	83%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
SPLP Metals by EF	ΟΔ 1312 -	Manefield	l ah								
Of El Wickais by El	A 1012	Mansiicia	Lab								
Antimony, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Arsenic, SPLP	0.005		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Barium, SPLP	0.014		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Beryllium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Cadmium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Chromium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Lead, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Mercury, SPLP	ND		mg/l	0.00100		1	05/16/16 09:35	5 05/16/16 11:54	EPA 7470A	1,7470A	BV
Nickel, SPLP	ND		mg/l	0.025		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Selenium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Silver, SPLP	ND		mg/l	0.007		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Thallium, SPLP	ND		mg/l	0.020		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Vanadium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM
Zinc, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 10:08	EPA 3005A	1,6010C	AM



05/11/16 09:15

05/12/16

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID:L1614457-03Date Collected:Client ID:B/MW 202 (5-7')Date Received:Sample Location:WEYMOUTH, MAField Prep:

Matrix: Soil Percent Solids: 83%

Field Prep: Not Specified

Date Prep Analytical

Percent Solids:	83%					Dilution Factor	Date	Date Analyzed	Prep Method	Analytical Method	
Parameter	Result	Qualifier	Units	RL	MDL	ractor	Prepared	Allalyzeu	Wethou	Wietiiou	Analyst
MCP Total Metals -	- Westbore	ough Lab									
Antimony, Total	ND		mg/kg	2.3		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Arsenic, Total	4.4		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Barium, Total	20		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Beryllium, Total	0.27		mg/kg	0.23		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Chromium, Total	11		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Lead, Total	14		mg/kg	2.3		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.081		1	05/13/16 16:25	05/13/16 18:52	EPA 7471B	97,7471B	EA
Nickel, Total	9.8		mg/kg	1.2		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Vanadium, Total	20		mg/kg	0.46		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB
Zinc, Total	46		mg/kg	2.3		1	05/13/16 13:04	05/15/16 12:40	EPA 3050B	97,6010C	FB



Project Name: WEYMOUTH C/S Lab Number: L1614457 **Project Number:** 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-04 Client ID: B/MW 202 (9-11') Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 90% Date Collected: 05/11/16 09:45 Date Received: 05/12/16 Field Prep: Not Specified

TCLP/SPLP Ext. Date: 05/13/16 12:39

Percent Solids:	90%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
	24.4040										
SPLP Metals by EF	A 1312 -	Mansfield	_ab								
Antimony, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Arsenic, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Barium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Beryllium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Cadmium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Chromium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Lead, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Mercury, SPLP	ND		mg/l	0.00100		1	05/16/16 09:35	5 05/16/16 12:03	EPA 7470A	1,7470A	BV
Nickel, SPLP	ND		mg/l	0.025		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Selenium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Silver, SPLP	ND		mg/l	0.007		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Thallium, SPLP	ND		mg/l	0.020		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Vanadium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM
Zinc, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 10:12	EPA 3005A	1,6010C	AM



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-04
Client ID: B/MW 202 (9-11')
Sample Location: WEYMOUTH, MA

Matrix: Soil Percent Solids: 90%

Date Collected: 05/11/16 09:45

Date Received: 05/12/16

Field Prep: Not Specified

reiterit Solius.	30 /6					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbor	ough Lab									
Antimony, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Arsenic, Total	2.5		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Barium, Total	6.5		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Beryllium, Total	0.23		mg/kg	0.22		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Chromium, Total	6.8		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Lead, Total	2.3		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.077		1	05/13/16 16:25	5 05/13/16 18:54	EPA 7471B	97,7471B	EA
Nickel, Total	8.3		mg/kg	1.1		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Vanadium, Total	12		mg/kg	0.43		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB
Zinc, Total	29		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 12:44	EPA 3050B	97,6010C	FB



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-05
Client ID: B/MW 203 (5-7')
Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 89%

Date Collected: 05/11/16 14:30
Date Received: 05/12/16
Field Prep: Not Specified

TCLP/SPLP Ext. Date: 05/13/16 12:39

Percent Solids:	89%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
SPLP Metals by EF	PA 1312 -	Mansfield I	_ab								
Antimony, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Arsenic, SPLP	0.009		mg/l	0.005		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Barium, SPLP	0.013		mg/l	0.010		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Beryllium, SPLP	ND		mg/l	0.005		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Cadmium, SPLP	ND		mg/l	0.005		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Chromium, SPLP	ND		mg/l	0.010		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Lead, SPLP	ND		mg/l	0.010		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Mercury, SPLP	ND		mg/l	0.00100		1	05/16/16 09:3	5 05/16/16 12:05	EPA 7470A	1,7470A	BV
Nickel, SPLP	ND		mg/l	0.025		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Selenium, SPLP	ND		mg/l	0.010		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Silver, SPLP	ND		mg/l	0.007		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Thallium, SPLP	ND		mg/l	0.020		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Vanadium, SPLP	ND		mg/l	0.010		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM
Zinc, SPLP	ND		mg/l	0.050		1	05/16/16 09:4	0 05/17/16 10:16	EPA 3005A	1,6010C	AM



Not Specified

Field Prep:

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-05
 Date Collected:
 05/11/16 14:30

 Client ID:
 B/MW 203 (5-7')
 Date Received:
 05/12/16

Matrix: Soil Percent Solids: 89%

WEYMOUTH, MA

Sample Location:

Dilution Date Date Prep **Analytical** Method **Prepared** Method Factor **Analyzed** Result Qualifier Units RL MDL **Parameter Analyst** MCP Total Metals - Westborough Lab Antimony, Total ND mg/kg 2.2 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ 46 1 97,6010C Arsenic, Total mg/kg 0.44 05/13/16 13:04 05/15/16 12:48 EPA 3050B FΒ 39 1 0.44 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ Barium, Total mg/kg Beryllium, Total 0.60 mg/kg 0.22 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ ND 1 97,6010C Cadmium, Total mg/kg 0.44 05/13/16 13:04 05/15/16 12:48 EPA 3050B FΒ 97,6010C 12 0.44 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B FΒ Chromium, Total mg/kg Lead, Total 4.4 2.2 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ mg/kg Mercury, Total 0.252 mg/kg 0.079 1 05/13/16 16:25 05/13/16 18:59 EPA 7471B 97,7471B EΑ 1 16 97,6010C FΒ Nickel, Total mg/kg 1.1 05/13/16 13:04 05/15/16 12:48 EPA 3050B Selenium, Total ND mg/kg 2.2 --1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ Silver, Total ND 0.44 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ mg/kg --Thallium, Total ND 2.2 --1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ mg/kg Vanadium, Total 24 mg/kg 0.44 --1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97,6010C FΒ Zinc, Total 13 mg/kg 2.2 1 05/13/16 13:04 05/15/16 12:48 EPA 3050B 97.6010C FB



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-06
Client ID: B/MW 203 (9-11')
Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 84%

Date Collected: 05/12/16 07:00
Date Received: 05/12/16
Field Prep: Not Specified

Field Prep: Not Specified TCLP/SPLP Ext. Date: 05/13/16 12:39

Percent Solids:	84%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
SPLP Metals by Ef	PA 1312 -	Mansfield I	Lab								
Antimony, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Arsenic, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Barium, SPLP	0.013		mg/l	0.010		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Beryllium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Cadmium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Chromium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Lead, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Mercury, SPLP	ND		mg/l	0.00100		1	05/16/16 09:35	5 05/16/16 12:07	EPA 7470A	1,7470A	BV
Nickel, SPLP	ND		mg/l	0.025		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Selenium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Silver, SPLP	ND		mg/l	0.007		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Thallium, SPLP	ND		mg/l	0.020		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Vanadium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM
Zinc, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 11:01	EPA 3005A	1,6010C	AM



05/12/16 07:00

05/12/16

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID:L1614457-06Date Collected:Client ID:B/MW 203 (9-11')Date Received:Sample Location:WEYMOUTH, MAField Prep:

Matrix: Soil Percent Solids: 84%

Field Prep: Not Specified

Percent Solids:	84%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbor	ough Lab									
Antimony, Total	ND		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 12:53	EPA 3050B	97,6010C	FB
Arsenic, Total	19		mg/kg	0.46		1	05/13/16 13:04	1 05/15/16 12:53	EPA 3050B	97,6010C	FB
Barium, Total	20		mg/kg	0.46		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Beryllium, Total	1.3		mg/kg	0.23		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.46		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Chromium, Total	8.0		mg/kg	0.46		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Lead, Total	16		mg/kg	2.3		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.082		1	05/13/16 16:25	5 05/13/16 19:01	EPA 7471B	97,7471B	EA
Nickel, Total	17		mg/kg	1.2		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 12:53	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.46		1	05/13/16 13:04	1 05/15/16 12:53	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Vanadium, Total	21		mg/kg	0.46		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB
Zinc, Total	15		mg/kg	2.3		1	05/13/16 13:04	105/15/16 12:53	EPA 3050B	97,6010C	FB



05/12/16 10:00

Not Specified

05/12/16

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID:L1614457-07Date Collected:Client ID:B/MW 205 (6-8')Date Received:Sample Location:WEYMOUTH, MAField Prep:

Matrix: Soil Percent Solids: 97%

i ordonic Gondo.	0170					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbor	ough Lab									
Antimony, Total	ND		mg/kg	2.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Arsenic, Total	3.4		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Barium, Total	4.5		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Beryllium, Total	ND		mg/kg	0.20		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Chromium, Total	2.5		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Lead, Total	2.1		mg/kg	2.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.068		1	05/13/16 16:2	5 05/13/16 19:03	EPA 7471B	97,7471B	EA
Nickel, Total	1.4		mg/kg	1.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Vanadium, Total	8.0		mg/kg	0.40		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB
Zinc. Total	6.5		ma/ka	2.0		1	05/13/16 13:0	4 05/15/16 13:07	EPA 3050B	97,6010C	FB



Not Specified

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-08
 Date Collected:
 05/12/16 10:20

 Client ID:
 B/MW 205 (10-12')
 Date Received:
 05/12/16

Sample Location: WEYMOUTH, MA Field Prep: Matrix: Soil

Percent Solids: 67%

Dilution Date Date Prep Analytical

Percent Solids: 67%

Dilution Date Date Prep Analytical Method Analyzed Method Method Analyzed Method Method Analyzed Method Analyzed Method Analyzed Method Analyzed Method Analyzed Method Method Analyzed Method Analyzed Method Analyzed Method Analyzed Method Method Analyzed Method Method Analyzed Method Metho

Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Westbord	ough Lab									
4.2		mg/kg	2.9		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
130		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
81		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
4.2		mg/kg	0.29		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
ND		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
19		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
10		mg/kg	2.9		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
0.285		mg/kg	0.098		1	05/13/16 16:25	5 05/13/16 19:05	EPA 7471B	97,7471B	EA
17		mg/kg	1.4		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
ND		mg/kg	2.9		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
ND		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
ND		mg/kg	2.9		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
75		mg/kg	0.58		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
19		mg/kg	2.9		1	05/13/16 13:04	1 05/15/16 13:11	EPA 3050B	97,6010C	FB
	Westbord 4.2 130 81 4.2 ND 19 10 0.285 17 ND ND ND 75	Westborough Lab 4.2 130 81 4.2 ND 19 10 0.285 17 ND ND ND ND ND 75	Westborough Lab 4.2 mg/kg 130 mg/kg 81 mg/kg 4.2 mg/kg ND mg/kg 19 mg/kg 10 mg/kg 17 mg/kg ND mg/kg ND mg/kg ND mg/kg ND mg/kg 75 mg/kg	Westborough Lab 4.2 mg/kg 2.9 130 mg/kg 0.58 81 mg/kg 0.58 4.2 mg/kg 0.29 ND mg/kg 0.58 19 mg/kg 0.58 10 mg/kg 2.9 0.285 mg/kg 0.098 17 mg/kg 1.4 ND mg/kg 0.58 ND mg/kg 0.58 ND mg/kg 0.58 75 mg/kg 0.58	Westborough Lab 4.2 mg/kg 2.9 130 mg/kg 0.58 81 mg/kg 0.58 4.2 mg/kg 0.29 ND mg/kg 0.58 19 mg/kg 0.58 10 mg/kg 2.9 0.285 mg/kg 0.098 17 mg/kg 1.4 ND mg/kg 2.9 ND mg/kg 0.58 ND mg/kg 0.58 75 mg/kg 0.58	Result Qualifier Units RL MDL Factor Westborough Lab 4.2 mg/kg 2.9 1 130 mg/kg 0.58 1 81 mg/kg 0.58 1 4.2 mg/kg 0.29 1 ND mg/kg 0.58 1 19 mg/kg 0.58 1 10 mg/kg 0.58 1 10 mg/kg 0.098 1 17 mg/kg 0.098 1 ND mg/kg 2.9 1 ND mg/kg 0.58 1 <	Result Qualifier Units RL MDL Factor Prepared Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 130 mg/kg 0.58 1 05/13/16 13:04 81 mg/kg 0.58 1 05/13/16 13:04 4.2 mg/kg 0.29 1 05/13/16 13:04 ND mg/kg 0.58 1 05/13/16 13:04 19 mg/kg 0.58 1 05/13/16 13:04 10 mg/kg 2.9 1 05/13/16 13:04 0.285 mg/kg 0.098 1 05/13/16 13:04 ND mg/kg 1.4 1 05/13/16 13:04 ND mg/kg 0.58 1 05/13/16 13:04 ND mg/kg 0.58 1 05/13/16 13:04 ND mg/kg 0.58	Result Qualifier Units RL MDL Factor Prepared Analyzed Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 130 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 81 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 4.2 mg/kg 0.29 1 05/13/16 13:04 05/15/16 13:11 ND mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 19 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 10 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 0.285 mg/kg 0.98 1 05/13/16 13:04 05/15/16 13:11 0.285 mg/kg 0.098 1 05/13/16 13:04 05/15/16 13:11 ND mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 ND mg/kg <t< td=""><td>Result Qualifier Units RL MDL Factor Prepared Analyzed Method Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 130 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 81 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 4.2 mg/kg 0.29 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B ND mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 19 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 10 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 0.285 mg/kg 0.098 1 05/13/16 16:25 05/13/16 13:11 EPA 3050B ND mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11</td><td>Result Qualifier Units RL MDL Factor Prepared Analyzed Method Method Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 130 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 81 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 4.2 mg/kg 0.29 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C ND mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 19 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 10 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 0.285 mg/kg 0.098 1 05/13/16 13:04 05/15/16 13:11<!--</td--></td></t<>	Result Qualifier Units RL MDL Factor Prepared Analyzed Method Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 130 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 81 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 4.2 mg/kg 0.29 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B ND mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 19 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 10 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 0.285 mg/kg 0.098 1 05/13/16 16:25 05/13/16 13:11 EPA 3050B ND mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11	Result Qualifier Units RL MDL Factor Prepared Analyzed Method Method Westborough Lab 4.2 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 130 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 81 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 4.2 mg/kg 0.29 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C ND mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 19 mg/kg 0.58 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 10 mg/kg 2.9 1 05/13/16 13:04 05/15/16 13:11 EPA 3050B 97,6010C 0.285 mg/kg 0.098 1 05/13/16 13:04 05/15/16 13:11 </td



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID:L1614457-09Date Collected:05/12/16 12:45Client ID:B/MW 201 (6-8')Date Received:05/12/16Sample Location:WEYMOUTH, MAField Prep:Not Specified

Matrix: Soil Percent Solids: 90%

r ercent Johas.	90 70					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals -	- Westbore	ough Lab									
Antimony, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Arsenic, Total	24		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Barium, Total	34		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Beryllium, Total	0.74		mg/kg	0.22		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Chromium, Total	9.6		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Lead, Total	33		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Mercury, Total	0.191		mg/kg	0.078		1	05/13/16 16:25	5 05/13/16 19:06	EPA 7471B	97,7471B	EA
Nickel, Total	11		mg/kg	1.1		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Vanadium, Total	24		mg/kg	0.44		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB
Zinc, Total	110		mg/kg	2.2		1	05/13/16 13:04	4 05/15/16 13:16	EPA 3050B	97,6010C	FB



Project Name: WEYMOUTH C/S Lab Number: L1614457 **Project Number:** 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-10 Client ID: B/MW 201 (10-12') Sample Location: WEYMOUTH, MA

Matrix: Soil Date Collected: 05/12/16 13:00 Date Received: 05/12/16 Field Prep: Not Specified

Percent Solids:	80%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MOD Tatal Matala	VA/ (1)										
MCP Total Metals	- vvestbor	ougn Lab									
Antimony, Total	ND		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Arsenic, Total	16		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Barium, Total	11		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Beryllium, Total	0.55		mg/kg	0.23		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Chromium, Total	3.9		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Lead, Total	9.9		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.096		1	05/13/16 16:25	5 05/13/16 19:08	EPA 7471B	97,7471B	EA
Nickel, Total	13		mg/kg	1.2		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.3		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Vanadium, Total	12		mg/kg	0.47		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB
Zinc. Total	6.6		ma/ka	2.3		1	05/13/16 13:04	1 05/15/16 13:20	EPA 3050B	97,6010C	FB



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-11

Client ID: DUP-1

Sample Location: WEYMOUTH, MA

Matrix: Soil

Percent Solids: 78%

Date Collected: 05/10/16 00:00

Date Received: 05/12/16
Field Prep: Not Specified

TCLP/SPLP Ext. Date: 05/13/16 12:39

Dilution Date Date Prep Analytical
Result Qualifier Units RL MDL Factor Prepared Analyzed Method Method Analyst

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
SPLP Metals by E	PA 1312 -	Mansfield	Lab								
Antimony, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Arsenic, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Barium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 09:52	P. EPA 3005A	1,6010C	AM
Beryllium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Cadmium, SPLP	ND		mg/l	0.005		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Chromium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 09:52	EPA 3005A	1,6010C	AM
Lead, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 09:52	EPA 3005A	1,6010C	AM
Mercury, SPLP	ND		mg/l	0.00100		1	05/16/16 09:35	05/16/16 12:09	EPA 7470A	1,7470A	BV
Nickel, SPLP	ND		mg/l	0.025		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Selenium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Silver, SPLP	ND		mg/l	0.007		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Thallium, SPLP	ND		mg/l	0.020		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Vanadium, SPLP	ND		mg/l	0.010		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM
Zinc, SPLP	ND		mg/l	0.050		1	05/16/16 09:40	05/17/16 09:52	P EPA 3005A	1,6010C	AM



05/10/16 00:00

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-11

Client ID: DUP-1

Sample Location: WEYMOUTH, MA

Matrix: Soil Percent Solids: 78%

Date Received: 05/12/16

Field Prep: Not Specified

Date Collected:

Field Prep: Not Specified

Percent Solids:	78%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Westbore	ough Lab									
Antimony, Total	ND		mg/kg	2.5		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Arsenic, Total	20		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Barium, Total	29		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Beryllium, Total	0.78		mg/kg	0.25		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Cadmium, Total	ND		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Chromium, Total	7.1		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Lead, Total	14		mg/kg	2.5		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Mercury, Total	ND		mg/kg	0.103		1	05/13/16 16:25	5 05/13/16 19:10	EPA 7471B	97,7471B	EA
Nickel, Total	11		mg/kg	1.2		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Selenium, Total	ND		mg/kg	2.5		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Silver, Total	ND		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Thallium, Total	ND		mg/kg	2.5		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Vanadium, Total	16		mg/kg	0.50		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB
Zinc, Total	15		mg/kg	2.5		1	05/13/16 13:04	4 05/15/16 13:25	EPA 3050B	97,6010C	FB



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.7478

Lab Number: L1614457 **Report Date:** 05/18/16

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Wes	stborough Lab for sa	mple(s):	01-11	Batch:	WG893714-1				
Antimony, Total	ND	mg/kg	2.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Arsenic, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Barium, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Beryllium, Total	ND	mg/kg	0.20		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Cadmium, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Chromium, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Lead, Total	ND	mg/kg	2.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Nickel, Total	ND	mg/kg	1.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Selenium, Total	ND	mg/kg	2.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Silver, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Thallium, Total	ND	mg/kg	2.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Vanadium, Total	ND	mg/kg	0.40		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB
Zinc, Total	ND	mg/kg	2.0		1	05/13/16 13:04	05/15/16 12:17	97,6010C	FB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qua	lifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Total Metals -	Westborough Lab	for sample(s):	01-11	Batch:	WG893806-1				
Mercury, Total	ND	mg/kg	0.083		1	05/13/16 16:25	05/13/16 18:38	97,7471B	EA

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
SPLP Metals by EPA	A 1312 - Mansfield Lab	for sampl	e(s): 03-	06,11	Batch: WG	894307-1			
Mercury, SPLP	ND	mg/l	0.00100		1	05/16/16 09:35	05/16/16 11:51	1,7470A	BV



Project Name:WEYMOUTH C/SLab Number:L1614457Project Number:140143.0000.7478Report Date:05/18/16

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 05/13/16 12:39

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
SPLP Metals by EPA 13	312 - Mansfield Lab	for sample	e(s): 03-	06,11	Batch: WG	894320-1			
Antimony, SPLP	ND	mg/l	0.050		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Arsenic, SPLP	ND	mg/l	0.005		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Barium, SPLP	ND	mg/l	0.010		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Beryllium, SPLP	ND	mg/l	0.005		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Cadmium, SPLP	ND	mg/l	0.005		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Chromium, SPLP	ND	mg/l	0.01		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Lead, SPLP	ND	mg/l	0.010		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Nickel, SPLP	ND	mg/l	0.025		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Selenium, SPLP	ND	mg/l	0.010		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Silver, SPLP	ND	mg/l	0.007		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Thallium, SPLP	ND	mg/l	0.020		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Vanadium, SPLP	ND	mg/l	0.010		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM
Zinc, SPLP	ND	mg/l	0.050		1	05/16/16 09:40	05/17/16 09:44	1,6010C	AM

Prep Information

Digestion Method: EPA 3005A

TCLP/SPLP Extraction Date: 05/13/16 12:39



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associate	ed sample(s): 01-	11 Batch:	WG893714-2	WG893714-3	3 SRM Lot Number	er: D088-540		
Antimony, Total	178		168		1-208	6		30
Arsenic, Total	88		88		79-121	0		30
Barium, Total	88		88		83-117	0		30
Beryllium, Total	93		95		83-117	2		30
Cadmium, Total	91		93		83-117	2		30
Chromium, Total	91		92		80-120	1		30
Lead, Total	82		86		81-117	5		30
Nickel, Total	90		93		83-117	3		30
Selenium, Total	91		91		78-122	0		30
Silver, Total	91		93		75-124	2		30
Thallium, Total	90		95		80-120	5		30
Vanadium, Total	90		92		78-122	2		30
Zinc, Total	92		92		82-118	0		30
CP Total Metals - Westborough Lab Associate	ed sample(s): 01-	11 Batch:	WG893806-2	WG893806-3	3 SRM Lot Number	er: D088-540		
Mercury, Total	101		98		72-128	3		30
PLP Metals by EPA 1312 - Mansfield Lab Asso	ociated sample(s): 03-06,11	Batch: WG89	4307-2				
Mercury, SPLP	108		-		80-120	-		



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number: L1614457

arameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PLP Metals by EPA 1312 - Mansfield Lab Ass	sociated sample(s): 0	3-06,11 Batch: WG894320-2			
Antimony, SPLP	98	-	80-120	-	
Arsenic, SPLP	102	-	80-120	-	
Barium, SPLP	94	-	80-120	-	
Beryllium, SPLP	95	-	80-120	-	
Cadmium, SPLP	100	-	80-120	-	
Chromium, SPLP	100	-	80-120	-	
Lead, SPLP	100	-	80-120	-	
Nickel, SPLP	101	-	80-120	-	
Selenium, SPLP	102	-	80-120	-	
Silver, SPLP	100	-	80-120	-	
Thallium, SPLP	99		80-120	-	
Vanadium, SPLP	106		80-120	-	
Zinc, SPLP	95	-	80-120	-	

Matrix Spike Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number:

L1614457

Report Date:

05/18/16

arameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual Found	MSD %Recovery	Recovery Qual Limits	RPD Qual	RPD Limits
SPLP Metals by EPA 1312 - (5-7')	- Mansfield Lab	Associated	sample(s): (03-06,11 QC	Batch ID: WG8943	07-4 QC Sa	mple: L1614457-03	Client ID:	B/MW 202
Mercury, SPLP	ND	0.025	0.0240	96	-	-	80-120	-	20
SPLP Metals by EPA 1312 -	- Mansfield Lab	Associated :	sample(s): (03-06,11 QC	Batch ID: WG8943	20-4 QC Sa	mple: L1614457-11	Client ID:	DUP-1
Antimony, SPLP	ND	0.5	0.510	102	-	-	75-125	-	20
Arsenic, SPLP	ND	0.12	0.128	107	-	-	75-125	-	20
Barium, SPLP	ND	2	1.90	95	-	-	75-125	-	20
Beryllium, SPLP	ND	0.05	0.048	95	-	-	75-125	-	20
Cadmium, SPLP	ND	0.051	0.053	103	-	-	75-125	-	20
Chromium, SPLP	ND	0.2	0.20	100	-	-	75-125	-	20
Lead, SPLP	ND	0.51	0.538	105	-	-	75-125	-	20
Nickel, SPLP	ND	0.5	0.526	105	-	-	75-125	-	20
Selenium, SPLP	ND	0.12	0.128	107	-	-	75-125	-	20
Silver, SPLP	ND	0.05	0.050	100	-	-	75-125	-	20
Thallium, SPLP	ND	0.12	0.123	102	-	-	75-125	-	20
Vanadium, SPLP	ND	0.5	0.537	107	-	-	75-125	-	20
Zinc, SPLP	ND	0.5	0.487	97	-	-	75-125	-	20

Lab Duplicate Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.7478

Lab Number:

L1614457

Report Date:

05/18/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
SPLP Metals by EPA 1312 - Mansfield Lab Associ(5-7')	ciated sample(s): 03-06,11	QC Batch ID: WG894307-3	QC Sample:	L16144	57-03 Clie	ent ID: B/MW 202
Mercury, SPLP	ND	ND	mg/l	NC		20
SPLP Metals by EPA 1312 - Mansfield Lab Association	ciated sample(s): 03-06,11	QC Batch ID: WG894320-3	QC Sample:	L16144	57-11 Clie	ent ID: DUP-1
Antimony, SPLP	ND	ND	mg/l	NC		20
Arsenic, SPLP	ND	ND	mg/l	NC		20
Barium, SPLP	ND	ND	mg/l	NC		20
Beryllium, SPLP	ND	ND	mg/l	NC		20
Cadmium, SPLP	ND	ND	mg/l	NC		20
Chromium, SPLP	ND	ND	mg/l	NC		20
Lead, SPLP	ND	ND	mg/l	NC		20
Nickel, SPLP	ND	ND	mg/l	NC		20
Selenium, SPLP	ND	ND	mg/l	NC		20
Silver, SPLP	ND	ND	mg/l	NC		20
Thallium, SPLP	ND	ND	mg/l	NC		20
Vanadium, SPLP	ND	ND	mg/l	NC		20
Zinc, SPLP	ND	ND	mg/l	NC		20



INORGANICS & MISCELLANEOUS



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.7478

Lab Number: L1614457

Report Date: 05/18/16

SAMPLE RESULTS

Lab ID: L1614457-01 Client ID: B/MW 204 (6-8')

Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected: 05/10/16 12:05

Date Received: 05/12/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	91.6		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-02
 Date Collected:
 05/10/16 12:50

 Client ID:
 B/MW 204 (8-10')
 Date Received:
 05/12/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	72.5		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-03
 Date Collected:
 05/11/16 09:15

 Client ID:
 B/MW 202 (5-7')
 Date Received:
 05/12/16

 Sample Location:
 WEYMOUTH, MA
 Field Prep:
 Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	83.0		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Project Name: WEYMOUTH C/S

Lab Number:

L1614457

Project Number: 140143.0000.7478

Report Date:

05/18/16

SAMPLE RESULTS

Lab ID:

L1614457-04

Client ID:

Matrix:

B/MW 202 (9-11') WEYMOUTH, MA

Sample Location:

Soil

Date Collected:

05/11/16 09:45

Date Received:

05/12/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	90.2		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-05
 Date Collected:
 05/11/16 14:30

 Client ID:
 B/MW 203 (5-7')
 Date Received:
 05/12/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.0		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Project Name: WEYMOUTH C/S

Lab Number:

L1614457

Project Number: 140143.0000.7478

Report Date:

05/18/16

SAMPLE RESULTS

Lab ID:

L1614457-06

Client ID:

Matrix:

Solids, Total

B/MW 203 (9-11') WEYMOUTH, MA

Sample Location:

Soil

83.8

Date Collected:

05/12/16 07:00

Date Received:

05/13/16 11:01

05/12/16

Field Prep:

Not Specified

121,2540G

RΙ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
0 101 11 111										
General Chemistry - Westbor	ough Lab)								

NA

1

0.100

%



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

SAMPLE RESULTS

 Lab ID:
 L1614457-07
 Date Collected:
 05/12/16 10:00

 Client ID:
 B/MW 205 (6-8')
 Date Received:
 05/12/16

Client ID: B/MW 205 (6-8') Date Received: 05/12/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	96.7		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Project Name: WEYMOUTH C/S Lab Number:

L1614457

Project Number: 140143.0000.7478 **Report Date:** 05/18/16

SAMPLE RESULTS

Lab ID:

L1614457-08

Client ID:

B/MW 205 (10-12') WEYMOUTH, MA

Sample Location: Matrix:

Soil

Date Collected:

05/12/16 10:20

Date Received:

05/12/16

Field Prep:

Not Specified

Analytical Method **Dilution** Date Date Factor Prepared Result Qualifier Units Analyzed RL MDL **Parameter**

Analyst General Chemistry - Westborough Lab Solids, Total % 0.100 NA 1 05/13/16 11:01 121,2540G RΙ



Project Name: WEYMOUTH C/S

Lab Number:

L1614457

Project Number: 140143.0000.7478

Report Date:

05/18/16

SAMPLE RESULTS

Lab ID:

L1614457-09

Client ID:

B/MW 201 (6-8') Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

05/12/16 12:45

Date Received:

05/12/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	89.7		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Serial_No:05181618:21

Project Name: Lab Number: WEYMOUTH C/S L1614457 **Project Number:** 140143.0000.7478

Report Date: 05/18/16

SAMPLE RESULTS

Lab ID: Date Collected: L1614457-10 05/12/16 13:00

B/MW 201 (10-12') Client ID: Date Received: 05/12/16 Sample Location: WEYMOUTH, MA Not Specified Field Prep:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	80.1		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Serial_No:05181618:21

Project Name: WEYMOUTH C/S

Project Number: 140143.0000.7478

Lab Number:

L1614457

Report Date:

05/18/16

SAMPLE RESULTS

Lab ID:

L1614457-11

Client ID:

DUP-1

Sample Location:

WEYMOUTH, MA

Matrix:

Soil

Date Collected:

05/10/16 00:00

Date Received:

05/12/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	78.3		%	0.100	NA	1	-	05/13/16 11:01	121,2540G	RI



Lab Duplicate Analysis
Batch Quality Control

Project Name: WEYMOUTH C/S Batch Quality Control
Project Number: 140143.0000.7478

Lab Number:

L1614457

Report Date: 05/18/16

Parameter	Native Sam	ple Dup	olicate Sample	e Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-11	QC Batch ID: W	/G893669-1	QC Sample: L	1614457-01	Client ID:	B/MW 204 (6-8')
Solids, Total	91.6		92.1	%	1		20



Serial_No:05181618:21

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1614457

 Project Number:
 140143.0000.7478
 Report Date:
 05/18/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1614457-01A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1614457-01B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-02A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),HOLD-METAL(180),EPH- DELUX-10(14)
L1614457-02B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-03A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1614457-03B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)



Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1614457-03X	Plastic 120ml HNO3 preserved Ext	Α	<2	3.9	Y	Absent	AG-PI(180),SE-PI(180),SB-PI(180),ZN-PI(180),NI-PI(180),TL-PI(180),BA-PI(180),BE-PI(180),CR-PI(180),PB-PI(180),V-PI(180),AS-PI(180),CD-PI(180),HG-P(28)
L1614457-03X9	Tumble Vessel	Α	N/A	3.9	Υ	Absent	-
L1614457-04A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1614457-04B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-04X	Plastic 120ml HNO3 preserved Ext	A	<2	3.9	Y	Absent	AG-PI(180),SE-PI(180),SB- PI(180),ZN-PI(180),NI- PI(180),TL-PI(180),BA- PI(180),BE-PI(180),CR- PI(180),PB-PI(180),V- PI(180),AS-PI(180),CD- PI(180),HG-P(28)
L1614457-04X9	Tumble Vessel	Α	N/A	3.9	Υ	Absent	-
L1614457-05A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1614457-05B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-05X	Plastic 120ml HNO3 preserved Ext	A	<2	3.9	Y	Absent	AG-PI(180),SE-PI(180),SB- PI(180),ZN-PI(180),NI- PI(180),TL-PI(180),BA- PI(180),BE-PI(180),CR- PI(180),PB-PI(180),V- PI(180),AS-PI(180),CD- PI(180),HG-P(28)
L1614457-05X9	Tumble Vessel	Α	N/A	3.9	Υ	Absent	- · · · · · · · · · · · · · · · · · · ·
L1614457-06A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)



Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ		Pres	Seal	Analysis(*)
L1614457-06B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-06X	Plastic 120ml HNO3 preserved Ext	A	<2	3.9	Y	Absent	AG-PI(180),SE-PI(180),SB-PI(180),ZN-PI(180),NI-PI(180),TL-PI(180),BA-PI(180),BE-PI(180),CR-PI(180),PB-PI(180),V-PI(180),AS-PI(180),CD-PI(180),HG-P(28)
L1614457-06X9	Tumble Vessel	Α	N/A	3.9	Υ	Absent	-
L1614457-07A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),HOLD-METAL(180),EPH- DELUX-10(14)
L1614457-07B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-08A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),HOLD-METAL(180),EPH- DELUX-10(14)
L1614457-08B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-09A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),HOLD-METAL(180),EPH- DELUX-10(14)



Project Name:WEYMOUTH C/SLab Number:L1614457Project Number:140143.0000.7478Report Date:05/18/16

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1614457-09B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-LG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-10A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),HOLD-METAL(180),EPH- DELUX-10(14)
L1614457-10B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SD-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180),MCP-SD-6010T-10(180)
L1614457-11A	Glass 250ml/8oz unpreserved	Α	N/A	3.9	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1614457-11B	Metals Only - Glass 60mL/2oz unp	A	N/A	3.9	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1614457-11X	Plastic 120ml HNO3 preserved Ext	A	<2	3.9	Y	Absent	AG-PI(180),SE-PI(180),SB- PI(180),ZN-PI(180),NI- PI(180),TL-PI(180),BA- PI(180),BE-PI(180),CR- PI(180),PB-PI(180),V- PI(180),AS-PI(180),CD- PI(180),HG-P(28)
L1614457-11X9	Tumble Vessel	Α	N/A	3.9	Υ	Absent	-



GLOSSARY

Acronyms

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).

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.

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.

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.

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.

- 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

TIC

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

Terms

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.

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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).

Report Format: Data Usability Report



Data Qualifiers

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



REFERENCES

- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I IV, 2007.
- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.
- 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.



Serial_No:05181618:21

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 6

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Page 1 of 1

Certification Information

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

Westborough Facility

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate

(soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-

Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation **EPA 9038:** NPW: Sulfate

EPA 9050A: NPW: Specific Conductance EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols EPA 9251: NPW: Chloride SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids EPA 1631E: SCM: Mercury EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

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, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: 8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A: Lead; 8270D: bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; EPA 200.7: Ba,Be,Ca,Cd,Cr,Cu,Na; EPA 245.1: Mercury;

EPA 300.0: 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, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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A.PHA			PAGE	0F_2	Date Rec'd in		12/16		46/4457
8 Walkup Drive	320 Forbes Blvd	Project Information			Report Infor	mation - Data	Deliverables	Billing Informa	
Westboro, MA 01581 Tel: 508-898-9220	Mansfield, MA 02048 Tel: 508-822-9300	Project Name: Noymor	n, C/S		□ ADEx	EMAIL		Same as Client	info PO#: CLASIA3
Client Information		Project Location: Welmos						nformation Requ	irements
Client: TRC		Project #: 140143.000				IA MCP Analytica		☐ Yes ☐ No (Required for MCP	CT RCP Analytical Methods
Address: 7 1: Week		Project Manager: Rick			☐ Yes ☐ No G	W1 Standards (letals & EPH with Ta	
Address: Z liberty Boston, M	4 02109	ALPHA Quote #:	riquerre		☐ Yes ☐ No N☐ Other State			Criteria	
Phone: 617-350.	3444	Turn-Around Time			- /	7 7 7 7	1. 1 1 1	/ / /	777
Email: Miles Ditro	saliations com				_//	METALS: DRCRAS DNCP 14 DRCP 15 EPH: DRanges & Targets DRCRA8 UPH: DRanges & Targets DRCA	C PCB C PEST TPH: Couant Only DFingerprint		
		Date Due:	ly confirmed if pre-ap	proved!)	5/8/	4 8 8	ange ange orint	/	7
Additional Project	t Information:	Date Due: 'T'	Hour		ANALYSIS 24 DS24.2 DPAH	DMCP 14 DRCRA8 Pets D R.	D PCB DPEST TPH: DQuant Only DFINGEPOINT	delux	SAMPLE INFO A
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:					7260 D	U RCRAS	PEST (Only	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab to do
					D 8260	Rang Rang	Se Canal	0-1	Preservation 0
ALPHA Lab ID	0 - 1 ID	Collection	Sample	Sampler	VOC. DS SVOC. D	METALS: DRCRAS 13 EPH: DRanges & Targ	D PCB DPEST TPH: DQUant Only C	SPLP Metal	Preservation Lab to do
(Lab Use Only)	Sample ID	Date Time	Matrix	Initials	N	Z	0 / E / E	(c) (D)	Sample Comments S
14457 _ 01 B/M		5/10/16 12:05	S	WHICEME			++	4	Hold SPLP
QB/m	1204 18-10)	5/10/16 12850		WH/CMR			47	4	Hold SPLP
03 B/Mr	V 202 (5-7')	5/11/16 0915					1 1	イオ	
04 13/M	W202 (9-11)	5/11/14 0915	.5				XX	44	
OSBIM	WZ03(5-7')	5/12/10 1430					24	44	
06 B/m	W203 (9-11)	5/12/160700					77	YY	2
OB/m.	WZ05 (6-8')	Blizhe 1000					14	4	Hold SPLP
	WZ05 (10-17)	5/12/16/1020					47	4	Hold SPLP
4.70	N 201 (6-81)	5/12/16 1245					4.4	+	Hold SPLP
1 1 1	W ZO1 (10-121)	5/12/10 1300	4	V			XX	4	Hold SPLP
	servative None		Conta	iner Type			AA	AA	
A= Amber glass B= I V= Vial C= I	HCI HNO₃		Pre	servative			AA	AA	
B= Bacteria cup E= N C= Cube F= N		Relinquished By:	Date	/Time	Rec	ceived By:	Date/	Time	
E= Encore H=	NaHSO ₄ Na ₂ S ₂ O ₃ scorbic Acid	V. dropp	5/12/11	1423	JD Cm) AAR	52-1611		les submitted are subject to Terms and Conditions.
J = 1 K= 2	NH₄CI Zn Acetate	W HAL	1-12-16	15/95	Mulh	WIL	- 5/10/10	See reve	erse side. 01-01 (rev. 12-Mar-2012)
Page 81 of 83	Other							FORM NO	UT-OT (IEV. 12-IVIAI-2UTZ)

ΔLPHA	CHAIN OF	CUSTO)Y PA	GE	of 2	Date Re	o'd in Lab:	5/1	12/16	ALPHA Job	#: 46/4457	7
8 Walkup Drive	320 Forbes Blvd	Project Informati	on			Report	Informati	on - Data D	eliverables	Billing Inform		
Westboro, MA 01: Tel: 508-898-922	581 Mansfield, MA 02048	Project Name: W&	Misomi	. C/S		□ ADE:	()	E EMAIL		Same as Clier	nt info PO#: CIYON	43
Client Information		Project Location: Wi	Mamis	. M.A						nformation Req	uirements	
Client: TRC		Project #: 14014	5.0000	7479	}	Yes 🗆	No MA MO	P Analytical	Methods	☐ Yes ☐ No (Required for MC	CT RCP Analytical Method	sk
Address: 7 1: hos	ty Square, 6th Floor		_			☐ Yes ☐	No GW1 S	tandards (Inf		Metals & EPH with		
Boston.	MA OZION	ALPHA Quote #:	100 11	querre		l .	No NPDE: State /Fed			Criteria		
Phone: 617-3		Turn-Around Tim	ie				/ / ~	15/2/	_/.//		7 / /	
	tresolutions.com	-/						DRCP 15 DPP13	Suo s			
11110300		□ Standard 🎢	RUSH (only co	onfirmed if pre-ap	proved!)	ANALYSIS	y/ /,	8 L Range	anges			T
Additional Pro	oject Information:	Date Due:	1-2-	HOULE		17/2	7 PAH DMCD	C CRA	argets L. Range. DFingerprint		/ / SAMPLE INFO	TA
						AN D 624	O PAH 3 DIMC	arget	arget.	1 /2/	Filtration	L
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ALPHA Lab ID	0 1 15	Colle	ction	Sample	Sampler	1,00°.	METALS: DMCP 13 L	EPH: DRanges & Targets DRCRA8 VPH: DRanges & Targets D Ranges D.	PCB CIPEST TPH: Count Only CFingerprint	SPLP Metal	☐ Lab to do	T
(Lab Use Only)	Sample ID	Date	Time	Matrix	Initials	77 22	ME	8/8/0	1/5/5/	SON (10)	Sample Comments	s
	3/MW 204 (6-8)	5/10/16	12:05	S	WHICEME				4.7	7	Hold SPLP	
00 8	/mw 204 18-10)	s/10116 to	2850		WH/CMR		*	18	44	4	Hold SPLP	
03 B	MW 202 (5-7')	5/11/16	0915		1				XX	メ ヤ		
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A	mw 205 (6-8')								7 7	2 2	11.11.50.0	
		5/12/16		-	_				17	Y	Hold SPLP	
	5/MW 205 (10-12)			+	_				17.7	4	Hold SPLP	
112	Imw 201 (6-85)		245	4					7.7	+	Hold SPLP	
IVE	/mw 201 (10-12)) 5/12/10	1300	<u> </u>					4.4	2	Hold SPLP	
Container Type P= Plastic	Preservative A= None			Conta	ner Type				AA	AA	,	
A= Amber glass V= Vial G= Glass	B= HCI C= HNO ₃ D= H ₂ SO ₄			Pre	servative				AA	AA		
B= Bacteria cup C= Cube O= Other	E= NaOH F= MeOH	Relinquished By:			/Time	10	Received	d By:		Time	mples submitted are subject	to
E= Encore D= BOD Bottle	H = Na ₂ S ₂ O ₃ I= Ascorbic Acid J = NH ₄ Cl	V. Dopp	1	17-16	1423	400	me /	AJE	SPAGIA	Alpha!	s Terms and Conditions.	.5
Page 82 of 83	K= Zn Acetate O= Other			1074	11193	rue	N		Siagi		NO: 01-01 (rev. 12-Mar-2012)	

ALPHA -	CHA	IN OF	CUS	TODY	PA	GE	OF	Date	Rec'd in	Lab:	5	110	4/18	5	ALF	PHA J	ob #:	1/6	5/44	57
8 Walkup Drive Westboro, MA 0 Tel: 508-898-92 Client Informatio Client: TRC Address: Z () Boston, M Phone: 617-3 Email: Thiles of	20 Tel: 508-822-93 n Phy Square, (A 02.109 50-3444	2048 F	Project Inforcement Inforcemen	e: WOYM tion: Way 10143. c ager: 72121 ote #: und Time	mout seco, Pag	4 M	A 9	Regulary Yes Yes Oth	DEX Ilatory No No No No State	Requ MA MO Matrix GW1 S NPDE	Program	L tical Management equired s (Info	ethods on this Requir	pject I	nform (Required Metals &	ation I Yes □ uired fo Crite	No C' r MCP li with Tar	ements T RCP / norga: get	Analytical Met	hods
ALPHA Lab ID (Lab Use Only)		nple ID		Collection Date	on Time	Sample Matrix	Sampler Initials WA IEMR	VOC: 08260	SVOC: DABN	METALS: DIMCP 13	EPH: URanges & Tarr	D PCR	TPH: DQuant	XX	X Spl P Metals	X EPH (C			□ Lab to do Preservation □ Lab to do nple Commen	B O T T L
Container Type P= Plastic A= Amber glass	Preservative A= None B= HCl						iner Type													
V= Vial G= Glass B= Bacteria cup C= Cube O= Other E= Encore D= BOD Bottle Page 83 of 83	B- FIGURE STATE ST	Tauren	Relinquishe	10 mm	E	Date 5/12/14	eservative e/Time v 1423	29	BAA.	Receive	ed By:		8-K	Date	Time 423 e 194	A S	lpha's To ee reve	erms an	nitted are subjud Conditions	



ANALYTICAL REPORT

Lab Number: L1632948

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

140143.00012.00005

ATTN: Ryan Niles
Phone: (617) 385-6033
Project Name: 6 BRIDGE ST.

riojectivame. Oblibol 31.

Report Date: 10/20/16

Project Number:

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005

 Lab Number:
 L1632948

 Report Date:
 10/20/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1632948-01	B-310-12.5	SOIL	WEYMOUTH, MA	10/12/16 15:25	10/13/16
L1632948-02	B-308-12.0	SOIL	WEYMOUTH, MA	10/12/16 08:45	10/13/16
L1632948-03	B-317-11.5	SOIL	WEYMOUTH, MA	10/12/16 09:30	10/13/16
L1632948-04	B-314-12.5	SOIL	WEYMOUTH, MA	10/12/16 13:35	10/13/16
L1632948-05	B-315-12.5	SOIL	WEYMOUTH, MA	10/12/16 14:00	10/13/16
L1632948-06	B-317-13.0	SOIL	WEYMOUTH, MA	10/12/16 09:40	10/13/16
L1632948-07	TB-01	SOIL	WEYMOUTH, MA	10/10/16 00:00	10/13/16



 Project Name:
 6 BRIDGE ST.
 Lab Number:
 L1632948

 Project Number:
 140143.00012.00005
 Report Date:
 10/20/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: 6 BRIDGE ST. Lab Number: L1632948

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any guestions.



 Project Name:
 6 BRIDGE ST.
 Lab Number:
 L1632948

 Project Number:
 140143.00012.00005
 Report Date:
 10/20/16

Case Narrative (continued)

MCP Related Narratives

VPH

L1632948-03 and -06 were outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vials.

In reference to question G:

L1632948-06: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1632948-06: The surrogate recoveries are outside the acceptance criteria for 2,5-dibromotoluene-fid (133%); however, the sample was not re-analyzed due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

EPH

In reference to question G:

L1632948-06: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. One or more of the target analytes did not achieve the requested CAM reporting limits.

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.

Melissa Cripps Melissa Cripps

Authorized Signature:

Title: Technical Director/Representative

ANALYTICA

Date: 10/20/16

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: 6 BRIDGE ST. Lab Number: L1632948

Project Number: 140143.00012.00005 **Report Date:** 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-01 Date Collected: 10/12/16 15:25

Client ID: B-310-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 10/18/16 21:13

Analyst: JM Percent Solids: 66%

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Were samples received in methanol?

Methanol ratio:

Satisfactory

Received on Ice

Covering the Soil

Parameter	Result	Qualifier (Jnits	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND	m	ng/kg	5.59		1
C9-C12 Aliphatics	ND	m	ng/kg	5.59		1
C9-C10 Aromatics	ND	m	ng/kg	5.59		1
C5-C8 Aliphatics, Adjusted	ND	m	ng/kg	5.59		1
C9-C12 Aliphatics, Adjusted	ND	m	ng/kg	5.59		1
Benzene	ND	m	ng/kg	0.224		1
Toluene	ND	m	ng/kg	0.224		1
Ethylbenzene	ND	m	ng/kg	0.224		1
p/m-Xylene	ND	m	ng/kg	0.224		1
o-Xylene	ND	m	ng/kg	0.224		1
Methyl tert butyl ether	ND	m	ng/kg	0.112		1
Naphthalene	ND	m	ng/kg	0.447		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	104		70-130			
2,5-Dibromotoluene-FID	112		70-130			



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: Date Collected: 10/12/16 15:25

Client ID: B-310-12.5 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20

Analytical Date: 10/20/16 01:41 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 10/19/16
Percent Solids: 66%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	b				
C9-C18 Aliphatics	11.2		mg/kg	9.94		1
C19-C36 Aliphatics	132		mg/kg	9.94		1
C11-C22 Aromatics	97.0		mg/kg	9.94		1
C11-C22 Aromatics, Adjusted	97.0		mg/kg	9.94		1
Naphthalene	ND		mg/kg	0.497		1
2-Methylnaphthalene	ND		mg/kg	0.497		1
Acenaphthylene	ND		mg/kg	0.497		1
Acenaphthene	ND		mg/kg	0.497		1
Fluorene	ND		mg/kg	0.497		1
Phenanthrene	ND		mg/kg	0.497		1
Anthracene	ND		mg/kg	0.497		1
Fluoranthene	ND		mg/kg	0.497		1
Pyrene	ND		mg/kg	0.497		1
Benzo(a)anthracene	ND		mg/kg	0.497		1
Chrysene	ND		mg/kg	0.497		1
Benzo(b)fluoranthene	ND		mg/kg	0.497		1
Benzo(k)fluoranthene	ND		mg/kg	0.497		1
Benzo(a)pyrene	ND		mg/kg	0.497		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.497		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.497		1
Benzo(ghi)perylene	ND		mg/kg	0.497		1



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: Date Collected: 10/12/16 15:25

Client ID: B-310-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	60		40-140		
o-Terphenyl	58		40-140		
2-Fluorobiphenyl	55		40-140		
2-Bromonaphthalene	54		40-140		



Project Name: 6 BRIDGE ST. Lab Number: L1632948

Project Number: 140143.00012.00005 **Report Date:** 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-02 Date Collected: 10/12/16 08:45

Client ID: B-308-12.0 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 10/18/16 21:52

Analyst: JM Percent Solids: 87%

Quality Control Information

Condition of sample received:

Satisfactory

Received on Ice

Were samples received in methanol?

Methanol ratio:

Covering the Soil

1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		mg/kg	3.10		1		
C9-C12 Aliphatics	ND		mg/kg	3.10		1		
C9-C10 Aromatics	ND		mg/kg	3.10		1		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	3.10		1		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	3.10		1		
Benzene	ND		mg/kg	0.124		1		
Toluene	ND		mg/kg	0.124		1		
Ethylbenzene	ND		mg/kg	0.124		1		
p/m-Xylene	ND		mg/kg	0.124		1		
o-Xylene	ND		mg/kg	0.124		1		
Methyl tert butyl ether	ND		mg/kg	0.062		1		
Naphthalene	ND		mg/kg	0.248		1		

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	100		70-130			
2,5-Dibromotoluene-FID	104		70-130			



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-02 Date Collected: 10/12/16 08:45

Client ID: B-308-12.0 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20
Analytical Date: 10/20/16 01:09 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 10/19/16

Percent Solids: 87%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbor	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	7.34		1
C19-C36 Aliphatics	ND		mg/kg	7.34		1
C11-C22 Aromatics	ND		mg/kg	7.34		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.34		1
Naphthalene	ND		mg/kg	0.367		1
2-Methylnaphthalene	ND		mg/kg	0.367		1
Acenaphthylene	ND		mg/kg	0.367		1
Acenaphthene	ND		mg/kg	0.367		1
Fluorene	ND		mg/kg	0.367		1
Phenanthrene	ND		mg/kg	0.367		1
Anthracene	ND		mg/kg	0.367		1
Fluoranthene	ND		mg/kg	0.367		1
Pyrene	ND		mg/kg	0.367		1
Benzo(a)anthracene	ND		mg/kg	0.367		1
Chrysene	ND		mg/kg	0.367		1
Benzo(b)fluoranthene	ND		mg/kg	0.367		1
Benzo(k)fluoranthene	ND		mg/kg	0.367		1
Benzo(a)pyrene	ND		mg/kg	0.367		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.367		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.367		1
Benzo(ghi)perylene	ND		mg/kg	0.367		1



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-02 Date Collected: 10/12/16 08:45

Client ID: B-308-12.0 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	65		40-140		
o-Terphenyl	74		40-140		
2-Fluorobiphenyl	65		40-140		
2-Bromonaphthalene	64		40-140		



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-03 Date Collected: 10/12/16 09:30

Client ID: B-317-11.5 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil

Analytical Method: 100,VPH-04-1.1

Analytical Metriod. 100, V111-04-111
Analytical Date: 10/18/16 22:30

Analyst: JM Percent Solids: 59%

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Were samples received in methanol?

Methanol ratio:

Satisfactory

Received on Ice

Covering the Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		mg/kg	17.0		1
C9-C12 Aliphatics	ND		mg/kg	17.0		1
C9-C10 Aromatics	ND		mg/kg	17.0		1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	17.0		1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	17.0		1
Benzene	ND		mg/kg	0.679		1
Toluene	ND		mg/kg	0.679		1
Ethylbenzene	ND		mg/kg	0.679		1
p/m-Xylene	ND		mg/kg	0.679		1
o-Xylene	ND		mg/kg	0.679		1
Methyl tert butyl ether	ND		mg/kg	0.339		1
Naphthalene	ND		mg/kg	1.36		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	92		70-130
2,5-Dibromotoluene-FID	97		70-130



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-03 Date Collected: 10/12/16 09:30

Client ID: B-317-11.5 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20

Analytical Date: 10/20/16 00:37 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 10/19/16
Percent Solids: 59%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ıb				
C9-C18 Aliphatics	ND		mg/kg	11.0		1
C19-C36 Aliphatics	ND		mg/kg	11.0		1
C11-C22 Aromatics	ND		mg/kg	11.0		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	11.0		1
Naphthalene	ND		mg/kg	0.551		1
2-Methylnaphthalene	ND		mg/kg	0.551		1
Acenaphthylene	ND		mg/kg	0.551		1
Acenaphthene	ND		mg/kg	0.551		1
Fluorene	ND		mg/kg	0.551		1
Phenanthrene	ND		mg/kg	0.551		1
Anthracene	ND		mg/kg	0.551		1
Fluoranthene	ND		mg/kg	0.551		1
Pyrene	ND		mg/kg	0.551		1
Benzo(a)anthracene	ND		mg/kg	0.551		1
Chrysene	ND		mg/kg	0.551		1
Benzo(b)fluoranthene	ND		mg/kg	0.551		1
Benzo(k)fluoranthene	ND		mg/kg	0.551		1
Benzo(a)pyrene	ND		mg/kg	0.551		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.551		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.551		1
Benzo(ghi)perylene	ND		mg/kg	0.551		1



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-03 Date Collected: 10/12/16 09:30

Client ID: B-317-11.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	62		40-140	
o-Terphenyl	61		40-140	
2-Fluorobiphenyl	63		40-140	
2-Bromonaphthalene	62		40-140	



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-04 Date Collected: 10/12/16 13:35

Client ID: B-314-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Sample Location: WEYMOUTH, MA Field Prep:
Matrix: Soil

Analytical Method: 100,VPH-04-1.1
Analytical Date: 10/18/16 23:09

Analyst: JM Percent Solids: 93%

Quality Control Information

Condition of sample received:SatisfactorySample Temperature upon receipt:Received on IceWere samples received in methanol?Covering the SoilMethanol ratio:1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		mg/kg	2.54		1
C9-C12 Aliphatics	ND		mg/kg	2.54		1
C9-C10 Aromatics	ND		mg/kg	2.54		1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.54		1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.54		1
Benzene	ND		mg/kg	0.102		1
Toluene	ND		mg/kg	0.102		1
Ethylbenzene	ND		mg/kg	0.102		1
p/m-Xylene	ND		mg/kg	0.102		1
o-Xylene	ND		mg/kg	0.102		1
Methyl tert butyl ether	ND		mg/kg	0.051		1
Naphthalene	ND		mg/kg	0.204		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	101		70-130	
2,5-Dibromotoluene-FID	106		70-130	



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-04 Date Collected: 10/12/16 13:35

Client ID: B-314-12.5 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20

Analytical Date: 10/20/16 00:06 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 10/19/16
Percent Solids: 93%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics ND mg/kg 7.01 1 C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylnee ND mg/kg 0.350 1 Acenaphthylnee ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Pyrene							
C9-C18 Aliphatics ND mg/kg 7.01 1 C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.350 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthyrene ND mg/kg 0.350 1	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
C19-C36 Aliphatics ND mg/kg 7.01 1 C11-C22 Aromatics ND mg/kg 7.01 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1	Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
C11-C22 Aromatics ND mg/kg 7.01 - 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.01 - 1 Naphthalene ND mg/kg 0.350 - 1 2-Methylnaphthalene ND mg/kg 0.350 - 1 Acenaphthylene ND mg/kg 0.350 - 1 Acenaphthene ND mg/kg 0.350 - 1 Fluorene ND mg/kg 0.350 - 1 Phenanthrene ND mg/kg 0.350 - 1 Anthracene ND mg/kg 0.350 - 1 Fluoranthene ND mg/kg 0.350 - 1 Pyrene ND mg/kg 0.350 - 1 Benzo(a)anthracene ND mg/kg 0.350 - 1 Chrysene ND mg/kg 0.350 - 1 Benzo(k)fluoranthe	C9-C18 Aliphatics	ND		mg/kg	7.01		1
C11-C22 Aromatics, Adjusted ND mg/kg 7.01 1 Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(k)f	C19-C36 Aliphatics	ND		mg/kg	7.01		1
Naphthalene ND mg/kg 0.350 1 2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a	C11-C22 Aromatics	ND		mg/kg	7.01		1
2-Methylnaphthalene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Acenaphthylene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 In	C11-C22 Aromatics, Adjusted	ND		mg/kg	7.01		1
Acenaphthylene ND mg/kg 0.350 1 Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 D	Naphthalene	ND		mg/kg	0.350		1
Acenaphthene ND mg/kg 0.350 1 Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	2-Methylnaphthalene	ND		mg/kg	0.350		1
Fluorene ND mg/kg 0.350 1 Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Acenaphthylene	ND		mg/kg	0.350		1
Phenanthrene ND mg/kg 0.350 1 Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Acenaphthene	ND		mg/kg	0.350		1
Anthracene ND mg/kg 0.350 1 Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Fluorene	ND		mg/kg	0.350		1
Fluoranthene ND mg/kg 0.350 1 Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Phenanthrene	ND		mg/kg	0.350		1
Pyrene ND mg/kg 0.350 1 Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Anthracene	ND		mg/kg	0.350		1
Benzo(a)anthracene ND mg/kg 0.350 1 Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Fluoranthene	ND		mg/kg	0.350		1
Chrysene ND mg/kg 0.350 1 Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Pyrene	ND		mg/kg	0.350		1
Benzo(b)fluoranthene ND mg/kg 0.350 1 Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(a)anthracene	ND		mg/kg	0.350		1
Benzo(k)fluoranthene ND mg/kg 0.350 1 Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Chrysene	ND		mg/kg	0.350		1
Benzo(a)pyrene ND mg/kg 0.350 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(b)fluoranthene	ND		mg/kg	0.350		1
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.350 1 Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(k)fluoranthene	ND		mg/kg	0.350		1
Dibenzo(a,h)anthracene ND mg/kg 0.350 1	Benzo(a)pyrene	ND		mg/kg	0.350		1
- · · · · · · · · · · · · · · · · · · ·	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.350		1
Benzo(ghi)perylene ND mg/kg 0.350 1	Dibenzo(a,h)anthracene	ND		mg/kg	0.350		1
	Benzo(ghi)perylene	ND		mg/kg	0.350		1



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-04 Date Collected: 10/12/16 13:35

Client ID: B-314-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	64		40-140			
o-Terphenyl	63		40-140			
2-Fluorobiphenyl	58		40-140			
2-Bromonaphthalene	57		40-140			



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-05 Date Collected: 10/12/16 14:00

Client ID: B-315-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 10/18/16 23:47

Analyst: JM Percent Solids: 70%

Quality Control Information

Condition of sample received:SatisfactorySample Temperature upon receipt:Received on IceWere samples received in methanol?Covering the SoilMethanol ratio:1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		mg/kg	5.57		1
C9-C12 Aliphatics	ND		mg/kg	5.57		1
C9-C10 Aromatics	ND		mg/kg	5.57		1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5.57		1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	5.57		1
Benzene	ND		mg/kg	0.223		1
Toluene	ND		mg/kg	0.223		1
Ethylbenzene	ND		mg/kg	0.223		1
p/m-Xylene	ND		mg/kg	0.223		1
o-Xylene	ND		mg/kg	0.223		1
Methyl tert butyl ether	ND		mg/kg	0.111		1
Naphthalene	ND		mg/kg	0.446		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	107		70-130	
2,5-Dibromotoluene-FID	114		70-130	



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-05 Date Collected: 10/12/16 14:00

Client ID: B-315-12.5 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20
Analytical Date: 10/19/16 23:34 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 10/19/16

Percent Solids: 70%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	9.36		1
C19-C36 Aliphatics	ND		mg/kg	9.36		1
C11-C22 Aromatics	ND		mg/kg	9.36		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	9.36		1
Naphthalene	ND		mg/kg	0.468		1
2-Methylnaphthalene	ND		mg/kg	0.468		1
Acenaphthylene	ND		mg/kg	0.468		1
Acenaphthene	ND		mg/kg	0.468		1
Fluorene	ND		mg/kg	0.468		1
Phenanthrene	ND		mg/kg	0.468		1
Anthracene	ND		mg/kg	0.468		1
Fluoranthene	ND		mg/kg	0.468		1
Pyrene	ND		mg/kg	0.468		1
Benzo(a)anthracene	ND		mg/kg	0.468		1
Chrysene	ND		mg/kg	0.468		1
Benzo(b)fluoranthene	ND		mg/kg	0.468		1
Benzo(k)fluoranthene	ND		mg/kg	0.468		1
Benzo(a)pyrene	ND		mg/kg	0.468		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.468		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.468		1
Benzo(ghi)perylene	ND		mg/kg	0.468		1



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-05 Date Collected: 10/12/16 14:00

Client ID: B-315-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	67		40-140	
o-Terphenyl	70		40-140	
2-Fluorobiphenyl	60		40-140	
2-Bromonaphthalene	60		40-140	



Project Name: Lab Number: 6 BRIDGE ST. L1632948

Project Number: 140143.00012.00005 **Report Date:** 10/20/16

SAMPLE RESULTS

Lab ID: Date Collected: L1632948-06 D 10/12/16 09:40

Date Received: Client ID: B-317-13.0

10/13/16 Sample Location: Field Prep: WEYMOUTH, MA Not Specified

Matrix:

Analytical Method: 100, VPH-04-1.1 Analytical Date: 10/19/16 04:16

Analyst: JM Percent Solids: 85%

Quality Control Information

Condition of sample received: Satisfactory Sample Temperature upon receipt: Received on Ice Were samples received in methanol? Covering the Soil Methanol ratio: 1.9:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		mg/kg	12.4		1
C9-C12 Aliphatics	303		mg/kg	12.4		1
C9-C10 Aromatics	140		mg/kg	12.4		2
C5-C8 Aliphatics, Adjusted	ND		mg/kg	12.4		2
C9-C12 Aliphatics, Adjusted	163		mg/kg	12.4		2
Benzene	ND		mg/kg	0.498		2
Toluene	ND		mg/kg	0.498		2
Ethylbenzene	ND		mg/kg	0.498		2
p/m-Xylene	ND		mg/kg	0.498		2
o-Xylene	ND		mg/kg	0.498		2
Methyl tert butyl ether	ND		mg/kg	0.249		2
Naphthalene	ND		mg/kg	0.995		2

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	97		70-130	
2.5-Dibromotoluene-FID	133	Q	70-130	



Project Name: 6 BRIDGE ST. Lab Number: L1632948

Project Number: 140143.00012.00005 **Report Date:** 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-06 D Date Collected: 10/12/16 09:40

Client ID: B-317-13.0 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 10/17/16 17:20

Analytical Date: 10/20/16 02:45 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 10/19/16

Analyst: SR Cleanup D
Percent Solids: 85%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough Lal	b			
C9-C18 Aliphatics	3740	mg/kg	77.3		10
C19-C36 Aliphatics	6140	mg/kg	77.3		10
C11-C22 Aromatics	5970	mg/kg	77.3		10
C11-C22 Aromatics, Adjusted	5970	mg/kg	77.3		10
Naphthalene	ND	mg/kg	3.86		10
2-Methylnaphthalene	ND	mg/kg	3.86		10
Acenaphthylene	ND	mg/kg	3.86		10
Acenaphthene	ND	mg/kg	3.86		10
Fluorene	ND	mg/kg	3.86		10
Phenanthrene	ND	mg/kg	3.86		10
Anthracene	ND	mg/kg	3.86		10
Fluoranthene	ND	mg/kg	3.86		10
Pyrene	ND	mg/kg	3.86		10
Benzo(a)anthracene	ND	mg/kg	3.86		10
Chrysene	ND	mg/kg	3.86		10
Benzo(b)fluoranthene	ND	mg/kg	3.86		10
Benzo(k)fluoranthene	ND	mg/kg	3.86		10
Benzo(a)pyrene	ND	mg/kg	3.86		10
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	3.86		10
Dibenzo(a,h)anthracene	ND	mg/kg	3.86		10
Benzo(ghi)perylene	ND	mg/kg	3.86		10



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-06 D

Client ID: B-317-13.0

Sample Location: WEYMOUTH, MA

Date Collected: 10

10/12/16 09:40

Date Received: 10/13/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	71		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	84		40-140	
2-Bromonaphthalene	92		40-140	



Project Name: 6 BRIDGE ST. Lab Number: L1632948

SAMPLE RESULTS

Lab ID: L1632948-07 Date Collected: 10/10/16 00:00

Client ID: TB-01 Date Received: 10/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 10/18/16 16:06

Analyst: JM

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Were samples received in methanol?

Methanol ratio:

Satisfactory

Received on Ice

Covering the Soil

1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		mg/kg	2.67		1
C9-C12 Aliphatics	ND		mg/kg	2.67		1
C9-C10 Aromatics	ND		mg/kg	2.67		1
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67		1
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67		1
Benzene	ND		mg/kg	0.107		1
Toluene	ND		mg/kg	0.107		1
Ethylbenzene	ND		mg/kg	0.107		1
p/m-Xylene	ND		mg/kg	0.107		1
o-Xylene	ND		mg/kg	0.107		1
Methyl tert butyl ether	ND		mg/kg	0.053		1
Naphthalene	ND		mg/kg	0.213		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005 Lab Number: L1632948

Report Date: 10/20/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

10/18/16 10:16

SR

Extraction Method: EPA 3546 10/17/16 17:20 Extraction Date: EPH-04-1 Cleanup Method:

Cleanup Date: 10/18/16

Parameter	Result	Qualifier	Units	RL	MDL	-
Extractable Petroleum Hydrocarbons	s - Westbo	rough Lab	for sample(s	s): 01-06	Batch:	WG942887-1
C9-C18 Aliphatics	ND		mg/kg	6.27		
C19-C36 Aliphatics	ND		mg/kg	6.27		
C11-C22 Aromatics	ND		mg/kg	6.27		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.27		
Naphthalene	ND		mg/kg	0.313		
2-Methylnaphthalene	ND		mg/kg	0.313		
Acenaphthylene	ND		mg/kg	0.313		
Acenaphthene	ND		mg/kg	0.313		
Fluorene	ND		mg/kg	0.313		
Phenanthrene	ND		mg/kg	0.313		
Anthracene	ND		mg/kg	0.313		
Fluoranthene	ND		mg/kg	0.313		
Pyrene	ND		mg/kg	0.313		
Benzo(a)anthracene	ND		mg/kg	0.313		
Chrysene	ND		mg/kg	0.313		
Benzo(b)fluoranthene	ND		mg/kg	0.313		
Benzo(k)fluoranthene	ND		mg/kg	0.313		
Benzo(a)pyrene	ND		mg/kg	0.313		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.313		
Dibenzo(a,h)anthracene	ND		mg/kg	0.313		
Benzo(ghi)perylene	ND		mg/kg	0.313		

			Acceptance
Surrogate	%Recovery	Qualifier	Criteria
Chloro-Octadecane	91		40-140
o-Terphenyl	81		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	78		40-140



L1632948

Project Name: 6 BRIDGE ST. Lab Number:

> Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 10/18/16 08:52

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons - V	Vestborough	n Lab for s	ample(s):	01-07	Batch:	WG943239-3
C5-C8 Aliphatics	ND		mg/kg	2.67		
C9-C12 Aliphatics	ND		mg/kg	2.67		
C9-C10 Aromatics	ND		mg/kg	2.67		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67		
Benzene	ND		mg/kg	0.107		
Toluene	ND		mg/kg	0.107		
Ethylbenzene	ND		mg/kg	0.107		
p/m-Xylene	ND		mg/kg	0.107		
o-Xylene	ND		mg/kg	0.107		
Methyl tert butyl ether	ND		mg/kg	0.053		
Naphthalene	ND		mg/kg	0.213		

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	93		70-130			
2,5-Dibromotoluene-FID	98		70-130			



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005

Lab Number: L1632948

Report Date: 10/20/16

arameter	LCS %Recovery	LCS Qual %Reco	, , , ,	ecovery Limits R	PPD	Qual	RPD Limits
ktractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample(s): 0	1-06 Batch: WG94288	7-2 WG942887-3	1		
C9-C18 Aliphatics	71	7	7	40-140	8		25
C19-C36 Aliphatics	83	94	4	40-140	12		25
C11-C22 Aromatics	90	94	4	40-140	4		25
Naphthalene	71	74	4	40-140	4		25
2-Methylnaphthalene	73	70	6	40-140	4		25
Acenaphthylene	78	82	2	40-140	5		25
Acenaphthene	82	86	6	40-140	5		25
Fluorene	86	90		40-140	5		25
Phenanthrene	89	90	6	40-140	8		25
Anthracene	89	96	6	40-140	8		25
Fluoranthene	94	10	0	40-140	6		25
Pyrene	96	10	4	40-140	8		25
Benzo(a)anthracene	92	96	6	40-140	4		25
Chrysene	95	98	3	40-140	3		25
Benzo(b)fluoranthene	99	10	11	40-140	2		25
Benzo(k)fluoranthene	95	90	6	40-140	1		25
Benzo(a)pyrene	87	90)	40-140	3		25
Indeno(1,2,3-cd)Pyrene	95	99	5	40-140	0		25
Dibenzo(a,h)anthracene	82	82	2	40-140	0		25
Benzo(ghi)perylene	91	89)	40-140	2		25
Nonane (C9)	61	65	3	30-140	3		25



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005

Lab Number:

L1632948

Report Date:

10/20/16

arameter	LCS %Recovery		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbons - West	borough Lab Ass	sociated sample(s)	: 01-06	Batch: WG	942887-2 WG94	2887-3		
Decane (C10)	66		69		40-140	4		25
Dodecane (C12)	68		70		40-140	3		25
Tetradecane (C14)	70		74		40-140	6		25
Hexadecane (C16)	73		80		40-140	9		25
Octadecane (C18)	77		87		40-140	12		25
Nonadecane (C19)	78		89		40-140	13		25
Eicosane (C20)	80		90		40-140	12		25
Docosane (C22)	81		92		40-140	13		25
Tetracosane (C24)	82		93		40-140	13		25
Hexacosane (C26)	82		93		40-140	13		25
Octacosane (C28)	83		94		40-140	12		25
Triacontane (C30)	82		93		40-140	13		25
Hexatriacontane (C36)	81		90		40-140	11		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	78		90		40-140	
o-Terphenyl	97		97		40-140	
2-Fluorobiphenyl	94		94		40-140	
2-Bromonaphthalene	99		98		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005

Lab Number: L1632948

Report Date: 10/20/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborou	ugh Lab Assoc	iated sample(s):	01-07 Batch	: WG943239-1 WG943239-2			
C5-C8 Aliphatics	94		94	70-130	1		25
C9-C12 Aliphatics	113		111	70-130	2		25
C9-C10 Aromatics	99		97	70-130	2		25
Benzene	99		97	70-130	2		25
Toluene	101		99	70-130	2		25
Ethylbenzene	101		99	70-130	2		25
p/m-Xylene	102		99	70-130	3		25
o-Xylene	102		100	70-130	2		25
Methyl tert butyl ether	99		96	70-130	3		25
Naphthalene	99		96	70-130	3		25
1,2,4-Trimethylbenzene	99		97	70-130	2		25
Pentane	80		79	70-130	1		25
2-Methylpentane	92		91	70-130	1		25
2,2,4-Trimethylpentane	98		98	70-130	0		25
n-Nonane	106		105	30-130	1		25
n-Decane	113		111	70-130	2		25
n-Butylcyclohexane	107		104	70-130	3		25



Project Name: 6 BRIDGE ST. Lab Number:

L1632948

Project Number: 140143.00012.00005

Report Date:

10/20/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-07 Batch: WG943239-1 WG943239-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	102		98		70-130	
2,5-Dibromotoluene-FID	107		104		70-130	



INORGANICS & MISCELLANEOUS



Project Name: 6 BRIDGE ST.

Lab Number:

L1632948

Project Number: 140143.00012.00005

Report Date: 10/20/16

SAMPLE RESULTS

Lab ID:

L1632948-01

Client ID:

B-310-12.5

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

10/12/16 15:25

Date Received:

10/13/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	66.2		%	0.100	NA	1	-	10/15/16 08:22	121,2540G	VB



Project Name: 6 BRIDGE ST.

Lab Number:

L1632948

Project Number: 140143.00012.00005 **Report Date:** 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-02

B-308-12.0 Client ID: Sample Location:

WEYMOUTH, MA

Matrix: Soil Date Collected:

10/12/16 08:45

Date Received:

10/13/16

Field Prep:

Not Specified

Analytical Method **Dilution** Date Date Factor Prepared Analyzed Result Qualifier Units RL MDL **Parameter Analyst** General Chemistry - Westborough Lab Solids, Total % 0.100 NA 1 10/15/16 08:22 121,2540G VΒ



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005

Lab Number:

L1632948

Report Date:

10/20/16

SAMPLE RESULTS

Lab ID:

L1632948-03

Client ID:

B-317-11.5

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

10/12/16 09:30

Date Received:

10/13/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lab)								
Solids, Total	58.5		%	0.100	NA	1	-	10/15/16 08:22	121,2540G	VB



L1632948

Lab Number:

Project Name: 6 BRIDGE ST.

SAMPLE RESULTS

Lab ID: L1632948-04 Date Collected: 10/12/16 13:35

Client ID: B-314-12.5 Date Received: 10/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	92.9		%	0.100	NA	1	-	10/15/16 08:22	121,2540G	VB



Project Name: 6 BRIDGE ST.

Project Number: 140143.00012.00005 Lab Number:

L1632948

Report Date: 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-05

B-315-12.5 Client ID: WEYMOUTH, MA Sample Location:

Matrix: Soil Date Collected:

10/12/16 14:00

Date Received:

10/13/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	70.0		%	0.100	NA	1	-	10/15/16 08:22	121,2540G	VB



Project Name: 6 BRIDGE ST.

Lab Number:

L1632948

Project Number: 140143.00012.00005

Report Date: 10/20/16

SAMPLE RESULTS

Lab ID: L1632948-06

B-317-13.0 Client ID: Sample Location: WEYMOUTH, MA

Matrix: Soil Date Collected:

10/12/16 09:40

Date Received:

10/13/16

Not Specified Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	85.3		%	0.100	NA	1	-	10/15/16 08:22	121,2540G	VB



 Project Name:
 6 BRIDGE ST.
 Lab Number: L1632948

 Project Number:
 140143.00012.00005
 Report Date: 10/20/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ontainer Information Temp											
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)					
L1632948-01A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-01B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-01C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-02A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-02B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-02C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-03A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-03B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-03C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-04A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-04B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-04C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-05A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-05B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-05C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-06A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-06B	Plastic 2oz unpreserved for TS	Α	N/A	4.1	Υ	Absent	TS(7)					
L1632948-06C	Glass 60mL/2oz unpreserved	Α	N/A	4.1	Υ	Absent	EPH-DELUX-10(14)					
L1632948-07A	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					
L1632948-07B	Vial MeOH preserved	Α	N/A	4.1	Υ	Absent	VPH-DELUX-10(28)					

 Project Name:
 6 BRIDGE ST.
 Lab Number:
 L1632948

 Project Number:
 140143.00012.00005
 Report Date:
 10/20/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



 Project Name:
 6 BRIDGE ST.
 Lab Number:
 L1632948

 Project Number:
 140143.00012.00005
 Report Date:
 10/20/16

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 6 BRIDGE ST.
 Lab Number:
 L1632948

 Project Number:
 140143.00012.00005
 Report Date:
 10/20/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 7 Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Azobenzene; Azobenzene;

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide **EPA 9050A:** NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form Pre-Qualtrax Document ID: 08-113

ДІРНА	CHAIN OI	CUSTODY	PAGEOF	Date Rec'd in Lab:	10/13/16	ALPHA Job#: (/63 3948
8 Walkup Drive	320 Forbes Blvd	Project Information			on - Data Deliverables	Billing Information
Westboro, MA 0 Tel: 508-898-92	1581 Mansfield, MA 02048	Project Name: 6 BNG Project Location: Wayn Project #: 140143	last	X ADEX	EMAIL	Same as Client info PO #:
Client Informatio	n	Project Location: Wave	sinth MA	Regulatory Requ		Information Requirements
Client: TRC		Project #: 140 143	000120005	Yes D No MA MC	P Analytical Methods	☐ Yes ☐ No CT RCP Analytical Methods ? (Required for MCP Inorganics)
Address: 656S	ulfolkst.	Project Manager: Ryan	Wiles	☐ Yes ☐ No GW1 S	tandards (Info Required for	Metals & EPH with Targets)
Lowe	1, MA 0854	ALPHA Quote #:	Astro No o	☐ Yes ☐ No NPDES☐ Other State /Fed		Criteria RCS-/
Phone: 9.18	970 5600	Turn-Around Time			75/20/1/	
Email: Mila	5 @ tresolutions. Co	m.c		1 / / /	JPP1 SONI	
	roject Information:	Date Due:	only confirmed if pre-approved!)	ANALYSIS O D 624 D 524.2 SN D PAH NCP 13 D MCP 2.	EPH: Ranges & Targets DRCR48 DPCP13 UPH: Kanges & Targets D Ranges Only TPH: Dought Only DFingerprint	/ / / D Field #
				D 8260 D ABN S: D MC	Range D H	Preservation
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date Time	Sample Sampler Matrix Initials	VOC: D8260 D624 SVOC: DABN METALS: DMCP13 METALS: OC	EPH. KRanges & Tar VPH: Kranges & Tar D PCB D PEST TPH: DQUant Only	Preservation T T L L E Sample Comments
32948-01	B-310-1215	10/12/16 1529	5 Soil CF		12	
0)	B-308-12.0	10/13/16 0849			12	
83	B-317-11.5	10/13/16 093			12	
04	B-314-12.5	13316 133			12	
C\$	B-315-125	12/13/16 1400			12	
06	B-317-13.0		70.1		1 2	
07	TB-01		A			
0.9	16-01	10/10/16 409	Merit LAB			
O-deline T						
Container Type P= Plastic A= Amber glass	Preservative A= None B= HCI		Container Type		4 V/P	
V= Vial G= Glass B= Bacteria cup	C= HNO ₃ D= H ₂ SO ₄ E= NaOH		Preservative		AF	
C= Cube O= Other E= Encore D= BOD Bottle	E= NaOH F= MeOH G= NaHSO4 H = Na ₂ S ₂ O ₃ I= Ascorbic Acid J = NH ₄ Cl K= Zn Acetate	Relinquished By:	Date/Time	Received	By: Date (0/13/16)	All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
Page 45 of 46	O= Other					FORM NO: 01-01 (rev. 12-Mar-2012)

Quantitation Report (QT Reviewed)

Data Path : I:\LVPH\161018Sali\

Data File : L1018A27.d Signal(s) : FID1A.CH

Acq On : 19 Oct 2016 4:16 am

Operator : LVPH:JM

Sample : 11632948-06,41,16,8.1,.1

Misc : WG943239, ICAL12970

ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 19 07:48:22 2016

Quant Method : I:\LVPH\161018Sali\svph-ali161008.m

Quant Title : VPH ALIPHATIC

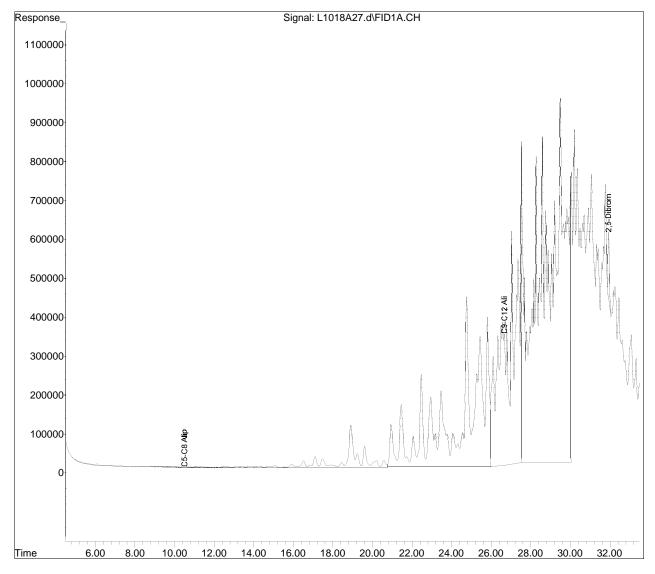
QLast Update : Tue Oct 11 07:13:33 2016

Response via : Initial Calibration

Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : Signal Phase : Signal Info :

Sub List : Default - All compounds listed



svph-ali161008.m Wed Oct 19 08:14:52 2016



ANALYTICAL REPORT

Lab Number: L1640521

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033

Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Report Date: 12/22/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521 **Report Date:** 12/22/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1640521-01	B413 (11)	SOIL	WEYMOUTH, MA	12/12/16 10:15	12/13/16
L1640521-02	B413 (14-15)	SOIL	WEYMOUTH, MA	12/12/16 10:25	12/13/16
L1640521-03	B413 (23)	SOIL	WEYMOUTH, MA	12/12/16 10:40	12/13/16
L1640521-04	B412 (11.5)	SOIL	WEYMOUTH, MA	12/12/16 11:35	12/13/16
L1640521-05	B412 (13)	SOIL	WEYMOUTH, MA	12/12/16 11:45	12/13/16
L1640521-06	B412 (19)	SOIL	WEYMOUTH, MA	12/12/16 11:55	12/13/16
L1640521-07	B411 (11.5)	SOIL	WEYMOUTH, MA	12/12/16 13:25	12/13/16
L1640521-08	B411 (16)	SOIL	WEYMOUTH, MA	12/12/16 13:35	12/13/16
L1640521-09	B411 (14)	SOIL	WEYMOUTH, MA	12/12/16 13:40	12/13/16
L1640521-10	B410 (11)	SOIL	WEYMOUTH, MA	12/12/16 14:30	12/13/16
L1640521-11	B410 (12.5)	SOIL	WEYMOUTH, MA	12/12/16 14:35	12/13/16
L1640521-12	B410 (14)	SOIL	WEYMOUTH, MA	12/12/16 14:40	12/13/16
L1640521-13	B409 (10)	SOIL	WEYMOUTH, MA	12/12/16 15:15	12/13/16
L1640521-14	B409 (11.5)	SOIL	WEYMOUTH, MA	12/12/16 15:20	12/13/16
L1640521-15	B408 (11)	SOIL	WEYMOUTH, MA	12/13/16 08:50	12/13/16
L1640521-16	B408 (15)	SOIL	WEYMOUTH, MA	12/13/16 08:55	12/13/16
L1640521-17	B414 (11)	SOIL	WEYMOUTH, MA	12/13/16 11:20	12/13/16
L1640521-18	B414 (15.5)	SOIL	WEYMOUTH, MA	12/13/16 11:25	12/13/16
L1640521-19	B414 (14)	SOIL	WEYMOUTH, MA	12/13/16 11:28	12/13/16
L1640521-20	B417 (11)	SOIL	WEYMOUTH, MA	12/13/16 12:54	12/13/16
L1640521-21	B417 (15)	SOIL	WEYMOUTH, MA	12/13/16 12:56	12/13/16
L1640521-22	B416 (11)	SOIL	WEYMOUTH, MA	12/13/16 14:05	12/13/16
L1640521-23	B416 (15)	SOIL	WEYMOUTH, MA	12/13/16 14:00	12/13/16
Page 2 of 96					



Project Name:SPECTRA WEYMOUTHLab Number:L1640521Project Number:140143.0000.4903Report Date:12/22/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

Project Number: 140143.0000.4903 **Report Date:** 12/22/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

Case Narrative (continued)

MCP Related Narratives

EPH

L1640521-01, -02, -05, -09, and -19: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the target compounds present in the sample.

L1640521-04 and -10: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the sample matrix.

L1640521-11: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1640521-01, -02, -04, -05, -09, -11, and -19: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1640521-01, -02, -04, -05, -09, -10, -11, and -19: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

The surrogate recovery for L1640521-10 is outside the acceptance criteria for o-terphenyl (255%); however, the sample was not re-extracted due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

The WG961349-2/-3 LCS/LCSD RPDs, associated with L1640521-01 through -12 and -14 through -20, are outside the acceptance criteria for c9-c18 aliphatics (26%), naphthalene (27%), dibenzo(a,h)anthracene (27%), nonane (c9) (35%), decane (c10) (33%) and dodecane (c12) (32%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG961671-2/-3 LCS/LCSD RPDs, associated with L1640521-21, -22, and -23, are above the acceptance criteria for phenanthrene (27%), anthracene (29%), fluoranthene (27%), pyrene (27%), benzo(a)anthracene (28%), chrysene (33%), benzo(b)fluoranthene (28%), benzo(k)fluoranthene (30%), benzo(a)pyrene (29%), indeno(1,2,3-cd)pyrene (29%) and benzo(ghi)perylene (28%).



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521
Project Number: 140143.0000.4903 Report Date: 12/22/16

Case Narrative (continued)

Non-MCP Related Narratives

Solids, Total

L1640521-01, -02, -03, and -05 through -20: A Laboratory Duplicate were prepared with the sample batch, however, the native sample was not available for reporting; therefore, the laboratory duplicate results could not be reported.

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:

Title: Technical Director/Representative Date: 12/22/16

Melissa Cripps Melissa Cripps

ORGANICS



PETROLEUM HYDROCARBONS



12/12/16 10:15

Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-01 D Date Collected:

Client ID: Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40

Analytical Date: 12/20/16 20:45 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16
Percent Solids: 81%

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier L	Inits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	nb			
C9-C18 Aliphatics	1780	m	g/kg 245		30
C19-C36 Aliphatics	4590	m	g/kg 245		30
C11-C22 Aromatics	6610	m	g/kg 245		30
C11-C22 Aromatics, Adjusted	6610	m	g/kg 245		30
Naphthalene	ND	m	g/kg 12.2		30
2-Methylnaphthalene	ND	m	g/kg 12.2		30
Acenaphthylene	ND	m	g/kg 12.2		30
Acenaphthene	ND	m	g/kg 12.2		30
Fluorene	ND	m	g/kg 12.2		30
Phenanthrene	ND	m	g/kg 12.2		30
Anthracene	ND	m	g/kg 12.2		30
Fluoranthene	ND	m	g/kg 12.2		30
Pyrene	ND	m	g/kg 12.2		30
Benzo(a)anthracene	ND	m	g/kg 12.2		30
Chrysene	ND	m	g/kg 12.2		30
Benzo(b)fluoranthene	ND	m	g/kg 12.2		30
Benzo(k)fluoranthene	ND	m	g/kg 12.2		30
Benzo(a)pyrene	ND	m	g/kg 12.2		30
Indeno(1,2,3-cd)Pyrene	ND	m	g/kg 12.2		30
Dibenzo(a,h)anthracene	ND	m	g/kg 12.2		30
Benzo(ghi)perylene	ND	m	g/kg 12.2		30



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

Project Number: Report Date: 140143.0000.4903 12/22/16

Result

SAMPLE RESULTS

Qualifier

Units

Lab ID: L1640521-01 D

Client ID: B413 (11)

Parameter

WEYMOUTH, MA Sample Location:

Date Collected:

RL

12/12/16 10:15

Dilution Factor

Date Received: 12/13/16

Field Prep: Not Specified MDL

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	0	Q	40-140		
o-Terphenyl	0	Q	40-140		
2-Fluorobiphenyl	73		40-140		
2-Bromonaphthalene	73		40-140		



12/16/16

Project Name: Lab Number: SPECTRA WEYMOUTH L1640521

Project Number: 140143.0000.4903 **Report Date:** 12/22/16

SAMPLE RESULTS

Date Collected: Lab ID: L1640521-02 D 12/12/16 10:25

Client ID: Date Received: 12/13/16 B413 (14-15) WEYMOUTH, MA Field Prep: Sample Location: Not Specified

Matrix: Soil

Extraction Method: EPA 3546 Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 12/15/16 01:40 Analytical Date: 12/20/16 01:38 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: Percent Solids: 86%

Quality Control Information

Condition of sample received: Satisfactory Sample Temperature upon receipt: Received on Ice Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Units	s RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C9-C18 Aliphatics	11200	mg/kg	606		80
C19-C36 Aliphatics	26300	mg/kg	606		80
C11-C22 Aromatics	28200	mg/kg	606		80
C11-C22 Aromatics, Adjusted	28200	mg/kg	606		80
Naphthalene	ND	mg/kg	30.3		80
2-Methylnaphthalene	ND	mg/kg	30.3		80
Acenaphthylene	ND	mg/kg	30.3		80
Acenaphthene	ND	mg/kg	30.3		80
Fluorene	ND	mg/kg	30.3		80
Phenanthrene	ND	mg/kg	30.3		80
Anthracene	ND	mg/kg	30.3		80
Fluoranthene	ND	mg/kg	30.3		80
Pyrene	ND	mg/kg	30.3		80
Benzo(a)anthracene	ND	mg/kg	30.3		80
Chrysene	ND	mg/kg	30.3		80
Benzo(b)fluoranthene	ND	mg/kg	30.3		80
Benzo(k)fluoranthene	ND	mg/kg	30.3		80
Benzo(a)pyrene	ND	mg/kg	30.3		80
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	30.3		80
Dibenzo(a,h)anthracene	ND	mg/kg	30.3		80
Benzo(ghi)perylene	ND	mg/kg	30.3		80



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-02 D Date Collected: 12/12/16 10:25

Client ID: B413 (14-15) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	0	Q	40-140	
o-Terphenyl	0	Q	40-140	
2-Fluorobiphenyl	111		40-140	
2-Bromonaphthalene	107		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-03 Date Collected: 12/12/16 10:40

Client ID: B413 (23) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40

Analytical Date: 12/16/16 23:30 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 79%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		mg/kg	8.22		1			
C19-C36 Aliphatics	13.6		mg/kg	8.22		1			
C11-C22 Aromatics	21.0		mg/kg	8.22		1			
C11-C22 Aromatics, Adjusted	21.0		mg/kg	8.22		1			
Naphthalene	ND		mg/kg	0.411		1			
2-Methylnaphthalene	ND		mg/kg	0.411		1			
Acenaphthylene	ND		mg/kg	0.411		1			
Acenaphthene	ND		mg/kg	0.411		1			
Fluorene	ND		mg/kg	0.411		1			
Phenanthrene	ND		mg/kg	0.411		1			
Anthracene	ND		mg/kg	0.411		1			
Fluoranthene	ND		mg/kg	0.411		1			
Pyrene	ND		mg/kg	0.411		1			
Benzo(a)anthracene	ND		mg/kg	0.411		1			
Chrysene	ND		mg/kg	0.411		1			
Benzo(b)fluoranthene	ND		mg/kg	0.411		1			
Benzo(k)fluoranthene	ND		mg/kg	0.411		1			
Benzo(a)pyrene	ND		mg/kg	0.411		1			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.411		1			
Dibenzo(a,h)anthracene	ND		mg/kg	0.411		1			
Benzo(ghi)perylene	ND		mg/kg	0.411		1			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-03 Date Collected: 12/12/16 10:40

Client ID: B413 (23) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	74		40-140	
o-Terphenyl	99		40-140	
2-Fluorobiphenyl	95		40-140	
2-Bromonaphthalene	94		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-04 D Date Collected: 12/12/16 11:35

Client ID: B412 (11.5) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/17/16 01:26 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 60%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	2490		mg/kg	220		20			
C19-C36 Aliphatics	12300		mg/kg	220		20			
C11-C22 Aromatics	20400		mg/kg	220		20			
C11-C22 Aromatics, Adjusted	20400		mg/kg	220		20			
Naphthalene	ND		mg/kg	11.0		20			
2-Methylnaphthalene	ND		mg/kg	11.0		20			
Acenaphthylene	ND		mg/kg	11.0		20			
Acenaphthene	ND		mg/kg	11.0		20			
Fluorene	ND		mg/kg	11.0		20			
Phenanthrene	ND		mg/kg	11.0		20			
Anthracene	ND		mg/kg	11.0		20			
Fluoranthene	ND		mg/kg	11.0		20			
Pyrene	ND		mg/kg	11.0		20			
Benzo(a)anthracene	ND		mg/kg	11.0		20			
Chrysene	ND		mg/kg	11.0		20			
Benzo(b)fluoranthene	ND		mg/kg	11.0		20			
Benzo(k)fluoranthene	ND		mg/kg	11.0		20			
Benzo(a)pyrene	ND		mg/kg	11.0		20			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	11.0		20			
Dibenzo(a,h)anthracene	ND		mg/kg	11.0		20			
Benzo(ghi)perylene	ND		mg/kg	11.0		20			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-04 D Date Collected: 12/12/16 11:35

Client ID: B412 (11.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	0	Q	40-140	
o-Terphenyl	0	Q	40-140	
2-Fluorobiphenyl	105		40-140	
2-Bromonaphthalene	102		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-05 D Date Collected: 12/12/16 11:45

Client ID: B412 (13) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/20/16 02:15 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16
Percent Solids: 76%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Satisfactory

Received on Ice

Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C9-C18 Aliphatics	11000	mg/kg	657		80
C19-C36 Aliphatics	26000	mg/kg	657		80
C11-C22 Aromatics	26200	mg/kg	657		80
C11-C22 Aromatics, Adjusted	26200	mg/kg	657		80
Naphthalene	ND	mg/kg	32.8		80
2-Methylnaphthalene	ND	mg/kg	32.8		80
Acenaphthylene	ND	mg/kg	32.8		80
Acenaphthene	ND	mg/kg	32.8		80
Fluorene	ND	mg/kg	32.8		80
Phenanthrene	ND	mg/kg	32.8		80
Anthracene	ND	mg/kg	32.8		80
Fluoranthene	ND	mg/kg	32.8		80
Pyrene	ND	mg/kg	32.8		80
Benzo(a)anthracene	ND	mg/kg	32.8		80
Chrysene	ND	mg/kg	32.8		80
Benzo(b)fluoranthene	ND	mg/kg	32.8		80
Benzo(k)fluoranthene	ND	mg/kg	32.8		80
Benzo(a)pyrene	ND	mg/kg	32.8		80
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	32.8		80
Dibenzo(a,h)anthracene	ND	mg/kg	32.8		80
Benzo(ghi)perylene	ND	mg/kg	32.8		80



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-05 D Date Collected: 12/12/16 11:45

Client ID: B412 (13) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance
Surrogate	% Recovery	Qualifier	Criteria
Chloro-Octadecane	0	Q	40-140
o-Terphenyl	0	Q	40-140
2-Fluorobiphenyl	93		40-140
2-Bromonaphthalene	94		40-140



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-06 Date Collected: 12/12/16 11:55

Client ID: B412 (19) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/16/16 22:59 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16

Percent Solids: 77%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	ļ	mg/kg	8.27		1			
C19-C36 Aliphatics	21.4	ı	mg/kg	8.27		1			
C11-C22 Aromatics	36.5	I	mg/kg	8.27		1			
C11-C22 Aromatics, Adjusted	36.5	l	mg/kg	8.27		1			
Naphthalene	ND	ı	mg/kg	0.414		1			
2-Methylnaphthalene	ND		mg/kg	0.414		1			
Acenaphthylene	ND	l	mg/kg	0.414		1			
Acenaphthene	ND	ı	mg/kg	0.414		1			
Fluorene	ND		mg/kg	0.414		1			
Phenanthrene	ND	l	mg/kg	0.414		1			
Anthracene	ND	ı	mg/kg	0.414		1			
Fluoranthene	ND	I	mg/kg	0.414		1			
Pyrene	ND	I	mg/kg	0.414		1			
Benzo(a)anthracene	ND	ı	mg/kg	0.414		1			
Chrysene	ND	I	mg/kg	0.414		1			
Benzo(b)fluoranthene	ND	I	mg/kg	0.414		1			
Benzo(k)fluoranthene	ND	I	mg/kg	0.414		1			
Benzo(a)pyrene	ND		mg/kg	0.414		1			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.414		1			
Dibenzo(a,h)anthracene	ND		mg/kg	0.414		1			
Benzo(ghi)perylene	ND		mg/kg	0.414		1			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-06 Date Collected: 12/12/16 11:55

Client ID: B412 (19) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	101		40-140	
2-Fluorobiphenyl	97		40-140	
2-Bromonaphthalene	98		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-07 Date Collected: 12/12/16 13:25

Client ID: B411 (11.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Spec

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/20/16 21:17 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16

Percent Solids: 91%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbo	Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	12.6		mg/kg	6.99		1				
C19-C36 Aliphatics	98.4		mg/kg	6.99		1				
C11-C22 Aromatics	246		mg/kg	6.99		1				
C11-C22 Aromatics, Adjusted	246		mg/kg	6.99		1				
Naphthalene	ND		mg/kg	0.350		1				
2-Methylnaphthalene	ND		mg/kg	0.350		1				
Acenaphthylene	ND		mg/kg	0.350		1				
Acenaphthene	ND		mg/kg	0.350		1				
Fluorene	ND		mg/kg	0.350		1				
Phenanthrene	ND		mg/kg	0.350		1				
Anthracene	ND		mg/kg	0.350		1				
Fluoranthene	ND		mg/kg	0.350		1				
Pyrene	ND		mg/kg	0.350		1				
Benzo(a)anthracene	ND		mg/kg	0.350		1				
Chrysene	ND		mg/kg	0.350		1				
Benzo(b)fluoranthene	ND		mg/kg	0.350		1				
Benzo(k)fluoranthene	ND		mg/kg	0.350		1				
Benzo(a)pyrene	ND		mg/kg	0.350		1				
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.350		1				
Dibenzo(a,h)anthracene	ND		mg/kg	0.350		1				
Benzo(ghi)perylene	ND		mg/kg	0.350		1				



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-07 Date Collected: 12/12/16 13:25

Client ID: B411 (11.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	52		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	76		40-140	
2-Bromonaphthalene	75		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-08 Date Collected: 12/12/16 13:35

Client ID: Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/17/16 08:10 EpH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 69%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		mg/kg	9.43		1			
C19-C36 Aliphatics	ND		mg/kg	9.43		1			
C11-C22 Aromatics	ND		mg/kg	9.43		1			
C11-C22 Aromatics, Adjusted	ND		mg/kg	9.43		1			
Naphthalene	ND		mg/kg	0.472		1			
2-Methylnaphthalene	ND		mg/kg	0.472		1			
Acenaphthylene	ND		mg/kg	0.472		1			
Acenaphthene	ND		mg/kg	0.472		1			
Fluorene	ND		mg/kg	0.472		1			
Phenanthrene	ND		mg/kg	0.472		1			
Anthracene	ND		mg/kg	0.472		1			
Fluoranthene	ND		mg/kg	0.472		1			
Pyrene	ND		mg/kg	0.472		1			
Benzo(a)anthracene	ND		mg/kg	0.472		1			
Chrysene	ND		mg/kg	0.472		1			
Benzo(b)fluoranthene	ND		mg/kg	0.472		1			
Benzo(k)fluoranthene	ND		mg/kg	0.472		1			
Benzo(a)pyrene	ND		mg/kg	0.472		1			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.472		1			
Dibenzo(a,h)anthracene	ND		mg/kg	0.472		1			
Benzo(ghi)perylene	ND		mg/kg	0.472		1			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-08 Date Collected: 12/12/16 13:35

Client ID: B411 (16) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	67		40-140	
o-Terphenyl	93		40-140	
2-Fluorobiphenyl	93		40-140	
2-Bromonaphthalene	94		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-09 D Date Collected: 12/12/16 13:40

Client ID: Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/20/16 02:53 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16

Analyst: SR Cleanup Date1: Percent Solids: 73%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Satisfactory

Received on Ice

Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C9-C18 Aliphatics	13600	mg/kg	536		60
C19-C36 Aliphatics	17700	mg/kg	536		60
C11-C22 Aromatics	19000	mg/kg	536		60
C11-C22 Aromatics, Adjusted	19000	mg/kg	536		60
Naphthalene	ND	mg/kg	26.8		60
2-Methylnaphthalene	ND	mg/kg	26.8		60
Acenaphthylene	ND	mg/kg	26.8		60
Acenaphthene	ND	mg/kg	26.8		60
Fluorene	ND	mg/kg	26.8		60
Phenanthrene	ND	mg/kg	26.8		60
Anthracene	ND	mg/kg	26.8		60
Fluoranthene	ND	mg/kg	26.8		60
Pyrene	ND	mg/kg	26.8		60
Benzo(a)anthracene	ND	mg/kg	26.8		60
Chrysene	ND	mg/kg	26.8		60
Benzo(b)fluoranthene	ND	mg/kg	26.8		60
Benzo(k)fluoranthene	ND	mg/kg	26.8		60
Benzo(a)pyrene	ND	mg/kg	26.8		60
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	26.8		60
Dibenzo(a,h)anthracene	ND	mg/kg	26.8		60
Benzo(ghi)perylene	ND	mg/kg	26.8		60



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-09 D

Client ID: B411 (14)

Sample Location: WEYMOUTH, MA

Date Collected: 12/12/16 13:40

Date Received: 12/13/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
% Recovery	Qualifier	Criteria		
0	Q	40-140		
0	Q	40-140		
88		40-140		
86		40-140		
	o o 88	o Q o Q 88	% Recovery Qualifier Criteria 0 Q 40-140 0 Q 40-140 88 40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-10 D Date Collected: 12/12/16 14:30

Client ID: B410 (11) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40
Analytical Date: 12/17/16 08:41 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 82%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Satisfactory

Received on Ice

Extracted Per the Method

Parameter	Result	Qualifier Uni	ts RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ıb			
C9-C18 Aliphatics	697	mg/	kg 79.7		10
C19-C36 Aliphatics	2740	mg/	kg 79.7		10
C11-C22 Aromatics	7670	mg/	kg 79.7		10
C11-C22 Aromatics, Adjusted	7670	mg/	kg 79.7		10
Naphthalene	ND	mg/	kg 3.99		10
2-Methylnaphthalene	ND	mg/	kg 3.99		10
Acenaphthylene	ND	mg/	kg 3.99		10
Acenaphthene	ND	mg/	kg 3.99		10
Fluorene	ND	mg/	kg 3.99		10
Phenanthrene	ND	mg/	kg 3.99		10
Anthracene	ND	mg/	kg 3.99		10
Fluoranthene	ND	mg/	kg 3.99		10
Pyrene	ND	mg/	kg 3.99		10
Benzo(a)anthracene	ND	mg/	kg 3.99		10
Chrysene	ND	mg/	kg 3.99		10
Benzo(b)fluoranthene	ND	mg/	kg 3.99		10
Benzo(k)fluoranthene	ND	mg/	kg 3.99		10
Benzo(a)pyrene	ND	mg/	kg 3.99		10
Indeno(1,2,3-cd)Pyrene	ND	mg/	kg 3.99		10
Dibenzo(a,h)anthracene	ND	mg/	kg 3.99		10
Benzo(ghi)perylene	ND	mg/	kg 3.99		10



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-10 D

Client ID: B410 (11)

Sample Location: WEYMOUTH, MA

Date Collected: 12/12/16 14:30

Date Received: 12/13/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	128		40-140			
o-Terphenyl	255	Q	40-140			
2-Fluorobiphenyl	108		40-140			
2-Bromonaphthalene	106		40-140			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-11 D Date Collected: 12/12/16 14:35

Client ID: B410 (12.5) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 12/15/16 01:40

 Analytical Date:
 12/20/16 03:30
 Cleanup Method1:
 EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16
Percent Solids: 78%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	3690	mg/kg	163		20			
C19-C36 Aliphatics	5810	mg/kg	163		20			
C11-C22 Aromatics	7170	mg/kg	163		20			
C11-C22 Aromatics, Adjusted	7170	mg/kg	163		20			
Naphthalene	ND	mg/kg	8.16		20			
2-Methylnaphthalene	ND	mg/kg	8.16		20			
Acenaphthylene	ND	mg/kg	8.16		20			
Acenaphthene	ND	mg/kg	8.16		20			
Fluorene	ND	mg/kg	8.16		20			
Phenanthrene	ND	mg/kg	8.16		20			
Anthracene	ND	mg/kg	8.16		20			
Fluoranthene	ND	mg/kg	8.16		20			
Pyrene	ND	mg/kg	8.16		20			
Benzo(a)anthracene	ND	mg/kg	8.16		20			
Chrysene	ND	mg/kg	8.16		20			
Benzo(b)fluoranthene	ND	mg/kg	8.16		20			
Benzo(k)fluoranthene	ND	mg/kg	8.16		20			
Benzo(a)pyrene	ND	mg/kg	8.16		20			
Indeno(1,2,3-cd)Pyrene	ND	mg/kg	8.16		20			
Dibenzo(a,h)anthracene	ND	mg/kg	8.16		20			
Benzo(ghi)perylene	ND	mg/kg	8.16		20			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-11 D Date Collected: 12/12/16 14:35

Client ID: B410 (12.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	0	Q	40-140		
o-Terphenyl	0	Q	40-140		
2-Fluorobiphenyl	105		40-140		
2-Bromonaphthalene	98		40-140		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-12 Date Collected: 12/12/16 14:40

Client ID: B410 (14) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 01:40

Analytical Date: 12/20/16 20:01 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16
Percent Solids: 80%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ıb				
C9-C18 Aliphatics	21.5		mg/kg	8.26		1
C19-C36 Aliphatics	32.0		mg/kg	8.26		1
C11-C22 Aromatics	18.5		mg/kg	8.26		1
C11-C22 Aromatics, Adjusted	18.5		mg/kg	8.26		1
Naphthalene	ND		mg/kg	0.413		1
2-Methylnaphthalene	ND		mg/kg	0.413		1
Acenaphthylene	ND		mg/kg	0.413		1
Acenaphthene	ND		mg/kg	0.413		1
Fluorene	ND		mg/kg	0.413		1
Phenanthrene	ND		mg/kg	0.413		1
Anthracene	ND		mg/kg	0.413		1
Fluoranthene	ND		mg/kg	0.413		1
Pyrene	ND		mg/kg	0.413		1
Benzo(a)anthracene	ND		mg/kg	0.413		1
Chrysene	ND		mg/kg	0.413		1
Benzo(b)fluoranthene	ND		mg/kg	0.413		1
Benzo(k)fluoranthene	ND		mg/kg	0.413		1
Benzo(a)pyrene	ND		mg/kg	0.413		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.413		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.413		1
Benzo(ghi)perylene	ND		mg/kg	0.413		1



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-12 Date Collected: 12/12/16 14:40

Client ID: B410 (14) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	52		40-140			
o-Terphenyl	66		40-140			
2-Fluorobiphenyl	69		40-140			
2-Bromonaphthalene	71		40-140			



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-13 Date Collected: 12/12/16 15:15

Client ID: B409 (10) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/20/16 23:16
Analytical Date: 12/21/16 13:19 Cleanup Method1: EPH-04-1

Analytical Date: 12/21/16 13:19 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 12/21/16

Percent Solids: 79%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ıb				
C9-C18 Aliphatics	ND		mg/kg	8.13		1
C19-C36 Aliphatics	ND		mg/kg	8.13		1
C11-C22 Aromatics	37.4		mg/kg	8.13		1
C11-C22 Aromatics, Adjusted	37.4		mg/kg	8.13		1
Naphthalene	ND		mg/kg	0.406		1
2-Methylnaphthalene	ND		mg/kg	0.406		1
Acenaphthylene	ND		mg/kg	0.406		1
Acenaphthene	ND		mg/kg	0.406		1
Fluorene	ND		mg/kg	0.406		1
Phenanthrene	ND		mg/kg	0.406		1
Anthracene	ND		mg/kg	0.406		1
Fluoranthene	ND		mg/kg	0.406		1
Pyrene	ND		mg/kg	0.406		1
Benzo(a)anthracene	ND		mg/kg	0.406		1
Chrysene	ND		mg/kg	0.406		1
Benzo(b)fluoranthene	ND		mg/kg	0.406		1
Benzo(k)fluoranthene	ND		mg/kg	0.406		1
Benzo(a)pyrene	ND		mg/kg	0.406		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.406		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.406		1
Benzo(ghi)perylene	ND		mg/kg	0.406		1



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-13 Date Collected: 12/12/16 15:15

Client ID: B409 (10) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	70		40-140		
o-Terphenyl	104		40-140		
2-Fluorobiphenyl	91		40-140		
2-Bromonaphthalene	91		40-140		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-14 Date Collected: 12/12/16 15:20

Client ID: B409 (11.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Spec

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:09
Analytical Date: 12/19/16 21:12 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 12/16/16
Percent Solids: 73%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbo	Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	mg	g/kg 9.05		1				
C19-C36 Aliphatics	ND	mg	g/kg 9.05		1				
C11-C22 Aromatics	10.3	mg	g/kg 9.05		1				
C11-C22 Aromatics, Adjusted	10.3	mg	g/kg 9.05		1				
Naphthalene	ND	mg	g/kg 0.452		1				
2-Methylnaphthalene	ND	mg	g/kg 0.452		1				
Acenaphthylene	ND	mg	g/kg 0.452		1				
Acenaphthene	ND	mg	g/kg 0.452		1				
Fluorene	ND	mg	g/kg 0.452		1				
Phenanthrene	ND	mg	g/kg 0.452		1				
Anthracene	ND	mg	g/kg 0.452		1				
Fluoranthene	ND	mg	g/kg 0.452		1				
Pyrene	ND	mg	g/kg 0.452		1				
Benzo(a)anthracene	ND	mg	g/kg 0.452		1				
Chrysene	ND	mg	g/kg 0.452		1				
Benzo(b)fluoranthene	ND	mg	g/kg 0.452		1				
Benzo(k)fluoranthene	ND	mg	g/kg 0.452		1				
Benzo(a)pyrene	ND	mg	g/kg 0.452		1				
Indeno(1,2,3-cd)Pyrene	ND	mg	g/kg 0.452		1				
Dibenzo(a,h)anthracene	ND	mg	g/kg 0.452		1				
Benzo(ghi)perylene	ND	mg	g/kg 0.452		1				



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-14 Date Collected: 12/12/16 15:20

Client ID: B409 (11.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	104		40-140		
o-Terphenyl	102		40-140		
2-Fluorobiphenyl	103		40-140		
2-Bromonaphthalene	108		40-140		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-15 Date Collected: 12/13/16 08:50

Client ID: B408 (11) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:11

Analytical Date: 12/19/16 21:58 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 12/16/16
Percent Solids: 80%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		mg/kg	8.16		1		
C19-C36 Aliphatics	8.22		mg/kg	8.16		1		
C11-C22 Aromatics	31.9		mg/kg	8.16		1		
C11-C22 Aromatics, Adjusted	30.1		mg/kg	8.16		1		
Naphthalene	ND		mg/kg	0.408		1		
2-Methylnaphthalene	ND		mg/kg	0.408		1		
Acenaphthylene	ND		mg/kg	0.408		1		
Acenaphthene	0.692		mg/kg	0.408		1		
Fluorene	ND		mg/kg	0.408		1		
Phenanthrene	0.438		mg/kg	0.408		1		
Anthracene	ND		mg/kg	0.408		1		
Fluoranthene	ND		mg/kg	0.408		1		
Pyrene	ND		mg/kg	0.408		1		
Benzo(a)anthracene	ND		mg/kg	0.408		1		
Chrysene	ND		mg/kg	0.408		1		
Benzo(b)fluoranthene	ND		mg/kg	0.408		1		
Benzo(k)fluoranthene	ND		mg/kg	0.408		1		
Benzo(a)pyrene	ND		mg/kg	0.408		1		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.408		1		
Dibenzo(a,h)anthracene	0.742		mg/kg	0.408		1		
Benzo(ghi)perylene	ND		mg/kg	0.408		1		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-15 Date Collected: 12/13/16 08:50

Client ID: B408 (11) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	97		40-140	
o-Terphenyl	111		40-140	
2-Fluorobiphenyl	108		40-140	
2-Bromonaphthalene	113		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-16 Date Collected: 12/13/16 08:55

Client ID: B408 (15) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:11

Analytical Date: 12/20/16 18:46 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 12/16/16

Analyst: SR Cleanup Date1: Percent Solids: 93%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	6.81		1
C19-C36 Aliphatics	ND		mg/kg	6.81		1
C11-C22 Aromatics	ND		mg/kg	6.81		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.81		1
Naphthalene	ND		mg/kg	0.341		1
2-Methylnaphthalene	ND		mg/kg	0.341		1
Acenaphthylene	ND		mg/kg	0.341		1
Acenaphthene	ND		mg/kg	0.341		1
Fluorene	ND		mg/kg	0.341		1
Phenanthrene	ND		mg/kg	0.341		1
Anthracene	ND		mg/kg	0.341		1
Fluoranthene	ND		mg/kg	0.341		1
Pyrene	ND		mg/kg	0.341		1
Benzo(a)anthracene	ND		mg/kg	0.341		1
Chrysene	ND		mg/kg	0.341		1
Benzo(b)fluoranthene	ND		mg/kg	0.341		1
Benzo(k)fluoranthene	ND		mg/kg	0.341		1
Benzo(a)pyrene	ND		mg/kg	0.341		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.341		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.341		1
Benzo(ghi)perylene	ND		mg/kg	0.341		1



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-16 Date Collected: 12/13/16 08:55

Client ID: B408 (15) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	41		40-140	
o-Terphenyl	75		40-140	
2-Fluorobiphenyl	76		40-140	
2-Bromonaphthalene	80		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-17 Date Collected: 12/13/16 11:20

Client ID: Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:12
Analytical Date: 12/17/16 12:19 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 86%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	52.7	n	ng/kg	7.35		1		
C19-C36 Aliphatics	256	n	ng/kg	7.35		1		
C11-C22 Aromatics	192	n	ng/kg	7.35		1		
C11-C22 Aromatics, Adjusted	192	n	ng/kg	7.35		1		
Naphthalene	ND	n	ng/kg	0.367		1		
2-Methylnaphthalene	ND	n	ng/kg	0.367		1		
Acenaphthylene	ND	n	ng/kg	0.367		1		
Acenaphthene	ND	n	ng/kg	0.367		1		
Fluorene	ND	n	ng/kg	0.367		1		
Phenanthrene	ND	n	ng/kg	0.367		1		
Anthracene	ND	n	ng/kg	0.367		1		
Fluoranthene	ND	n	ng/kg	0.367		1		
Pyrene	ND	n	ng/kg	0.367		1		
Benzo(a)anthracene	ND	n	ng/kg	0.367		1		
Chrysene	ND	n	ng/kg	0.367		1		
Benzo(b)fluoranthene	ND	n	ng/kg	0.367		1		
Benzo(k)fluoranthene	ND	n	ng/kg	0.367		1		
Benzo(a)pyrene	ND	n	ng/kg	0.367		1		
Indeno(1,2,3-cd)Pyrene	ND	n	ng/kg	0.367		1		
Dibenzo(a,h)anthracene	ND	n	ng/kg	0.367		1		
Benzo(ghi)perylene	ND	n	ng/kg	0.367		1		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-17 Date Collected: 12/13/16 11:20

Client ID: B414 (11) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	76		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	79		40-140	
2-Bromonaphthalene	79		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-18 Date Collected: 12/13/16 11:25

Client ID: B414 (15.5) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:12
Analytical Date: 12/17/16 12:50 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16
Percent Solids: 83%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Qualifier MDL **Parameter** Result Units RL **Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab** C9-C18 Aliphatics 108 mg/kg 7.57 --1 175 1 C19-C36 Aliphatics mg/kg 7.57 C11-C22 Aromatics 256 mg/kg 7.57 1 C11-C22 Aromatics, Adjusted 256 mg/kg 7.57 1 --Naphthalene ND mg/kg 0.379 1 --ND 1 2-Methylnaphthalene mg/kg 0.379 Acenaphthylene ND mg/kg 0.379 1 --ND 1 Acenaphthene mg/kg 0.379 --Fluorene ND 0.379 1 mg/kg Phenanthrene ND 0.379 1 mg/kg --Anthracene ND mg/kg 0.379 1 Fluoranthene ND 1 mg/kg 0.379 --Pyrene ND mg/kg 0.379 1 Benzo(a)anthracene ND 1 mg/kg 0.379 ND Chrysene mg/kg 0.379 1 --ND 1 Benzo(b)fluoranthene mg/kg 0.379 ND Benzo(k)fluoranthene mg/kg 0.379 1 Benzo(a)pyrene ND 0.379 1 mg/kg --Indeno(1,2,3-cd)Pyrene ND mg/kg 0.379 1 Dibenzo(a,h)anthracene ND 1 mg/kg 0.379 ND Benzo(ghi)perylene 0.379 1 mg/kg --



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-18 Date Collected: 12/13/16 11:25

Client ID: B414 (15.5) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	85		40-140		
o-Terphenyl	115		40-140		
2-Fluorobiphenyl	97		40-140		
2-Bromonaphthalene	107		40-140		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-19 D Date Collected: 12/13/16 11:28

Client ID: B414 (14) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:12

Analytical Date: 12/20/16 04:08 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/16/16
Percent Solids: 90%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
C9-C18 Aliphatics	8220		mg/kg	435		60
C19-C36 Aliphatics	13200		mg/kg	435		60
C11-C22 Aromatics	14100		mg/kg	435		60
C11-C22 Aromatics, Adjusted	14100		mg/kg	435		60
Naphthalene	ND		mg/kg	21.8		60
2-Methylnaphthalene	ND		mg/kg	21.8		60
Acenaphthylene	ND		mg/kg	21.8		60
Acenaphthene	ND		mg/kg	21.8		60
Fluorene	ND		mg/kg	21.8		60
Phenanthrene	ND		mg/kg	21.8		60
Anthracene	ND		mg/kg	21.8		60
Fluoranthene	ND		mg/kg	21.8		60
Pyrene	ND		mg/kg	21.8		60
Benzo(a)anthracene	ND		mg/kg	21.8		60
Chrysene	ND		mg/kg	21.8		60
Benzo(b)fluoranthene	ND		mg/kg	21.8		60
Benzo(k)fluoranthene	ND		mg/kg	21.8		60
Benzo(a)pyrene	ND		mg/kg	21.8		60
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	21.8		60
Dibenzo(a,h)anthracene	ND		mg/kg	21.8		60
Benzo(ghi)perylene	ND		mg/kg	21.8		60



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-19 D

Client ID: B414 (14)

Sample Location: WEYMOUTH, MA

Date Collected: 12/13/16 11:28

Date Received: 12/13/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	0	Q	40-140	
o-Terphenyl	0	Q	40-140	
2-Fluorobiphenyl	81		40-140	
2-Bromonaphthalene	81		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-20 Date Collected: 12/13/16 12:54

Client ID: B417 (11) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 02:13
Analytical Date: 12/17/16 13:21 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/16/16

Percent Solids: 93%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	6.94		mg/kg	6.88		1		
C19-C36 Aliphatics	53.8		mg/kg	6.88		1		
C11-C22 Aromatics	95.3		mg/kg	6.88		1		
C11-C22 Aromatics, Adjusted	90.9		mg/kg	6.88		1		
Naphthalene	ND		mg/kg	0.344		1		
2-Methylnaphthalene	ND		mg/kg	0.344		1		
Acenaphthylene	ND		mg/kg	0.344		1		
Acenaphthene	ND		mg/kg	0.344		1		
Fluorene	ND		mg/kg	0.344		1		
Phenanthrene	0.654		mg/kg	0.344		1		
Anthracene	ND		mg/kg	0.344		1		
Fluoranthene	0.674		mg/kg	0.344		1		
Pyrene	0.763		mg/kg	0.344		1		
Benzo(a)anthracene	0.458		mg/kg	0.344		1		
Chrysene	0.627		mg/kg	0.344		1		
Benzo(b)fluoranthene	0.385		mg/kg	0.344		1		
Benzo(k)fluoranthene	ND		mg/kg	0.344		1		
Benzo(a)pyrene	0.390		mg/kg	0.344		1		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.344		1		
Dibenzo(a,h)anthracene	ND		mg/kg	0.344		1		
Benzo(ghi)perylene	0.396		mg/kg	0.344		1		



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-20 Date Collected: 12/13/16 12:54

Client ID: B417 (11) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	80		40-140	
o-Terphenyl	120		40-140	
2-Fluorobiphenyl	103		40-140	
2-Bromonaphthalene	104		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-21 Date Collected: 12/13/16 12:56

Client ID: B417 (15) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 16:16

Analytical Date: 12/16/16 00:30 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 12/15/16
Percent Solids: 88%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	7.31		1
C19-C36 Aliphatics	ND		mg/kg	7.31		1
C11-C22 Aromatics	ND		mg/kg	7.31		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.31		1
Naphthalene	ND		mg/kg	0.365		1
2-Methylnaphthalene	ND		mg/kg	0.365		1
Acenaphthylene	ND		mg/kg	0.365		1
Acenaphthene	ND		mg/kg	0.365		1
Fluorene	ND		mg/kg	0.365		1
Phenanthrene	ND		mg/kg	0.365		1
Anthracene	ND		mg/kg	0.365		1
Fluoranthene	ND		mg/kg	0.365		1
Pyrene	ND		mg/kg	0.365		1
Benzo(a)anthracene	ND		mg/kg	0.365		1
Chrysene	ND		mg/kg	0.365		1
Benzo(b)fluoranthene	ND		mg/kg	0.365		1
Benzo(k)fluoranthene	ND		mg/kg	0.365		1
Benzo(a)pyrene	ND		mg/kg	0.365		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.365		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.365		1
Benzo(ghi)perylene	ND		mg/kg	0.365		1



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-21 Date Collected: 12/13/16 12:56

Client ID: B417 (15) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	80		40-140	
o-Terphenyl	89		40-140	
2-Fluorobiphenyl	86		40-140	
2-Bromonaphthalene	82		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-22 Date Collected: 12/13/16 14:05

Client ID: B416 (11) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 16:16

Analytical Date: 12/16/16 16:23 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 12/15/16

Percent Solids: 94%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbo	Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		mg/kg	6.96		1				
C19-C36 Aliphatics	95.4		mg/kg	6.96		1				
C11-C22 Aromatics	116		mg/kg	6.96		1				
C11-C22 Aromatics, Adjusted	114		mg/kg	6.96		1				
Naphthalene	ND		mg/kg	0.348		1				
2-Methylnaphthalene	ND		mg/kg	0.348		1				
Acenaphthylene	ND		mg/kg	0.348		1				
Acenaphthene	ND		mg/kg	0.348		1				
Fluorene	ND		mg/kg	0.348		1				
Phenanthrene	0.400		mg/kg	0.348		1				
Anthracene	ND		mg/kg	0.348		1				
Fluoranthene	0.454		mg/kg	0.348		1				
Pyrene	0.486		mg/kg	0.348		1				
Benzo(a)anthracene	ND		mg/kg	0.348		1				
Chrysene	0.409		mg/kg	0.348		1				
Benzo(b)fluoranthene	ND		mg/kg	0.348		1				
Benzo(k)fluoranthene	ND		mg/kg	0.348		1				
Benzo(a)pyrene	ND		mg/kg	0.348		1				
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.348		1				
Dibenzo(a,h)anthracene	ND		mg/kg	0.348		1				
Benzo(ghi)perylene	ND		mg/kg	0.348		1				



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-22 Date Collected: 12/13/16 14:05

Client ID: B416 (11) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	115		40-140	
2-Fluorobiphenyl	116		40-140	
2-Bromonaphthalene	120		40-140	



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-23 Date Collected: 12/13/16 14:00

Client ID: B416 (15) Date Received: 12/13/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/15/16 16:16

Analytical Date: 12/16/16 01:01 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 12/15/16

Percent Solids: 81%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	8.14		1
C19-C36 Aliphatics	ND		mg/kg	8.14		1
C11-C22 Aromatics	ND		mg/kg	8.14		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	8.14		1
Naphthalene	ND		mg/kg	0.407		1
2-Methylnaphthalene	ND		mg/kg	0.407		1
Acenaphthylene	ND		mg/kg	0.407		1
Acenaphthene	ND		mg/kg	0.407		1
Fluorene	ND		mg/kg	0.407		1
Phenanthrene	ND		mg/kg	0.407		1
Anthracene	ND		mg/kg	0.407		1
Fluoranthene	ND		mg/kg	0.407		1
Pyrene	ND		mg/kg	0.407		1
Benzo(a)anthracene	ND		mg/kg	0.407		1
Chrysene	ND		mg/kg	0.407		1
Benzo(b)fluoranthene	ND		mg/kg	0.407		1
Benzo(k)fluoranthene	ND		mg/kg	0.407		1
Benzo(a)pyrene	ND		mg/kg	0.407		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.407		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.407		1
Benzo(ghi)perylene	ND		mg/kg	0.407		1



Project Name: SPECTRA WEYMOUTH Lab Number: L1640521

SAMPLE RESULTS

Lab ID: L1640521-23 Date Collected: 12/13/16 14:00

Client ID: B416 (15) Date Received: 12/13/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	77		40-140			
o-Terphenyl	83		40-140			
2-Fluorobiphenyl	85		40-140			
2-Bromonaphthalene	82		40-140			



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Report Date: 12/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 12/16/16 20:25

Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/15/16 01:40
Cleanup Method: EPH-04-1

Cleanup Date: 12/16/16

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-12,14-20 Batch: WG961349-1 C9-C18 Aliphatics ND mg/kg 6.56 C19-C36 Aliphatics ND mg/kg 6.56 C11-C22 Aromatics ND mg/kg 6.56 C11-C22 Aromatics, Adjusted ND mg/kg 0.328 Naphthalene ND mg/kg 0.328 2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/	Parameter	Result	Qualifier	Units	RL	MDL
C19-C36 Aliphatics ND mg/kg 6.56 C11-C22 Aromatics ND mg/kg 6.56 C11-C22 Aromatics, Adjusted ND mg/kg 6.56 Naphthalene ND mg/kg 0.328 2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328	•	s - Westbor	ough Lab	for sample(s):	01-12,14-20	Batch:
C11-C22 Aromatics ND mg/kg 6.56 C11-C22 Aromatics, Adjusted ND mg/kg 6.56 Naphthalene ND mg/kg 0.328 2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	C9-C18 Aliphatics	ND		mg/kg	6.56	
C11-C22 Aromatics, Adjusted ND mg/kg 6.56 Naphthalene ND mg/kg 0.328 2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	C19-C36 Aliphatics	ND		mg/kg	6.56	
Naphthalene ND mg/kg 0.328 2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	C11-C22 Aromatics	ND		mg/kg	6.56	
2-Methylnaphthalene ND mg/kg 0.328 Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	C11-C22 Aromatics, Adjusted	ND		mg/kg	6.56	
Acenaphthylene ND mg/kg 0.328 Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Naphthalene	ND		mg/kg	0.328	
Acenaphthene ND mg/kg 0.328 Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	2-Methylnaphthalene	ND		mg/kg	0.328	
Fluorene ND mg/kg 0.328 Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Acenaphthylene	ND		mg/kg	0.328	
Phenanthrene ND mg/kg 0.328 Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Acenaphthene	ND		mg/kg	0.328	
Anthracene ND mg/kg 0.328 Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Fluorene	ND		mg/kg	0.328	
Fluoranthene ND mg/kg 0.328 Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Phenanthrene	ND		mg/kg	0.328	
Pyrene ND mg/kg 0.328 Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Anthracene	ND		mg/kg	0.328	
Benzo(a)anthracene ND mg/kg 0.328 Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Fluoranthene	ND		mg/kg	0.328	
Chrysene ND mg/kg 0.328 Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Pyrene	ND		mg/kg	0.328	
Benzo(b)fluoranthene ND mg/kg 0.328 Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Benzo(a)anthracene	ND		mg/kg	0.328	
Benzo(k)fluoranthene ND mg/kg 0.328 Benzo(a)pyrene ND mg/kg 0.328	Chrysene	ND		mg/kg	0.328	
Benzo(a)pyrene ND mg/kg 0.328	Benzo(b)fluoranthene	ND		mg/kg	0.328	
3 3 3 2 2	Benzo(k)fluoranthene	ND		mg/kg	0.328	
Indeno(1.2.3-cd)Pyrene ND mg/kg 0.328	Benzo(a)pyrene	ND		mg/kg	0.328	
macho (1,2,5 ca) i yiche mg/kg 0.520	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.328	
Dibenzo(a,h)anthracene ND mg/kg 0.328	Dibenzo(a,h)anthracene	ND		mg/kg	0.328	
Benzo(ghi)perylene ND mg/kg 0.328	Benzo(ghi)perylene	ND		mg/kg	0.328	



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

Report Date: 12/22/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

12/16/16 20:25

ΕK

Extraction Method: EPA 3546 Extraction Date:

12/15/16 01:40

Cleanup Method: Cleanup Date:

EPH-04-1 12/16/16

L1640521

MDL

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-12,14-20 Batch: WG961349-1

		Acceptance					
Surrogate	%Recovery	Qualifier	Criteria				
Chloro-Octadecane	64		40-140				
o-Terphenyl	86		40-140				
2-Fluorobiphenyl	91		40-140				
2-Bromonaphthalene	88		40-140				



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903 Lab Number: L1640521

Report Date: 12/22/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

12/15/16 23:27

SR

Extraction Method: EPA 3546 12/15/16 16:05 Extraction Date: EPH-04-1 Cleanup Method: Cleanup Date: 12/15/16

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 21-23 Batch: WG961671-1 C9-C18 Aliphatics ND mg/kg 6.45 C19-C36 Aliphatics ND mg/kg 6.45 C11-C22 Aromatics ND mg/kg 6.45 C11-C22 Aromatics, Adjusted ND mg/kg 0.322 Naphthalene ND mg/kg 0.322 2-Methylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND	Parameter	Result	Qualifier	Units	RL	MDI	_
C19-C36 Aliphatics ND mg/kg 6.45 C11-C22 Aromatics ND mg/kg 6.45 C11-C22 Aromatics, Adjusted ND mg/kg 6.45 Naphthalene ND mg/kg 0.322 Nethylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322	Extractable Petroleum Hydrocarb	ons - Westbo	rough Lab	for sample(s):	21-23	Batch:	WG961671-1
C11-C22 Aromatics ND mg/kg 6.45 C11-C22 Aromatics, Adjusted ND mg/kg 6.45 Naphthalene ND mg/kg 0.322 2-Methylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 <td>C9-C18 Aliphatics</td> <td>ND</td> <td></td> <td>mg/kg</td> <td>6.45</td> <td></td> <td></td>	C9-C18 Aliphatics	ND		mg/kg	6.45		
C11-C22 Aromatics, Adjusted ND mg/kg 6.45 Naphthalene ND mg/kg 0.322 2-Methylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322	C19-C36 Aliphatics	ND		mg/kg	6.45		
Naphthalene ND mg/kg 0.322 2-Methylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322	C11-C22 Aromatics	ND		mg/kg	6.45		
2-Methylnaphthalene ND mg/kg 0.322 Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	C11-C22 Aromatics, Adjusted	ND		mg/kg	6.45		
Acenaphthylene ND mg/kg 0.322 Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Naphthalene	ND		mg/kg	0.322		
Acenaphthene ND mg/kg 0.322 Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	2-Methylnaphthalene	ND		mg/kg	0.322		
Fluorene ND mg/kg 0.322 Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Acenaphthylene	ND		mg/kg	0.322		
Phenanthrene ND mg/kg 0.322 Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Acenaphthene	ND		mg/kg	0.322		
Anthracene ND mg/kg 0.322 Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Fluorene	ND		mg/kg	0.322		
Fluoranthene ND mg/kg 0.322 Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Phenanthrene	ND		mg/kg	0.322		
Pyrene ND mg/kg 0.322 Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Anthracene	ND		mg/kg	0.322		
Benzo(a)anthracene ND mg/kg 0.322 Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Fluoranthene	ND		mg/kg	0.322		
Chrysene ND mg/kg 0.322 Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Pyrene	ND		mg/kg	0.322		
Benzo(b)fluoranthene ND mg/kg 0.322 Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Benzo(a)anthracene	ND		mg/kg	0.322		
Benzo(k)fluoranthene ND mg/kg 0.322 Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Chrysene	ND		mg/kg	0.322		
Benzo(a)pyrene ND mg/kg 0.322 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Benzo(b)fluoranthene	ND		mg/kg	0.322		
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.322 Dibenzo(a,h)anthracene ND mg/kg 0.322	Benzo(k)fluoranthene	ND		mg/kg	0.322		
Dibenzo(a,h)anthracene ND mg/kg 0.322	Benzo(a)pyrene	ND		mg/kg	0.322		
	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322		
Benzo(ghi)perylene ND mg/kg 0.322	Dibenzo(a,h)anthracene	ND		mg/kg	0.322		
	Benzo(ghi)perylene	ND		mg/kg	0.322		

			Acceptance		
Surrogate	%Recovery	Qualifier	Criteria		
Chloro-Octadecane	78		40-140		
o-Terphenyl	72		40-140		
2-Fluorobiphenyl	74		40-140		
2-Bromonaphthalene	71		40-140		



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Report Date: 12/22/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 98,EPH-04-1.1

Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/20/16 09:04
Cleanup Method: EPH-04-1
Cleanup Date: 12/21/16

Parameter	Result	Qualifier	Units	RL		MDL
Extractable Petroleum Hydroca	rbons - Westboi	rough Lab t	for sample(s):	13	Batch:	WG962911-1
C9-C18 Aliphatics	ND		mg/kg	6.45		
C19-C36 Aliphatics	ND		mg/kg	6.45		
C11-C22 Aromatics	ND		mg/kg	6.45		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.45		
Naphthalene	ND		mg/kg	0.322		
2-Methylnaphthalene	ND		mg/kg	0.322		
Acenaphthylene	ND		mg/kg	0.322		
Acenaphthene	ND		mg/kg	0.322		
Fluorene	ND		mg/kg	0.322		
Phenanthrene	ND		mg/kg	0.322		
Anthracene	ND		mg/kg	0.322		
Fluoranthene	ND		mg/kg	0.322		
Pyrene	ND		mg/kg	0.322		
Benzo(a)anthracene	ND		mg/kg	0.322		
Chrysene	ND		mg/kg	0.322		
Benzo(b)fluoranthene	ND		mg/kg	0.322		
Benzo(k)fluoranthene	ND		mg/kg	0.322		
Benzo(a)pyrene	ND		mg/kg	0.322		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322		
Dibenzo(a,h)anthracene	ND		mg/kg	0.322		
Benzo(ghi)perylene	ND		mg/kg	0.322		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	66		40-140	
o-Terphenyl	99		40-140	
2-Fluorobiphenyl	94		40-140	
2-Bromonaphthalene	95		40-140	



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

rameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
tractable Petroleum Hydrocarbons - Wes	tborough Lab Ass	sociated samp	le(s): 01-12,14-2) Batch:	WG961349-2	WG961349-3		
C9-C18 Aliphatics	68		88		40-140	26	Q	25
C19-C36 Aliphatics	82		100		40-140	20		25
C11-C22 Aromatics	90		108		40-140	18		25
Naphthalene	67		88		40-140	27	Q	25
2-Methylnaphthalene	70		89		40-140	24		25
Acenaphthylene	73		91		40-140	22		25
Acenaphthene	80		97		40-140	19		25
Fluorene	84		101		40-140	18		25
Phenanthrene	86		103		40-140	18		25
Anthracene	83		100		40-140	19		25
Fluoranthene	90		108		40-140	18		25
Pyrene	90		110		40-140	20		25
Benzo(a)anthracene	85		106		40-140	22		25
Chrysene	86		111		40-140	25		25
Benzo(b)fluoranthene	89		110		40-140	21		25
Benzo(k)fluoranthene	84		107		40-140	24		25
Benzo(a)pyrene	76		97		40-140	24		25
Indeno(1,2,3-cd)Pyrene	88		109		40-140	21		25
Dibenzo(a,h)anthracene	72		94		40-140	27	Q	25
Benzo(ghi)perylene	83		103		40-140	22		25
Nonane (C9)	51		73		30-140	35	Q	25



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Parameter	LCS %Recovery	Qual %	LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Extractable Petroleum Hydrocarbons - W	estborough Lab Ass	sociated sample(s	s): 01-12,14-2	20 Batch:	WG961349-2	WG961349-3			
Decane (C10)	58		81		40-140	33	Q	25	
Dodecane (C12)	61		84		40-140	32	Q	25	
Tetradecane (C14)	68		87		40-140	25		25	
Hexadecane (C16)	74		93		40-140	23		25	
Octadecane (C18)	79		97		40-140	20		25	
Nonadecane (C19)	78		97		40-140	22		25	
Eicosane (C20)	80		98		40-140	20		25	
Docosane (C22)	81		99		40-140	20		25	
Tetracosane (C24)	80		100		40-140	22		25	
Hexacosane (C26)	81		100		40-140	21		25	
Octacosane (C28)	81		100		40-140	21		25	
Triacontane (C30)	80		99		40-140	21		25	
Hexatriacontane (C36)	78		95		40-140	20		25	

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	68		91		40-140	
o-Terphenyl	99		112		40-140	
2-Fluorobiphenyl	95		97		40-140	
2-Bromonaphthalene	99		101		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits	
Extractable Petroleum Hydrocarbons - Westl	borough Lab As	sociated sampl	e(s): 21-23 B	atch: WG961671-2 WG96	1671-3			
C9-C18 Aliphatics	81		67	40-140	19		25	
C19-C36 Aliphatics	97		80	40-140	19		25	
C11-C22 Aromatics	102		81	40-140	23		25	
Naphthalene	81		65	40-140	22		25	
2-Methylnaphthalene	82		66	40-140	22		25	
Acenaphthylene	88		69	40-140	24		25	
Acenaphthene	88		70	40-140	23		25	
Fluorene	93		72	40-140	25		25	
Phenanthrene	98		75	40-140	27	Q	25	
Anthracene	100		75	40-140	29	Q	25	
Fluoranthene	104		79	40-140	27	Q	25	
Pyrene	105		80	40-140	27	Q	25	
Benzo(a)anthracene	102		77	40-140	28	Q	25	
Chrysene	113		81	40-140	33	Q	25	
Benzo(b)fluoranthene	106		80	40-140	28	Q	25	
Benzo(k)fluoranthene	106		78	40-140	30	Q	25	
Benzo(a)pyrene	100		75	40-140	29	Q	25	
Indeno(1,2,3-cd)Pyrene	104		78	40-140	29	Q	25	
Dibenzo(a,h)anthracene	87		77	40-140	12		25	
Benzo(ghi)perylene	98		74	40-140	28	Q	25	
Nonane (C9)	63		51	30-140	21		25	



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sampl	e(s): 21-23 E	Batch: WG	961671-2 WG9	61671-3		
Decane (C10)	71		58		40-140	20		25
Dodecane (C12)	74		61		40-140	19		25
Tetradecane (C14)	77		63		40-140	20		25
Hexadecane (C16)	83		68		40-140	20		25
Octadecane (C18)	92		73		40-140	23		25
Nonadecane (C19)	93		74		40-140	23		25
Eicosane (C20)	94		75		40-140	22		25
Docosane (C22)	95		76		40-140	22		25
Tetracosane (C24)	95		76		40-140	22		25
Hexacosane (C26)	96		76		40-140	23		25
Octacosane (C28)	96		77		40-140	22		25
Triacontane (C30)	95		76		40-140	22		25
Hexatriacontane (C36)	86		76		40-140	12		25

LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
79		69		40-140	
88		84		40-140	
87		89		40-140	
89		90		40-140	
0		0			
0		0			
	%Recovery 79 88 87 89 0	%Recovery Qual 79 88 87 89 0	%Recovery Qual %Recovery 79 69 88 84 87 89 89 90 0 0	%Recovery Qual %Recovery Qual 79 69 88 84 87 89 89 90 0 0	%Recovery Qual %Recovery Qual Criteria 79 69 40-140 88 84 40-140 87 89 40-140 89 90 40-140 0 0



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Parameter	LCS %Recovery		LCSD Recovery	%Reco Qual Limi		RF Qual Lin	PD nits
Extractable Petroleum Hydrocarbons - Westl	borough Lab As	sociated sample(s):	13 Batch:	WG962911-2 W	G962911-3		
C9-C18 Aliphatics	78		77	40-14	0 1	2	25
C19-C36 Aliphatics	92		89	40-14	0 3	2	25
C11-C22 Aromatics	107		105	40-14	0 2	2	25
Naphthalene	82		83	40-14	0 1	2	25
2-Methylnaphthalene	86		86	40-14	0 0	2	25
Acenaphthylene	86		86	40-14	0	2	25
Acenaphthene	95		93	40-14	0 2	2	25
Fluorene	99		96	40-14	0 3	2	25
Phenanthrene	101		98	40-14	0 3	2	25
Anthracene	97		94	40-14	0 3	2	25
Fluoranthene	107		103	40-14	0 4	2	25
Pyrene	107		105	40-14	0 2	2	25
Benzo(a)anthracene	104		100	40-14	0 4	2	25
Chrysene	110		107	40-14	0 3	2	25
Benzo(b)fluoranthene	112		107	40-14	0 5	2	25
Benzo(k)fluoranthene	112		108	40-14	0 4	2	25
Benzo(a)pyrene	94		92	40-14	0 2	2	25
Indeno(1,2,3-cd)Pyrene	107		104	40-14	0 3	2	25
Dibenzo(a,h)anthracene	111		109	40-14	0 2	2	25
Benzo(ghi)perylene	99		97	40-14	0 2	2	25
Nonane (C9)	61		62	30-14	0 2		25



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD imits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sampl	e(s): 13 Ba	tch: WG96	2911-2 WG962911	-3	
Decane (C10)	68		70		40-140	3	25
Dodecane (C12)	74		75		40-140	1	25
Tetradecane (C14)	79		78		40-140	1	25
Hexadecane (C16)	83		80		40-140	4	25
Octadecane (C18)	86		84		40-140	2	25
Nonadecane (C19)	84		82		40-140	2	25
Eicosane (C20)	86		84		40-140	2	25
Docosane (C22)	87		85		40-140	2	25
Tetracosane (C24)	86		84		40-140	2	25
Hexacosane (C26)	86		84		40-140	2	25
Octacosane (C28)	86		85		40-140	1	25
Triacontane (C30)	87		86		40-140	1	25
Hexatriacontane (C36)	88		87		40-140	1	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	70		69		40-140	
o-Terphenyl	107		104		40-140	
2-Fluorobiphenyl	94		90		40-140	
2-Bromonaphthalene	97		93		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



INORGANICS & MISCELLANEOUS



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-01

Client ID:

B413 (11)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 10:15

Date Received:

12/13/16

Field Prep:

Parameter	Result C	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab									
Solids, Total	81.3		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-02

Client ID:

B413 (14-15) Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 10:25

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids. Total	86.3		%	0.100	NA	1	-	12/15/16 14:39	121.2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-03

Client ID:

B413 (23)

Sample Location:

WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 10:40

Date Received:

12/15/16 14:39

12/13/16

Field Prep:

Not Specified

121,2540G

RΙ

Dilution Date Date Analytical
Parameter Result Qualifier Units RL MDL Factor Prepared Analyzed Method Analyst

NA

1

General Chemistry - Westborough Lab

Solids, Total 78.6 % 0.100

ALPHA

Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-04

Client ID: Sample Location: WEYMOUTH, MA

B412 (11.5)

Matrix: Soil

Date Collected:

12/12/16 11:35

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lat)								
Solids, Total	59.9		%	0.100	NA	1	-	12/16/16 12:41	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-05

Client ID: B412 (13)

Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/12/16 11:45

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	76.4		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-06

Client ID:

B412 (19)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 11:55

Date Received:

12/13/16

Not Specified Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	77.4		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-07

Client ID: B411 (11.5)
Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/12/16 13:25

Date Received: 12/13/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	91.3		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-08

Client ID: B411 (16)

Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/12/16 13:35

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	69.1		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-09

B411 (14) Client ID: Sample Location: WEYMOUTH, MA

Matrix: Soil Date Collected:

12/12/16 13:40

Date Received:

12/13/16

Field Prep:

	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Ge	neral Chemistry - Westbord	ough Lab)								
Sol	ds, Total 73	3.4		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-10

Client ID:

B410 (11)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 14:30

Date Received:

12/13/16

Not Specified Field Prep:

Parameter	Result C	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	81.7		%	0.100	NA	1	_	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-11

Client ID:

B410 (12.5)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/12/16 14:35

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab									
Solids, Total	78.2		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date: 12/22/16

SAMPLE RESULTS

Lab ID: L1640521-12

B410 (14) Client ID:

Sample Location: WEYMOUTH, MA

Matrix: Soil Date Collected:

12/12/16 14:40

Date Received:

12/13/16

Not Specified Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lab)								
Solids, Total	79.5		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-13

B409 (10) Client ID:

Date Collected:

12/12/16 15:15

Sample Location: WEYMOUTH, MA

Date Received:

12/13/16

Field Prep:

Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lab)								
Solids, Total	78.8		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date: 12/22/16

SAMPLE RESULTS

Lab ID: L1640521-14

Client ID: B409 (11.5)
Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/12/16 15:20

Date Received:

12/13/16

Field Prep:

Not Specified

Analytical Method **Dilution** Date Date Factor Prepared Result Qualifier Units Analyzed RL MDL **Parameter Analyst** General Chemistry - Westborough Lab Solids, Total 73.3 % 0.100 NA 1 12/15/16 14:39 121,2540G RΙ



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903 Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-15

B408 (11) Client ID:

Sample Location:

WEYMOUTH, MA

Matrix:

Solids, Total

Soil

Date Collected:

12/13/16 08:50

Date Received:

12/15/16 14:39

12/13/16

Field Prep:

Not Specified

121,2540G

RΙ

Analytical Method **Dilution** Date Date Factor Prepared Result Qualifier Units Analyzed RL MDL **Parameter Analyst** General Chemistry - Westborough Lab

NA

1

0.100

%



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-16

Client ID: B408 (15)

Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/13/16 08:55

Date Received:

12/13/16

Field Prep:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	92.6		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-17

Client ID:

B414 (11)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/13/16 11:20

Date Received:

12/13/16

Field Prep:

Parameter	Result C	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	85.8		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID: L1640521-18

Client ID:

B414 (15.5)

Sample Location: WEYMOUTH, MA Matrix:

Soil

Date Collected:

12/13/16 11:25

Date Received:

12/13/16

Field Prep:

_ [Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab											
Soli	ds, Total 8	3.2		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date: 12/2

12/15/16 14:39

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-19

Client ID:

B414 (14)

Sample Location:

WEYMOUTH, MA

Matrix:

Solids, Total

Soil

Date Collected:

12/13/16 11:28

Date Received:

12/13/16

Field Prep:

Not Specified

121,2540G

RΙ

Parameter Result Qualifier Units RL MDL Factor Prepared Analyzed Method Analyst
General Chemistry - Westborough Lab

NA

1

0.100

%



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521

Report Date: 12/22/16

SAMPLE RESULTS

Lab ID: L1640521-20

Client ID: B417 (11)
Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected: 12/

: 12/13/16 12:54

Date Received: 12/13/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lab)								
Solids, Total	93.1		%	0.100	NA	1	-	12/15/16 14:39	121,2540G	RI



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date: 12/22/16

SAMPLE RESULTS

Lab ID: L1640521-21

Client ID: B417 (15)
Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected:

12/13/16 12:56

Date Received: 12/13/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	87.6		%	0.100	NA	1	-	12/15/16 02:31	121,2540G	VB



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number:

L1640521

Report Date:

12/22/16

SAMPLE RESULTS

Lab ID:

L1640521-22

Client ID:

B416 (11)

Sample Location: WEYMOUTH, MA

Matrix:

Soil

Date Collected:

12/13/16 14:05

Date Received:

12/13/16

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab)								
Solids, Total	94.2		%	0.100	NA	1	-	12/15/16 02:31	121,2540G	VB



Project Name: SPECTRA WEYMOUTH

Project Number: 140143.0000.4903

Lab Number: L1640521 **Report Date:** 12/22/16

SAMPLE RESULTS

Lab ID: L1640521-23

Client ID: B416 (15)

Sample Location: WEYMOUTH, MA

Matrix: Soil

Date Collected: 12/13/16 14:00

Date Received: 12/13/16

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab)								
Solids, Total	80.5		%	0.100	NA	1	-	12/15/16 02:31	121,2540G	VB



Project Name:SPECTRA WEYMOUTHLab Number: L1640521Project Number:140143.0000.4903Report Date: 12/22/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1640521-01A	Glass 250ml/8oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-02A	Glass 250ml/8oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-03A	Glass 250ml/8oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-04A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-05A	Glass 250ml/8oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-06A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-07A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-08A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-09A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-10A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-11A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-12A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-13A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-14A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-15A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-16A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-17A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-18A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-19A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-20A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-21A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-22A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640521-23A	Glass 120ml/4oz unpreserved	Α	N/A	5.0	Υ	Absent	TS(7),EPH-DELUX-10(14)



Project Name:SPECTRA WEYMOUTHLab Number:L1640521Project Number:140143.0000.4903Report Date:12/22/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

-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

Report Format: Data Usability Report



Project Name:SPECTRA WEYMOUTHLab Number:L1640521Project Number:140143.0000.4903Report Date:12/22/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:SPECTRA WEYMOUTHLab Number:L1640521Project Number:140143.0000.4903Report Date:12/22/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Serial_No:12221610:32

ID No.:17873 Revision 7

Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

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

Westborough Facility

EPA 624: 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-

Certification Information

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

TRC Sciutions 2 Liberty sture Boston, MA

(617) -385-6033

L1640521

10F2

Wegmouth, M.A.	MA CHAIN OF CUSTODY RECORD	21640521	10+2
Project Name: Spectra Waynouth Project No.: 140 143.0000, 4903 Sampling Date(s): 12/12/16-12/13/16 Laboratory: Laboratory P.O.: Email Sample Availy recal Sample Code Date Sample Code Date B413 (14) B413 (14) B412 (11) B412 (11) B411 (16) B411 (16) B411 (16) B411 (16) B411 (19) B410 (10) B409 (10) B409 (11) B408 (11) B408 (15) B408 (15) B414 (11) B414 (11) B414 (11) B415 (15) B416 (15) B416 (15) B417 (16) B418 (16) B419 (17) B410 (18) B410 (19) B409 (10) B408 (11) B408 (15) B414 (11) B414 (11) B414 (11) B415 (15) B416 (15) B416 (15) B416 (15) B417 (16) B418 (17) B419 (11) B419 (11)	MATRIX Admic Solvent AshVSoiltSequent (Solid) Acidic Colland Coll	ANALYSIS	Comments
Relinquished by: Date/Time: 12	Received by: Well Management of the frequence of the freq	Date/Time: 12/13/16 Date/Time:	1748
	- frequette	- There exist results to RV	Hese TResintions, com

No 0174

WHITE - Laboratory YELLOW - Laboratory Copy

PINK - Office Copy GOLD - Field Copy

TRC Solutions a liberty square Boston, MA

11640521

20f2

	DOS FOR, MA	CHAIN OF CUSTODY RECO	unn .	3001.	20,
Project Name: Project No.: Sampling Date(s): Laboratory: Laboratory P.O.: Shipping Date(s): Shipper's Name:	ECTE Weguncultus 143. CO20.4903 /12/16-12/13/16 14 Analytical es @ TR solutions.com 17-385-6033	MATRIX (Solid) (Sol		NALYSIS	
Sample Code B417(14) B417(11) B417(15) B416(11) B416(15)	Sampled Container Date G/P 13/13/15/13/8 135/6 1400	Aqueous Agueous Ash/Soil/Soil/Soil/Soil/Soil/Soil/Soil/Soil	X X	Comn	nents
uished by: CLUMPE A ed by: (s (*): FOUDW MCP AM RNILES Q T	Date/Time: 12/3/16 Date/Time: Ellytical methods CRCS- RCSOULtions, COM	Received by: USIN Received by: Received TAT - PM	ML D	ate/Time: 12/13/14 (745)	

Sub List : Default - All compounds listed Reviewed)

Data Path : I:\Petro10\161216.sec\

Data File : 1216B037.D Signal(s) : FID2B.CH

Acq On : 17 Dec 2016 8:41 am

Operator : Petro10b:ek

Sample : 11640521-10d,42,10,5xfv2
Misc : wg962095,wg961349,ical12178
ALS Vial : 87 Sample Multiplier: 1

Integration File: events.e

Quant Time: Dec 19 16:40:35 2016

Quant Method : I:\Petro10\161216.sec\MAARO160318.M

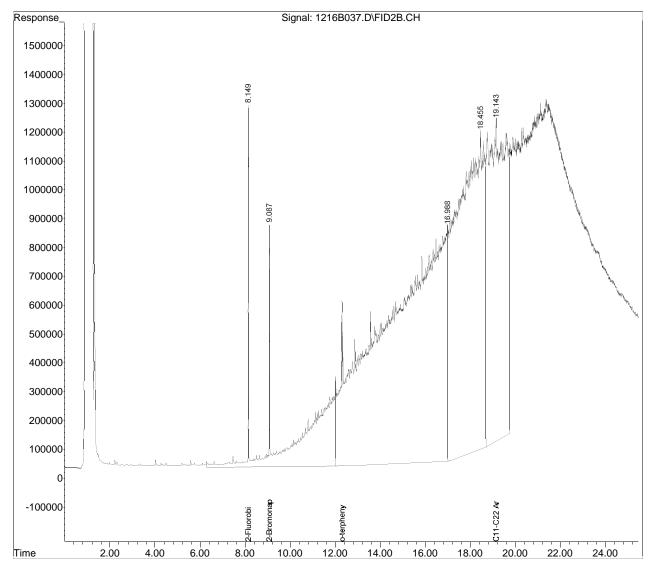
Quant Title : MA EPH Aromatic

QLast Update : Tue Nov 29 10:02:49 2016

Response via : Initial Calibration

Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : Signal Phase : Signal Info :



MAARO160318.M Mon Dec 19 17:52:26 2016



ANALYTICAL REPORT

Lab Number: L1640742

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Not Specified

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033

Project Name: WEYMOUTH C/S

Report Date: 12/21/16

Project Number:

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S

Project Number: Not Specified Lab Number: L1640742 Report Date: 12/21/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1640742-01	B-415-11.8	SOIL	WEYMOUTH, MA	12/14/16 08:35	12/14/16
L1640742-02	B-415-12.2	SOIL	WEYMOUTH, MA	12/14/16 08:40	12/14/16
L1640742-03	B-415-13.4	SOIL	WEYMOUTH, MA	12/14/16 08:45	12/14/16
L1640742-04	B-402-11.6	SOIL	WEYMOUTH, MA	12/14/16 10:10	12/14/16
L1640742-05	B-402-12.2	SOIL	WEYMOUTH, MA	12/14/16 10:15	12/14/16
L1640742-06	B-402-12.8	SOIL	WEYMOUTH, MA	12/14/16 10:20	12/14/16
L1640742-07	B-401-11.5	SOIL	WEYMOUTH, MA	12/14/16 11:00	12/14/16
L1640742-08	B-401-12.2	SOIL	WEYMOUTH, MA	12/14/16 11:10	12/14/16
L1640742-09	B-400-11.4	SOIL	WEYMOUTH, MA	12/14/16 11:50	12/14/16
L1640742-10	B-400-12.4	SOIL	WEYMOUTH, MA	12/14/16 11:55	12/14/16
L1640742-11	B-403-10	SOIL	WEYMOUTH, MA	12/14/16 13:05	12/14/16
L1640742-12	B-403-12	SOIL	WEYMOUTH, MA	12/14/16 13:10	12/14/16
L1640742-13	B-404-11.4	SOIL	WEYMOUTH, MA	12/14/16 13:50	12/14/16
L1640742-14	B-404-12	SOIL	WEYMOUTH, MA	12/14/16 14:00	12/14/16
L1640742-15	B-404-16.5	SOIL	WEYMOUTH, MA	12/14/16 14:10	12/14/16
L1640742-16	B-405-11.5	SOIL	WEYMOUTH, MA	12/14/16 14:40	12/14/16
L1640742-17	B-405-12.5	SOIL	WEYMOUTH, MA	12/14/16 14:50	12/14/16
L1640742-18	B-406-11.8	SOIL	WEYMOUTH, MA	12/14/16 15:10	12/14/16
L1640742-19	B-406-12.5	SOIL	WEYMOUTH, MA	12/14/16 15:20	12/14/16
L1640742-20	B-406-21	SOIL	WEYMOUTH, MA	12/14/16 15:30	12/14/16
L1640742-21	TB01	SOIL	WEYMOUTH, MA	12/14/16 15:22	12/14/16
L1640742-22	B-451-13.4	SOIL	WEYMOUTH, MA	12/14/16 08:45	12/14/16



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any guestions.



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

Case Narrative (continued)

MCP Related Narratives

VPH

L1640742-19 was outside the recommended 1:1 methanol:soil ratio, due to the amount of soil provided in the sample vial.

In reference to question H:

L1640742-19: The surrogate recoveries are outside the acceptance criteria for 2,5-dibromotoluene-pid (21%) and 2,5-dibromotoluene-fid (23%); however, the sample was not re-analyzed due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

EPH

L1640742-01, -02, -14, -18, and -19: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the target compounds present in the sample.

L1640742-03 and -05: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1640742-01, -02, -03, -05, -14, -18, and -19: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

L1640742-01, -02, -14, and -19: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

L1640742-18: The surrogate recovery is below the acceptance criteria for o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

The WG962237-2/-3 LCS/LCSD RPD, associated with L1640742-12 through -16, -18, -19, -20, and -22, is above the acceptance criteria for c19-c36 aliphatics (29%).

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:

Title: Technical Director/Representative Date: 12/21/16

Custen Walker Cristin Walker

ORGANICS



PETROLEUM HYDROCARBONS



12/14/16 08:35

Not Specified EPA 3546

12/16/16 16:07

12/14/16

Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-01 D

Client ID: B-415-11.8

Sample Location: WEYMOUTH, MA

Matrix: Soil

Analytical Method: 98,EPH-04-1.1 Analytical Date: 12/21/16 01:26

Analyst: SR Percent Solids: 78% Cleanup Method1: EPH-04-1 Cleanup Date1: 12/17/16

Date Collected:

Date Received:

Extraction Method:

Extraction Date:

Field Prep:

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	3250		mg/kg	162		20			
C19-C36 Aliphatics	6670		mg/kg	162		20			
C11-C22 Aromatics	8790		mg/kg	162		20			
C11-C22 Aromatics, Adjusted	8790		mg/kg	162		20			
Naphthalene	ND		mg/kg	8.08		20			
2-Methylnaphthalene	ND		mg/kg	8.08		20			
Acenaphthylene	ND		mg/kg	8.08		20			
Acenaphthene	ND		mg/kg	8.08		20			
Fluorene	ND		mg/kg	8.08		20			
Phenanthrene	ND		mg/kg	8.08		20			
Anthracene	ND		mg/kg	8.08		20			
Fluoranthene	ND		mg/kg	8.08		20			
Pyrene	ND		mg/kg	8.08		20			
Benzo(a)anthracene	ND		mg/kg	8.08		20			
Chrysene	ND		mg/kg	8.08		20			
Benzo(b)fluoranthene	ND		mg/kg	8.08		20			
Benzo(k)fluoranthene	ND		mg/kg	8.08		20			
Benzo(a)pyrene	ND		mg/kg	8.08		20			
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	8.08		20			
Dibenzo(a,h)anthracene	ND		mg/kg	8.08		20			
Benzo(ghi)perylene	ND		mg/kg	8.08		20			



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-01 D

Client ID: B-415-11.8

Sample Location: WEYMOUTH, MA

Date Collected: 12/14/16 08:35

Date Received: 12/14/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance
Surrogate	% Recovery	Qualifier	Criteria
Chloro-Octadecane	0	Q	40-140
o-Terphenyl	0	Q	40-140
2-Fluorobiphenyl	73		40-140
2-Bromonaphthalene	70		40-140



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-02 D Date Collected: 12/14/16 08:40

Client ID: B-415-12.2 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/20/16 23:52 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/17/16

Percent Solids: 76%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics 2680 mg/kg 262 30 C19-C36 Aliphatics 5500 mg/kg 262 30 C11-C22 Aromatics 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 13.1 30 2-Methylnaphthalene ND mg/kg<						
C9-C18 Aliphatics 2680 mg/kg 262 30 C19-C36 Aliphatics 5500 mg/kg 262 30 C11-C22 Aromatics 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 Anaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Enzo(a)anthracene ND mg/kg 13.1 30 Enzo(b)fluoranthene ND mg/kg 13.1 30 Enzo(b)fluoranthene ND mg/kg 13.1 30 Enzo(b)fluoranthene ND mg/kg 13.1 30 Enzo(a)pyrene ND mg/kg 13.1 30 Enzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
C19-C36 Aliphatics 5500 mg/kg 262 30 C11-C22 Aromatics 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 Naphthalene ND mg/kg 13.1 30 Naphthalene ND mg/kg 13.1 30 2-Methylnaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 <	Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C11-C22 Aromatics 5710 mg/kg 262 30 C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 Naphthalene ND mg/kg 13.1 30 2-Methylnaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Enzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Be	C9-C18 Aliphatics	2680	mg/kg	262		30
C11-C22 Aromatics, Adjusted 5710 mg/kg 262 30 Naphthalene ND mg/kg 13.1 30 2-Methylnaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 <td< td=""><td>C19-C36 Aliphatics</td><td>5500</td><td>mg/kg</td><td>262</td><td></td><td>30</td></td<>	C19-C36 Aliphatics	5500	mg/kg	262		30
Naphthalene ND mg/kg 13.1 30 2-Methylnaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a	C11-C22 Aromatics	5710	mg/kg	262		30
2-Methylnaphthalene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Acenaphthylene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30	C11-C22 Aromatics, Adjusted	5710	mg/kg	262		30
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Acenaphthene ND mg/kg 13.1 30 Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	2-Methylnaphthalene	ND	mg/kg	13.1		30
Fluorene ND mg/kg 13.1 30 Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Acenaphthylene	ND	mg/kg	13.1		30
Phenanthrene ND mg/kg 13.1 30 Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Acenaphthene	ND	mg/kg	13.1		30
Anthracene ND mg/kg 13.1 30 Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Fluorene	ND	mg/kg	13.1		30
Fluoranthene ND mg/kg 13.1 30 Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Phenanthrene	ND	mg/kg	13.1		30
Pyrene ND mg/kg 13.1 30 Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Anthracene	ND	mg/kg	13.1		30
Benzo(a)anthracene ND mg/kg 13.1 30 Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Fluoranthene	ND	mg/kg	13.1		30
Chrysene ND mg/kg 13.1 30 Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Pyrene	ND	mg/kg	13.1		30
Benzo(b)fluoranthene ND mg/kg 13.1 30 Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Benzo(a)anthracene	ND	mg/kg	13.1		30
Benzo(k)fluoranthene ND mg/kg 13.1 30 Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Chrysene	ND	mg/kg	13.1		30
Benzo(a)pyrene ND mg/kg 13.1 30 Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Benzo(b)fluoranthene	ND	mg/kg	13.1		30
Indeno(1,2,3-cd)Pyrene ND mg/kg 13.1 30 Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Benzo(k)fluoranthene	ND	mg/kg	13.1		30
Dibenzo(a,h)anthracene ND mg/kg 13.1 30	Benzo(a)pyrene	ND	mg/kg	13.1		30
	Indeno(1,2,3-cd)Pyrene	ND	mg/kg	13.1		30
Benzo(ghi)perylene ND mg/kg 13.1 30	Dibenzo(a,h)anthracene	ND	mg/kg	13.1		30
	Benzo(ghi)perylene	ND	mg/kg	13.1		30



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-02 D

Client ID: B-415-12.2

Sample Location: WEYMOUTH, MA

Date Collected: 12/14/16 08:40

Date Received: 12/14/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

_			Acceptance Criteria	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	0	Q	40-140	
o-Terphenyl	0	Q	40-140	
2-Fluorobiphenyl	71		40-140	
2-Bromonaphthalene	72		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-03 D Date Collected: 12/14/16 08:45

Client ID: B-415-13.4 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/21/16 00:24 Cleanup Method1: EPH-04-1

Analytical Date: 12/21/16 00:24 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 12/17/16

Percent Solids: 71%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics 1060 mg/kg 46.0 5 C19-C36 Aliphatics 1740 mg/kg 46.0 5 C11-C22 Aromatics 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 2.30 5 ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphtylene ND mg/kg 2.30 5 Hoenanthrene ND mg/kg 2.30 5 Pluorene ND mg/kg 2.30 5 Pyrene ND <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
C9-C18 Aliphatics 1060 mg/kg 46.0 5 C19-C36 Aliphatics 1740 mg/kg 46.0 5 C11-C22 Aromatics 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 Naphthalene ND mg/kg 2.30 5 Naphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Fluoranthrene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
C19-C36 Aliphatics 1740 mg/kg 46.0 5 C11-C22 Aromatics 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 Naphthalene ND mg/kg 2.30 5 Naphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anth	Extractable Petroleum Hydrocarbo	ons - Westborough La	ıb				
C11-C22 Aromatics 1890 mg/kg 46.0 5 C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 Naphthalene ND mg/kg 2.30 5 2-Methylnaphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)athracene ND mg/kg 2.30 5 Benzo(b)f	C9-C18 Aliphatics	1060	ı	mg/kg	46.0		5
C11-C22 Aromatics, Adjusted 1890 mg/kg 46.0 5 Naphthalene ND mg/kg 2.30 5 2-Methylnaphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)flu	C19-C36 Aliphatics	1740	ı	mg/kg	46.0		5
Naphthalene ND mg/kg 2.30 5 2-Methylnaphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene	C11-C22 Aromatics	1890	ı	mg/kg	46.0		5
2-Methylnaphthalene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Acenaphthylene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd	C11-C22 Aromatics, Adjusted	1890	1	mg/kg	46.0		5
Acenaphthylene ND mg/kg 2.30 5 Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)an	Naphthalene	ND	1	mg/kg	2.30		5
Acenaphthene ND mg/kg 2.30 5 Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene	2-Methylnaphthalene	ND	1	mg/kg	2.30		5
Fluorene ND mg/kg 2.30 5 Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Acenaphthylene	ND	1	mg/kg	2.30		5
Phenanthrene ND mg/kg 2.30 5 Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Acenaphthene	ND	1	mg/kg	2.30		5
Anthracene ND mg/kg 2.30 5 Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Fluorene	ND	1	mg/kg	2.30		5
Fluoranthene ND mg/kg 2.30 5 Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Phenanthrene	ND	1	mg/kg	2.30		5
Pyrene ND mg/kg 2.30 5 Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Anthracene	ND	1	mg/kg	2.30		5
Benzo(a)anthracene ND mg/kg 2.30 5 Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Fluoranthene	ND	1	mg/kg	2.30		5
Chrysene ND mg/kg 2.30 5 Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Pyrene	ND	1	mg/kg	2.30		5
Benzo(b)fluoranthene ND mg/kg 2.30 5 Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Benzo(a)anthracene	ND	1	mg/kg	2.30		5
Benzo(k)fluoranthene ND mg/kg 2.30 5 Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Chrysene	ND	1	mg/kg	2.30		5
Benzo(a)pyrene ND mg/kg 2.30 5 Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Benzo(b)fluoranthene	ND	1	mg/kg	2.30		5
Indeno(1,2,3-cd)Pyrene ND mg/kg 2.30 5 Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Benzo(k)fluoranthene	ND	1	mg/kg	2.30		5
Dibenzo(a,h)anthracene ND mg/kg 2.30 5	Benzo(a)pyrene	ND	1	mg/kg	2.30		5
	Indeno(1,2,3-cd)Pyrene	ND	1	mg/kg	2.30		5
Benzo(ghi)perylene ND mg/kg 2.30 5	Dibenzo(a,h)anthracene	ND	1	mg/kg	2.30		5
	Benzo(ghi)perylene	ND	1	mg/kg	2.30		5



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-03 D Date Collected: 12/14/16 08:45

Client ID: B-415-13.4 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	58		40-140	
o-Terphenyl	76		40-140	
2-Fluorobiphenyl	78		40-140	
2-Bromonaphthalene	82		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-04 Date Collected: 12/14/16 10:10

Client ID: B-402-11.6 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/18/16 07:55 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16
Percent Solids: 91%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	7.18		1
C19-C36 Aliphatics	ND		mg/kg	7.18		1
C11-C22 Aromatics	ND		mg/kg	7.18		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.18		1
Naphthalene	ND		mg/kg	0.359		1
2-Methylnaphthalene	ND		mg/kg	0.359		1
Acenaphthylene	ND		mg/kg	0.359		1
Acenaphthene	ND		mg/kg	0.359		1
Fluorene	ND		mg/kg	0.359		1
Phenanthrene	ND		mg/kg	0.359		1
Anthracene	ND		mg/kg	0.359		1
Fluoranthene	ND		mg/kg	0.359		1
Pyrene	ND		mg/kg	0.359		1
Benzo(a)anthracene	ND		mg/kg	0.359		1
Chrysene	ND		mg/kg	0.359		1
Benzo(b)fluoranthene	ND		mg/kg	0.359		1
Benzo(k)fluoranthene	ND		mg/kg	0.359		1
Benzo(a)pyrene	ND		mg/kg	0.359		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.359		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.359		1
Benzo(ghi)perylene	ND		mg/kg	0.359		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-04 Date Collected: 12/14/16 10:10

Client ID: B-402-11.6 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	69		40-140	
o-Terphenyl	75		40-140	
2-Fluorobiphenyl	79		40-140	
2-Bromonaphthalene	78		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-05 D Date Collected: 12/14/16 10:15

Client ID: B-402-12.2 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07

Analytical Date: 12/21/16 00:55 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/17/16
Percent Solids: 91%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Sample Extraction method:

Sample Extracted Per the Method

Qualifier MDL **Parameter** Result Units RL **Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab** C9-C18 Aliphatics 353 2 mg/kg 14.2 --2 693 C19-C36 Aliphatics mg/kg 14.2 776 2 C11-C22 Aromatics mg/kg 14.2 2 C11-C22 Aromatics, Adjusted 776 mg/kg 14.2 --2 Naphthalene ND mg/kg 0.708 --2 ND 0.708 2-Methylnaphthalene mg/kg Acenaphthylene ND mg/kg 0.708 2 --ND 2 Acenaphthene mg/kg 0.708 --2 Fluorene ND 0.708 mg/kg Phenanthrene ND 0.708 2 mg/kg --Anthracene ND mg/kg 0.708 2 2 Fluoranthene ND 0.708 mg/kg --2 Pyrene ND mg/kg 0.708 Benzo(a)anthracene ND 0.708 2 mg/kg ND 2 Chrysene mg/kg 0.708 --2 ND Benzo(b)fluoranthene mg/kg 0.708 ND 2 Benzo(k)fluoranthene mg/kg 0.708 Benzo(a)pyrene ND mg/kg 0.708 2 --2 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.708 Dibenzo(a,h)anthracene ND 0.708 2 mg/kg ND 2 Benzo(ghi)perylene 0.708 mg/kg --



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-05 D Date Collected: 12/14/16 10:15

Client ID: B-402-12.2 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	51		40-140	
o-Terphenyl	76		40-140	
2-Fluorobiphenyl	85		40-140	
2-Bromonaphthalene	93		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-06 Date Collected: 12/14/16 10:20

Client ID: B-402-12.8 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07

Analytical Date: 12/18/16 08:27 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16
Percent Solids: 78%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier U	Inits RI	_ MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough Lal	b			
C9-C18 Aliphatics	ND	m	g/kg 8.4	9	1
C19-C36 Aliphatics	ND	m	g/kg 8.4	.9	1
C11-C22 Aromatics	9.61	m	g/kg 8.4	9	1
C11-C22 Aromatics, Adjusted	9.61	m	g/kg 8.4	9	1
Naphthalene	ND	m	g/kg 0.42	24	1
2-Methylnaphthalene	ND	m	g/kg 0.42	24	1
Acenaphthylene	ND	m	g/kg 0.42	24	1
Acenaphthene	ND	m	g/kg 0.42	24	1
Fluorene	ND	m	g/kg 0.42	24	1
Phenanthrene	ND	m	g/kg 0.42	24	1
Anthracene	ND	m	g/kg 0.42	24	1
Fluoranthene	ND	m	g/kg 0.42	24	1
Pyrene	ND	m	g/kg 0.42	24	1
Benzo(a)anthracene	ND	m	g/kg 0.42	24	1
Chrysene	ND	m	g/kg 0.42	24	1
Benzo(b)fluoranthene	ND	m	g/kg 0.42	24	1
Benzo(k)fluoranthene	ND	m	g/kg 0.42	24	1
Benzo(a)pyrene	ND	m	g/kg 0.42	24	1
Indeno(1,2,3-cd)Pyrene	ND	m	g/kg 0.42	24	1
Dibenzo(a,h)anthracene	ND	m	g/kg 0.4	24	1
Benzo(ghi)perylene	ND	m	g/kg 0.42	24	1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-06 Date Collected: 12/14/16 10:20

Client ID: B-402-12.8 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	74		40-140		
o-Terphenyl	87		40-140		
2-Fluorobiphenyl	79		40-140		
2-Bromonaphthalene	77		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-07 Date Collected: 12/14/16 11:00

Client ID: B-401-11.5 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/18/16 08:58 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16

Percent Solids: 58%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	11.1		1
C19-C36 Aliphatics	ND		mg/kg	11.1		1
C11-C22 Aromatics	ND		mg/kg	11.1		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	11.1		1
Naphthalene	ND		mg/kg	0.557		1
2-Methylnaphthalene	ND		mg/kg	0.557		1
Acenaphthylene	ND		mg/kg	0.557		1
Acenaphthene	ND		mg/kg	0.557		1
Fluorene	ND		mg/kg	0.557		1
Phenanthrene	ND		mg/kg	0.557		1
Anthracene	ND		mg/kg	0.557		1
Fluoranthene	ND		mg/kg	0.557		1
Pyrene	ND		mg/kg	0.557		1
Benzo(a)anthracene	ND		mg/kg	0.557		1
Chrysene	ND		mg/kg	0.557		1
Benzo(b)fluoranthene	ND		mg/kg	0.557		1
Benzo(k)fluoranthene	ND		mg/kg	0.557		1
Benzo(a)pyrene	ND		mg/kg	0.557		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.557		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.557		1
Benzo(ghi)perylene	ND		mg/kg	0.557		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-07 Date Collected: 12/14/16 11:00

Client ID: B-401-11.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	71		40-140		
o-Terphenyl	84		40-140		
2-Fluorobiphenyl	88		40-140		
2-Bromonaphthalene	86		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-08 Date Collected: 12/14/16 11:10

Client ID: B-401-12.2 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/18/16 09:30 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16

Percent Solids: 81%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics ND mg/kg 7.76 1 C19-C36 Aliphatics ND mg/kg 7.76 1 C11-C22 Aromatics ND mg/kg 7.76 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.388 1 Acenaphthalene ND mg/kg 0.388 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
C9-C18 Aliphatics ND mg/kg 7.76 1 C19-C36 Aliphatics ND mg/kg 7.76 1 C11-C22 Aromatics ND mg/kg 7.76 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.76 1 C11-C22 Aromatics, Adjusted ND mg/kg 0.388 1 Naphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthyrene ND mg/kg 0.388 1	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
C19-C36 Aliphatics ND mg/kg 7.76 1 C11-C22 Aromatics ND mg/kg 7.76 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.76 1 Naphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1	Extractable Petroleum Hydrocarbons - Westborough Lab							
C11-C22 Aromatics ND mg/kg 7.76 1 C11-C22 Aromatics, Adjusted ND mg/kg 7.76 1 Naphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(k)fluoranth	C9-C18 Aliphatics	ND		mg/kg	7.76		1	
C11-C22 Aromatics, Adjusted ND mg/kg 7.76 1 Naphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b	C19-C36 Aliphatics	ND		mg/kg	7.76		1	
Naphthalene ND mg/kg 0.388 1 2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a	C11-C22 Aromatics	ND		mg/kg	7.76		1	
2-Methylnaphthalene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Acenaphthylene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 In	C11-C22 Aromatics, Adjusted	ND		mg/kg	7.76		1	
Acenaphthylene ND mg/kg 0.388 1 Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 I	Naphthalene	ND		mg/kg	0.388		1	
Acenaphthene ND mg/kg 0.388 1 Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	2-Methylnaphthalene	ND		mg/kg	0.388		1	
Fluorene ND mg/kg 0.388 1 Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Acenaphthylene	ND		mg/kg	0.388		1	
Phenanthrene ND mg/kg 0.388 1 Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Acenaphthene	ND		mg/kg	0.388		1	
Anthracene ND mg/kg 0.388 1 Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Fluorene	ND		mg/kg	0.388		1	
Fluoranthene ND mg/kg 0.388 1 Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Phenanthrene	ND		mg/kg	0.388		1	
Pyrene ND mg/kg 0.388 1 Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Anthracene	ND		mg/kg	0.388		1	
Benzo(a)anthracene ND mg/kg 0.388 1 Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Fluoranthene	ND		mg/kg	0.388		1	
Chrysene ND mg/kg 0.388 1 Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Pyrene	ND		mg/kg	0.388		1	
Benzo(b)fluoranthene ND mg/kg 0.388 1 Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Benzo(a)anthracene	ND		mg/kg	0.388		1	
Benzo(k)fluoranthene ND mg/kg 0.388 1 Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Chrysene	ND		mg/kg	0.388		1	
Benzo(a)pyrene ND mg/kg 0.388 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Benzo(b)fluoranthene	ND		mg/kg	0.388		1	
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.388 1 Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Benzo(k)fluoranthene	ND		mg/kg	0.388		1	
Dibenzo(a,h)anthracene ND mg/kg 0.388 1	Benzo(a)pyrene	ND		mg/kg	0.388		1	
- · · · · · · · · · · · · · · · · · · ·	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.388		1	
Benzo(ghi)perylene ND mg/kg 0.388 1	Dibenzo(a,h)anthracene	ND		mg/kg	0.388		1	
	Benzo(ghi)perylene	ND		mg/kg	0.388		1	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-08 Date Collected: 12/14/16 11:10

Client ID: B-401-12.2 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	77		40-140		
o-Terphenyl	88		40-140		
2-Fluorobiphenyl	87		40-140		
2-Bromonaphthalene	85		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-09 Date Collected: 12/14/16 11:50

Client ID: B-400-11.4 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/18/16 10:01 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16

Percent Solids: 80%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter Result Qualifier Units RL MDL Dilution Factor Extractable Petroleum Hydrocarbons - Westborough Lab C9-C18 Aliphatics ND mg/kg 8.10 1 C19-C36 Aliphatics ND mg/kg 8.10 1 C11-C22 Aromatics 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 0.405 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 0.405 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 0.405 1 All Canaphthene ND mg/kg 0.405 1 Accenaphthylene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
C9-C18 Aliphatics ND mg/kg 8.10 1 C19-C36 Aliphatics ND mg/kg 8.10 1 C11-C22 Aromatics 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 ND mg/kg 0.405 1 ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Anthracene	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
C19-C36 Aliphatics ND mg/kg 8.10 1 C11-C22 Aromatics 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 0.405 1 Naphthalene ND mg/kg 0.405 1 2-Methylnaphthalene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluorenthene ND mg/kg 0.405 1	Extractable Petroleum Hydrocarbons - Westborough Lab							
C11-C22 Aromatics 11.0 mg/kg 8.10 1 C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 Naphthalene ND mg/kg 0.405 1 2-Methylnaphthalene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 B	C9-C18 Aliphatics	ND		mg/kg	8.10		1	
C11-C22 Aromatics, Adjusted 11.0 mg/kg 8.10 1 Naphthalene ND mg/kg 0.405 1 2-Methylnaphthalene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 <td< td=""><td>C19-C36 Aliphatics</td><td>ND</td><td></td><td>mg/kg</td><td>8.10</td><td></td><td>1</td></td<>	C19-C36 Aliphatics	ND		mg/kg	8.10		1	
Naphthalene ND mg/kg 0.405 1 2-Methylnaphthalene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)filuoranthene ND mg/kg 0.405 1 Benzo(k)filuoranthene ND mg/kg 0.405 1 Benzo	C11-C22 Aromatics	11.0		mg/kg	8.10		1	
2-Methylnaphthalene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Acenaphthylene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 In	C11-C22 Aromatics, Adjusted	11.0		mg/kg	8.10		1	
Acenaphthylene ND mg/kg 0.405 1 Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 I	Naphthalene	ND		mg/kg	0.405		1	
Acenaphthene ND mg/kg 0.405 1 Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	2-Methylnaphthalene	ND		mg/kg	0.405		1	
Fluorene ND mg/kg 0.405 1 Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Acenaphthylene	ND		mg/kg	0.405		1	
Phenanthrene ND mg/kg 0.405 1 Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Acenaphthene	ND		mg/kg	0.405		1	
Anthracene ND mg/kg 0.405 1 Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Fluorene	ND		mg/kg	0.405		1	
Fluoranthene ND mg/kg 0.405 1 Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Phenanthrene	ND		mg/kg	0.405		1	
Pyrene ND mg/kg 0.405 1 Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Anthracene	ND		mg/kg	0.405		1	
Benzo(a)anthracene ND mg/kg 0.405 1 Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Fluoranthene	ND		mg/kg	0.405		1	
Chrysene ND mg/kg 0.405 1 Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Pyrene	ND		mg/kg	0.405		1	
Benzo(b)fluoranthene ND mg/kg 0.405 1 Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Benzo(a)anthracene	ND		mg/kg	0.405		1	
Benzo(k)fluoranthene ND mg/kg 0.405 1 Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Chrysene	ND		mg/kg	0.405		1	
Benzo(a)pyrene ND mg/kg 0.405 1 Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Benzo(b)fluoranthene	ND		mg/kg	0.405		1	
Indeno(1,2,3-cd)Pyrene ND mg/kg 0.405 1 Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Benzo(k)fluoranthene	ND		mg/kg	0.405		1	
Dibenzo(a,h)anthracene ND mg/kg 0.405 1	Benzo(a)pyrene	ND		mg/kg	0.405		1	
- · · ·	Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.405		1	
Benzo(ghi)perylene ND mg/kg 0.405 1	Dibenzo(a,h)anthracene	ND		mg/kg	0.405		1	
	Benzo(ghi)perylene	ND		mg/kg	0.405		1	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-09 Date Collected: 12/14/16 11:50

Client ID: B-400-11.4 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	69		40-140	
o-Terphenyl	85		40-140	
2-Fluorobiphenyl	82		40-140	
2-Bromonaphthalene	80		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-10 Date Collected: 12/14/16 11:55

Client ID: B-400-12.4 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07
Analytical Date: 12/18/16 10:32 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16

Percent Solids: 70%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ıb				
C9-C18 Aliphatics	ND		mg/kg	9.26		1
C19-C36 Aliphatics	ND		mg/kg	9.26		1
C11-C22 Aromatics	15.0		mg/kg	9.26		1
C11-C22 Aromatics, Adjusted	15.0		mg/kg	9.26		1
Naphthalene	ND		mg/kg	0.463		1
2-Methylnaphthalene	ND		mg/kg	0.463		1
Acenaphthylene	ND		mg/kg	0.463		1
Acenaphthene	ND		mg/kg	0.463		1
Fluorene	ND		mg/kg	0.463		1
Phenanthrene	ND		mg/kg	0.463		1
Anthracene	ND		mg/kg	0.463		1
Fluoranthene	ND		mg/kg	0.463		1
Pyrene	ND		mg/kg	0.463		1
Benzo(a)anthracene	ND		mg/kg	0.463		1
Chrysene	ND		mg/kg	0.463		1
Benzo(b)fluoranthene	ND		mg/kg	0.463		1
Benzo(k)fluoranthene	ND		mg/kg	0.463		1
Benzo(a)pyrene	ND		mg/kg	0.463		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.463		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.463		1
Benzo(ghi)perylene	ND		mg/kg	0.463		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-10 Date Collected: 12/14/16 11:55

Client ID: B-400-12.4 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	82		40-140	
2-Fluorobiphenyl	83		40-140	
2-Bromonaphthalene	80		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-11 Date Collected: 12/14/16 13:05

Client ID: B-403-10 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/16/16 16:07

Analytical Date: 12/18/16 11:03 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/17/16
Percent Solids: 94%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	6.92		1
C19-C36 Aliphatics	ND		mg/kg	6.92		1
C11-C22 Aromatics	ND		mg/kg	6.92		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.92		1
Naphthalene	ND		mg/kg	0.346		1
2-Methylnaphthalene	ND		mg/kg	0.346		1
Acenaphthylene	ND		mg/kg	0.346		1
Acenaphthene	ND		mg/kg	0.346		1
Fluorene	ND		mg/kg	0.346		1
Phenanthrene	ND		mg/kg	0.346		1
Anthracene	ND		mg/kg	0.346		1
Fluoranthene	ND		mg/kg	0.346		1
Pyrene	ND		mg/kg	0.346		1
Benzo(a)anthracene	ND		mg/kg	0.346		1
Chrysene	ND		mg/kg	0.346		1
Benzo(b)fluoranthene	ND		mg/kg	0.346		1
Benzo(k)fluoranthene	ND		mg/kg	0.346		1
Benzo(a)pyrene	ND		mg/kg	0.346		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.346		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.346		1
Benzo(ghi)perylene	ND		mg/kg	0.346		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-11 Date Collected: 12/14/16 13:05

Client ID: B-403-10 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	81		40-140	
2-Fluorobiphenyl	86		40-140	
2-Bromonaphthalene	84		40-140	



Project Name: Lab Number: WEYMOUTH C/S L1640742

Project Number: Not Specified **Report Date:** 12/21/16

SAMPLE RESULTS

Lab ID: Date Collected: L1640742-12 12/14/16 13:10

Client ID: Date Received: 12/14/16 B-403-12

Sample Location: Field Prep: WEYMOUTH, MA Not Specified Matrix: **Extraction Method:** EPA 3546

Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 12/17/16 06:19

Analytical Date: 12/19/16 20:24 Cleanup Method1: EPH-04-1

Analyst: ΕK Cleanup Date1: 12/19/16 Percent Solids: 90%

Quality Control Information

Condition of sample received: Satisfactory Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	7.29		1
C19-C36 Aliphatics	ND		mg/kg	7.29		1
C11-C22 Aromatics	ND		mg/kg	7.29		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.29		1
Naphthalene	ND		mg/kg	0.364		1
2-Methylnaphthalene	ND		mg/kg	0.364		1
Acenaphthylene	ND		mg/kg	0.364		1
Acenaphthene	ND		mg/kg	0.364		1
Fluorene	ND		mg/kg	0.364		1
Phenanthrene	ND		mg/kg	0.364		1
Anthracene	ND		mg/kg	0.364		1
Fluoranthene	ND		mg/kg	0.364		1
Pyrene	ND		mg/kg	0.364		1
Benzo(a)anthracene	ND		mg/kg	0.364		1
Chrysene	ND		mg/kg	0.364		1
Benzo(b)fluoranthene	ND		mg/kg	0.364		1
Benzo(k)fluoranthene	ND		mg/kg	0.364		1
Benzo(a)pyrene	ND		mg/kg	0.364		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.364		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.364		1
Benzo(ghi)perylene	ND		mg/kg	0.364		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-12 Date Collected: 12/14/16 13:10

Client ID: B-403-12 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	80		40-140	
o-Terphenyl	83		40-140	
2-Fluorobiphenyl	76		40-140	
2-Bromonaphthalene	75		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-13 Date Collected: 12/14/16 13:50

Client ID: B-404-11.4 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19

Analytical Date: 12/19/16 20:55 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 12/19/16

Percent Solids: 82%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough La	ab				
C9-C18 Aliphatics	165		mg/kg	8.08		1
C19-C36 Aliphatics	278		mg/kg	8.08		1
C11-C22 Aromatics	708		mg/kg	8.08		1
C11-C22 Aromatics, Adjusted	704		mg/kg	8.08		1
Naphthalene	ND		mg/kg	0.404		1
2-Methylnaphthalene	ND		mg/kg	0.404		1
Acenaphthylene	ND		mg/kg	0.404		1
Acenaphthene	ND		mg/kg	0.404		1
Fluorene	ND		mg/kg	0.404		1
Phenanthrene	1.61		mg/kg	0.404		1
Anthracene	ND		mg/kg	0.404		1
Fluoranthene	ND		mg/kg	0.404		1
Pyrene	1.08		mg/kg	0.404		1
Benzo(a)anthracene	ND		mg/kg	0.404		1
Chrysene	1.19		mg/kg	0.404		1
Benzo(b)fluoranthene	ND		mg/kg	0.404		1
Benzo(k)fluoranthene	ND		mg/kg	0.404		1
Benzo(a)pyrene	ND		mg/kg	0.404		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.404		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.404		1
Benzo(ghi)perylene	ND		mg/kg	0.404		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-13 Date Collected: 12/14/16 13:50

Client ID: B-404-11.4 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	78		40-140	
o-Terphenyl	114		40-140	
2-Fluorobiphenyl	97		40-140	
2-Bromonaphthalene	100		40-140	



12/14/16 14:00

Project Name: Lab Number: WEYMOUTH C/S L1640742

Project Number: Not Specified **Report Date:** 12/21/16

SAMPLE RESULTS

Lab ID: Date Collected: L1640742-14 D

Client ID: B-404-12 Date Received: 12/14/16

Sample Location: Field Prep: WEYMOUTH, MA Not Specified Matrix: **Extraction Method:** EPA 3546 Soil

Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 12/17/16 06:19 12/20/16 22:19 EPH-04-1

Analytical Date: Cleanup Method1: Analyst: SR Cleanup Date1: 12/20/16

Percent Solids: 76%

Quality Control Information

Condition of sample received: Satisfactory Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ab				
C9-C18 Aliphatics	12700		mg/kg	495		60
C19-C36 Aliphatics	22000		mg/kg	495		60
C11-C22 Aromatics	27800		mg/kg	495		60
C11-C22 Aromatics, Adjusted	27800		mg/kg	495		60
Naphthalene	ND		mg/kg	24.8		60
2-Methylnaphthalene	ND		mg/kg	24.8		60
Acenaphthylene	ND		mg/kg	24.8		60
Acenaphthene	ND		mg/kg	24.8		60
Fluorene	ND		mg/kg	24.8		60
Phenanthrene	ND		mg/kg	24.8		60
Anthracene	ND		mg/kg	24.8		60
Fluoranthene	ND		mg/kg	24.8		60
Pyrene	ND		mg/kg	24.8		60
Benzo(a)anthracene	ND		mg/kg	24.8		60
Chrysene	ND		mg/kg	24.8		60
Benzo(b)fluoranthene	ND		mg/kg	24.8		60
Benzo(k)fluoranthene	ND		mg/kg	24.8		60
Benzo(a)pyrene	ND		mg/kg	24.8		60
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	24.8		60
Dibenzo(a,h)anthracene	ND		mg/kg	24.8		60
Benzo(ghi)perylene	ND		mg/kg	24.8		60



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-14 D

Client ID: B-404-12

Sample Location: WEYMOUTH, MA

Date Collected: 12/14/16 14:00

Date Received: 12/14/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance
Surrogate	% Recovery	Qualifier	Criteria
Chloro-Octadecane	0	Q	40-140
o-Terphenyl	0	Q	40-140
2-Fluorobiphenyl	89		40-140
2-Bromonaphthalene	97		40-140



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-15 Date Collected: 12/14/16 14:10

Client ID: B-404-16.5 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19

Analytical Date: 12/20/16 19:09 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 12/19/16

Percent Solids: 87%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	7.55		1
C19-C36 Aliphatics	ND		mg/kg	7.55		1
C11-C22 Aromatics	9.87		mg/kg	7.55		1
C11-C22 Aromatics, Adjusted	9.87		mg/kg	7.55		1
Naphthalene	ND		mg/kg	0.377		1
2-Methylnaphthalene	ND		mg/kg	0.377		1
Acenaphthylene	ND		mg/kg	0.377		1
Acenaphthene	ND		mg/kg	0.377		1
Fluorene	ND		mg/kg	0.377		1
Phenanthrene	ND		mg/kg	0.377		1
Anthracene	ND		mg/kg	0.377		1
Fluoranthene	ND		mg/kg	0.377		1
Pyrene	ND		mg/kg	0.377		1
Benzo(a)anthracene	ND		mg/kg	0.377		1
Chrysene	ND		mg/kg	0.377		1
Benzo(b)fluoranthene	ND		mg/kg	0.377		1
Benzo(k)fluoranthene	ND		mg/kg	0.377		1
Benzo(a)pyrene	ND		mg/kg	0.377		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.377		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.377		1
Benzo(ghi)perylene	ND		mg/kg	0.377		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-15 Date Collected: 12/14/16 14:10

Client ID: B-404-16.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	69		40-140		
o-Terphenyl	95		40-140		
2-Fluorobiphenyl	95		40-140		
2-Bromonaphthalene	94		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-16 Date Collected: 12/14/16 14:40

Client ID: B-405-11.5 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19
Analytical Date: 12/20/16 18:38 Cleanup Method1: EPH-04-1

Analytical Date: 12/20/16 18:38 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 12/19/16

Percent Solids: 52%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b				
C9-C18 Aliphatics	ND		mg/kg	12.7		1
C19-C36 Aliphatics	ND		mg/kg	12.7		1
C11-C22 Aromatics	59.0		mg/kg	12.7		1
C11-C22 Aromatics, Adjusted	49.7		mg/kg	12.7		1
Naphthalene	ND		mg/kg	0.636		1
2-Methylnaphthalene	0.675		mg/kg	0.636		1
Acenaphthylene	ND		mg/kg	0.636		1
Acenaphthene	ND		mg/kg	0.636		1
Fluorene	ND		mg/kg	0.636		1
Phenanthrene	1.99		mg/kg	0.636		1
Anthracene	ND		mg/kg	0.636		1
Fluoranthene	1.13		mg/kg	0.636		1
Pyrene	1.67		mg/kg	0.636		1
Benzo(a)anthracene	0.943		mg/kg	0.636		1
Chrysene	1.42		mg/kg	0.636		1
Benzo(b)fluoranthene	0.655		mg/kg	0.636		1
Benzo(k)fluoranthene	ND		mg/kg	0.636		1
Benzo(a)pyrene	0.799		mg/kg	0.636		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.636		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.636		1
Benzo(ghi)perylene	ND		mg/kg	0.636		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-16 Date Collected: 12/14/16 14:40

Client ID: B-405-11.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	65		40-140		
o-Terphenyl	103		40-140		
2-Fluorobiphenyl	97		40-140		
2-Bromonaphthalene	96		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-17 Date Collected: 12/14/16 14:50

Client ID: B-405-12.5 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/20/16 23:16
Analytical Date: 12/21/16 13:51 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/21/16

Percent Solids: 85%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C9-C18 Aliphatics	ND	m	g/kg 7.65		1
C19-C36 Aliphatics	ND	m	g/kg 7.65		1
C11-C22 Aromatics	ND	m	g/kg 7.65		1
C11-C22 Aromatics, Adjusted	ND	m	g/kg 7.65		1
Naphthalene	ND	m	g/kg 0.383		1
2-Methylnaphthalene	ND	m	g/kg 0.383		1
Acenaphthylene	ND	m	g/kg 0.383		1
Acenaphthene	ND	m	g/kg 0.383		1
Fluorene	ND	m	g/kg 0.383		1
Phenanthrene	ND	m	g/kg 0.383		1
Anthracene	ND	m	g/kg 0.383		1
Fluoranthene	ND	m	g/kg 0.383		1
Pyrene	ND	m	g/kg 0.383		1
Benzo(a)anthracene	ND	m	g/kg 0.383		1
Chrysene	ND	m	g/kg 0.383		1
Benzo(b)fluoranthene	ND	m	g/kg 0.383		1
Benzo(k)fluoranthene	ND	m	g/kg 0.383		1
Benzo(a)pyrene	ND	m	g/kg 0.383		1
Indeno(1,2,3-cd)Pyrene	ND	m	g/kg 0.383		1
Dibenzo(a,h)anthracene	ND	m	g/kg 0.383		1
Benzo(ghi)perylene	ND	m	g/kg 0.383		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-17 Date Collected: 12/14/16 14:50

Client ID: B-405-12.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	71		40-140		
o-Terphenyl	98		40-140		
2-Fluorobiphenyl	92		40-140		
2-Bromonaphthalene	90		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-18 D Date Collected: 12/14/16 15:10

Client ID: B-406-11.8 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19
Analytical Date: 12/20/16 22:50 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/20/16
Percent Solids: 64%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Parameter	Result	Qualifier U	Inits RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarb	Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	5360	m	g/kg 205		20				
C19-C36 Aliphatics	12000	m	g/kg 205		20				
C11-C22 Aromatics	13400	m	g/kg 205		20				
C11-C22 Aromatics, Adjusted	13400	m	g/kg 205		20				
Naphthalene	ND	m	g/kg 10.2		20				
2-Methylnaphthalene	ND	m	g/kg 10.2		20				
Acenaphthylene	ND	m	g/kg 10.2		20				
Acenaphthene	ND	m	g/kg 10.2		20				
Fluorene	ND	m	g/kg 10.2		20				
Phenanthrene	ND	m	g/kg 10.2		20				
Anthracene	ND	m	g/kg 10.2		20				
Fluoranthene	ND	m	g/kg 10.2		20				
Pyrene	ND	m	g/kg 10.2		20				
Benzo(a)anthracene	ND	m	g/kg 10.2		20				
Chrysene	ND	m	g/kg 10.2		20				
Benzo(b)fluoranthene	ND	m	g/kg 10.2		20				
Benzo(k)fluoranthene	ND	m	g/kg 10.2		20				
Benzo(a)pyrene	ND	m	g/kg 10.2		20				
Indeno(1,2,3-cd)Pyrene	ND	m	g/kg 10.2		20				
Dibenzo(a,h)anthracene	ND	m	g/kg 10.2		20				
Benzo(ghi)perylene	ND	m	g/kg 10.2		20				



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-18 D

Client ID: B-406-11.8

Sample Location: WEYMOUTH, MA

Date Collected: 12/14/16 15:10

Date Received: 12/14/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	0	Q	40-140		
o-Terphenyl	0	Q	40-140		
2-Fluorobiphenyl	70		40-140		
2-Bromonaphthalene	69		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-19 D

Client ID: B-406-12.5

Sample Location: WEYMOUTH, MA

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 12/21/16 02:58

Analyst: KD Percent Solids: 90%

Date Collected: 12/14/16 15:20

Date Received: 12/14/16
Field Prep: Not Specified

Quality Control Information

Condition of sample received:
Sample Temperature upon receipt:
Were samples received in methanol?
Methanol ratio:

Satisfactory Received on Ice Covering the Soil

1:1.6

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	63.0		mg/kg	10.7		5		
C9-C12 Aliphatics	423		mg/kg	10.7		5		
C9-C10 Aromatics	44.2		mg/kg	10.7		5		
C5-C8 Aliphatics, Adjusted	63.0		mg/kg	10.7		5		
C9-C12 Aliphatics, Adjusted	375		mg/kg	10.7		5		
Benzene	ND		mg/kg	0.430		5		
Toluene	ND		mg/kg	0.430		5		
Ethylbenzene	3.89		mg/kg	0.430		5		
p/m-Xylene	ND		mg/kg	0.430		5		
o-Xylene	ND		mg/kg	0.430		5		
Methyl tert butyl ether	ND		mg/kg	0.215		5		
Naphthalene	17.3		mg/kg	0.859		5		

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	21	Q	70-130		
2,5-Dibromotoluene-FID	23	Q	70-130		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-19 D Date Collected: 12/14/16 15:20

Client ID: B-406-12.5 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19

Analytical Date: 12/20/16 23:21 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/20/16
Percent Solids: 90%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b				
C9-C18 Aliphatics	11200		mg/kg	290		40
C19-C36 Aliphatics	16800		mg/kg	290		40
C11-C22 Aromatics	20100		mg/kg	290		40
C11-C22 Aromatics, Adjusted	20000		mg/kg	290		40
Naphthalene	19.6		mg/kg	14.5		40
2-Methylnaphthalene	73.4		mg/kg	14.5		40
Acenaphthylene	ND		mg/kg	14.5		40
Acenaphthene	ND		mg/kg	14.5		40
Fluorene	ND		mg/kg	14.5		40
Phenanthrene	28.4		mg/kg	14.5		40
Anthracene	ND		mg/kg	14.5		40
Fluoranthene	ND		mg/kg	14.5		40
Pyrene	ND		mg/kg	14.5		40
Benzo(a)anthracene	ND		mg/kg	14.5		40
Chrysene	ND		mg/kg	14.5		40
Benzo(b)fluoranthene	ND		mg/kg	14.5		40
Benzo(k)fluoranthene	ND		mg/kg	14.5		40
Benzo(a)pyrene	ND		mg/kg	14.5		40
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	14.5		40
Dibenzo(a,h)anthracene	ND		mg/kg	14.5		40
Benzo(ghi)perylene	ND		mg/kg	14.5		40



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-19 D

Client ID: B-406-12.5

Sample Location: WEYMOUTH, MA

Date Collected: 12/14/16 15:20

Date Received: 12/14/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	0	Q	40-140		
o-Terphenyl	0	Q	40-140		
2-Fluorobiphenyl	94		40-140		
2-Bromonaphthalene	90		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-20 Date Collected: 12/14/16 15:30

Client ID: B-406-21 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19

Analytical Date: 12/20/16 18:07 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 12/19/16

Analyst: SR Cleanup Date1: Percent Solids: 88%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough L	ab				
C9-C18 Aliphatics	ND		mg/kg	7.14		1
C19-C36 Aliphatics	ND		mg/kg	7.14		1
C11-C22 Aromatics	ND		mg/kg	7.14		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.14		1
Naphthalene	ND		mg/kg	0.357		1
2-Methylnaphthalene	ND		mg/kg	0.357		1
Acenaphthylene	ND		mg/kg	0.357		1
Acenaphthene	ND		mg/kg	0.357		1
Fluorene	ND		mg/kg	0.357		1
Phenanthrene	ND		mg/kg	0.357		1
Anthracene	ND		mg/kg	0.357		1
Fluoranthene	ND		mg/kg	0.357		1
Pyrene	ND		mg/kg	0.357		1
Benzo(a)anthracene	ND		mg/kg	0.357		1
Chrysene	ND		mg/kg	0.357		1
Benzo(b)fluoranthene	ND		mg/kg	0.357		1
Benzo(k)fluoranthene	ND		mg/kg	0.357		1
Benzo(a)pyrene	ND		mg/kg	0.357		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.357		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.357		1
Benzo(ghi)perylene	ND		mg/kg	0.357		1



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-20 Date Collected: 12/14/16 15:30

Client ID: B-406-21 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specif

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	75		40-140	
o-Terphenyl	94		40-140	
2-Fluorobiphenyl	97		40-140	
2-Bromonaphthalene	95		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-21 Date Collected: 12/14/16 15:22

Client ID: TB01 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 12/20/16 14:54

Analyst: KD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Quality Control Information

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Were samples received in methanol?

Methanol ratio:

Satisfactory

Received on Ice

Covering the Soil

1:1 +/- 25%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		mg/kg	2.67		1		
C9-C12 Aliphatics	ND		mg/kg	2.67		1		
C9-C10 Aromatics	ND		mg/kg	2.67		1		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67		1		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67		1		
Benzene	ND		mg/kg	0.107		1		
Toluene	ND		mg/kg	0.107		1		
Ethylbenzene	ND		mg/kg	0.107		1		
p/m-Xylene	ND		mg/kg	0.107		1		
o-Xylene	ND		mg/kg	0.107		1		
Methyl tert butyl ether	ND		mg/kg	0.053		1		
Naphthalene	ND		mg/kg	0.213		1		

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	89		70-130			
2,5-Dibromotoluene-FID	94		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-22 Date Collected: 12/14/16 08:45

Client ID: B-451-13.4 Date Received: 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/17/16 06:19
Analytical Date: 12/20/16 03:14 Cleanup Method1: EPH-04-1

Analyst: DV Cleanup Date1: 12/19/16
Percent Solids: 74%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbo	Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	510		mg/kg	8.69		1				
C19-C36 Aliphatics	712		mg/kg	8.69		1				
C11-C22 Aromatics	868		mg/kg	8.69		1				
C11-C22 Aromatics, Adjusted	866		mg/kg	8.69		1				
Naphthalene	ND		mg/kg	0.434		1				
2-Methylnaphthalene	0.675		mg/kg	0.434		1				
Acenaphthylene	ND		mg/kg	0.434		1				
Acenaphthene	ND		mg/kg	0.434		1				
Fluorene	ND		mg/kg	0.434		1				
Phenanthrene	ND		mg/kg	0.434		1				
Anthracene	ND		mg/kg	0.434		1				
Fluoranthene	ND		mg/kg	0.434		1				
Pyrene	ND		mg/kg	0.434		1				
Benzo(a)anthracene	0.670		mg/kg	0.434		1				
Chrysene	0.781		mg/kg	0.434		1				
Benzo(b)fluoranthene	ND		mg/kg	0.434		1				
Benzo(k)fluoranthene	ND		mg/kg	0.434		1				
Benzo(a)pyrene	ND		mg/kg	0.434		1				
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.434		1				
Dibenzo(a,h)anthracene	ND		mg/kg	0.434		1				
Benzo(ghi)perylene	ND		mg/kg	0.434		1				



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-22 Date Collected: 12/14/16 08:45

Client ID: B-451-13.4 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	67		40-140	
o-Terphenyl	91		40-140	
2-Fluorobiphenyl	106		40-140	
2-Bromonaphthalene	106		40-140	



L1640742

Project Name: WEYMOUTH C/S Lab Number:

Project Number: Not Specified Report Date: 12/21/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 98,EPH-04-1.1

Analyst: NS

Extraction Method: EPA 3546
Extraction Date: 12/16/16 16:07
Cleanup Method: EPH-04-1

Cleanup Method: EPH-04-1 Cleanup Date: 12/17/16

Parameter	Result	Qualifier	Units	RL	MDL	
Extractable Petroleum Hydrocarbon	s - Westbor	ough Lab	for sample(s)	: 01-11	Batch: WG962109-	·1
C9-C18 Aliphatics	ND		mg/kg	6.33		
C19-C36 Aliphatics	ND		mg/kg	6.33		
C11-C22 Aromatics	ND		mg/kg	6.33		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.33		
Naphthalene	ND		mg/kg	0.316		
2-Methylnaphthalene	ND		mg/kg	0.316		
Acenaphthylene	ND		mg/kg	0.316		
Acenaphthene	ND		mg/kg	0.316		
Fluorene	ND		mg/kg	0.316		
Phenanthrene	ND		mg/kg	0.316		
Anthracene	ND		mg/kg	0.316		
Fluoranthene	ND		mg/kg	0.316		
Pyrene	ND		mg/kg	0.316		
Benzo(a)anthracene	ND		mg/kg	0.316		
Chrysene	ND		mg/kg	0.316		
Benzo(b)fluoranthene	ND		mg/kg	0.316		
Benzo(k)fluoranthene	ND		mg/kg	0.316		
Benzo(a)pyrene	ND		mg/kg	0.316		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.316		
Dibenzo(a,h)anthracene	ND		mg/kg	0.316		
Benzo(ghi)perylene	ND		mg/kg	0.316		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	47		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	88		40-140	
2-Bromonaphthalene	88		40-140	



Project Name: WEYMOUTH C/S

Project Number: Not Specified Lab Number:

L1640742

Report Date:

12/21/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

12/19/16 18:51

ΕK

Extraction Method: EPA 3546 12/17/16 06:19 Extraction Date:

Cleanup Method:

EPH-04-1 Cleanup Date: 12/19/16

Parameter	Result	Qualifier	Units	RL	MDL	
Extractable Petroleum Hydrocarbon WG962237-1	s - Westbo	rough Lab f	or sample(s)	12-16,	18-20,22	Batch:
C9-C18 Aliphatics	ND		mg/kg	6.33		
C19-C36 Aliphatics	ND		mg/kg	6.33		
C11-C22 Aromatics	ND		mg/kg	6.33		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.33		
Naphthalene	ND		mg/kg	0.317		
2-Methylnaphthalene	ND		mg/kg	0.317		
Acenaphthylene	ND		mg/kg	0.317		
Acenaphthene	ND		mg/kg	0.317		
Fluorene	ND		mg/kg	0.317		
Phenanthrene	ND		mg/kg	0.317		
Anthracene	ND		mg/kg	0.317		
Fluoranthene	ND		mg/kg	0.317		
Pyrene	ND		mg/kg	0.317		
Benzo(a)anthracene	ND		mg/kg	0.317		
Chrysene	ND		mg/kg	0.317		
Benzo(b)fluoranthene	ND		mg/kg	0.317		
Benzo(k)fluoranthene	ND		mg/kg	0.317		
Benzo(a)pyrene	ND		mg/kg	0.317		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.317		
Dibenzo(a,h)anthracene	ND		mg/kg	0.317		
Benzo(ghi)perylene	ND		mg/kg	0.317		

L1640742

Project Name: WEYMOUTH C/S

Project Number: Not Specified Report Date:

12/21/16

Lab Number:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

12/19/16 18:51

ΕK

Extraction Method: EPA 3546 Extraction Date: 12/17/16 06:19

EPH-04-1 Cleanup Method: Cleanup Date: 12/19/16

Result Qualifier Units RLMDL Parameter

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 12-16,18-20,22 Batch: WG962237-1

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
Chloro-Octadecane	65		40-140			
o-Terphenyl	89		40-140			
2-Fluorobiphenyl	96		40-140			
2-Bromonaphthalene	95		40-140			



L1640742

Project Name: WEYMOUTH C/S Lab Number:

Project Number: Not Specified Report Date: 12/21/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 98,EPH-04-1.1

Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/20/16 09:04
Cleanup Method: EPH-04-1
Cleanup Date: 12/21/16

Parameter	Result	Qualifier	Units	RL	I	MDL
Extractable Petroleum Hydroca	rbons - Westbo	rough Lab	for sample(s):	17	Batch:	WG962911-1
C9-C18 Aliphatics	ND		mg/kg	6.45		
C19-C36 Aliphatics	ND		mg/kg	6.45		
C11-C22 Aromatics	ND		mg/kg	6.45		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.45		
Naphthalene	ND		mg/kg	0.322		
2-Methylnaphthalene	ND		mg/kg	0.322		
Acenaphthylene	ND		mg/kg	0.322		
Acenaphthene	ND		mg/kg	0.322		
Fluorene	ND		mg/kg	0.322		
Phenanthrene	ND		mg/kg	0.322		
Anthracene	ND		mg/kg	0.322		
Fluoranthene	ND		mg/kg	0.322		
Pyrene	ND		mg/kg	0.322		
Benzo(a)anthracene	ND		mg/kg	0.322		
Chrysene	ND		mg/kg	0.322		
Benzo(b)fluoranthene	ND		mg/kg	0.322		
Benzo(k)fluoranthene	ND		mg/kg	0.322		
Benzo(a)pyrene	ND		mg/kg	0.322		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322		
Dibenzo(a,h)anthracene	ND		mg/kg	0.322		
Benzo(ghi)perylene	ND		mg/kg	0.322		

			Acceptance
Surrogate	%Recovery	Qualifier	Criteria
Chloro-Octadecane	66		40-140
o-Terphenyl	99		40-140
2-Fluorobiphenyl	94		40-140
2-Bromonaphthalene	95		40-140



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 12/20/16 09:52

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons - \	Vestborougl	n Lab for s	ample(s):	19,21	Batch:	WG963463-3
C5-C8 Aliphatics	ND		mg/kg	2.67		
C9-C12 Aliphatics	ND		mg/kg	2.67		
C9-C10 Aromatics	ND		mg/kg	2.67		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2.67		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2.67		
Benzene	ND		mg/kg	0.107		
Toluene	ND		mg/kg	0.107		
Ethylbenzene	ND		mg/kg	0.107		
p/m-Xylene	ND		mg/kg	0.107		
o-Xylene	ND		mg/kg	0.107		
Methyl tert butyl ether	ND		mg/kg	0.053		
Naphthalene	ND		mg/kg	0.213		

	Acceptance						
Surrogate	%Recovery	Qualifier	Criteria				
2,5-Dibromotoluene-PID	87		70-130				
2,5-Dibromotoluene-FID	90		70-130				



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Parameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample(s): 01-11	Batch: WG962109-2 WG96	2109-3	
C9-C18 Aliphatics	60	60	40-140	0	25
C19-C36 Aliphatics	72	71	40-140	1	25
C11-C22 Aromatics	89	98	40-140	10	25
Naphthalene	65	69	40-140	6	25
2-Methylnaphthalene	67	70	40-140	4	25
Acenaphthylene	70	72	40-140	3	25
Acenaphthene	74	78	40-140	5	25
Fluorene	78	82	40-140	5	25
Phenanthrene	82	87	40-140	6	25
Anthracene	81	86	40-140	6	25
Fluoranthene	87	93	40-140	7	25
Pyrene	88	94	40-140	7	25
Benzo(a)anthracene	85	91	40-140	7	25
Chrysene	89	96	40-140	8	25
Benzo(b)fluoranthene	89	96	40-140	8	25
Benzo(k)fluoranthene	88	95	40-140	8	25
Benzo(a)pyrene	80	84	40-140	5	25
Indeno(1,2,3-cd)Pyrene	90	95	40-140	5	25
Dibenzo(a,h)anthracene	88	94	40-140	7	25
Benzo(ghi)perylene	86	91	40-140	6	25
Nonane (C9)	47	47	30-140	0	25



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sampl	e(s): 01-11	Batch: WG	962109-2 WG962	109-3		
Decane (C10)	53		52		40-140	2		25
Dodecane (C12)	55		54		40-140	2		25
Tetradecane (C14)	56		55		40-140	2		25
Hexadecane (C16)	60		60		40-140	0		25
Octadecane (C18)	64		64		40-140	0		25
Nonadecane (C19)	64		65		40-140	2		25
Eicosane (C20)	66		66		40-140	0		25
Docosane (C22)	67		67		40-140	0		25
Tetracosane (C24)	67		67		40-140	0		25
Hexacosane (C26)	67		67		40-140	0		25
Octacosane (C28)	67		67		40-140	0		25
Triacontane (C30)	66		66		40-140	0		25
Hexatriacontane (C36)	66		65		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	61		54		40-140	
o-Terphenyl	118		131		40-140	
2-Fluorobiphenyl	85		89		40-140	
2-Bromonaphthalene	89		93		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Parameter	LCS %Recovery	Qual	LCSD %Recovery	% Qual	Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sampl	e(s): 12-16,18-20,	22 Batch:	WG962237-2	WG962237	'-3	
C9-C18 Aliphatics	74		76		40-140	3		25
C19-C36 Aliphatics	63		84		40-140	29	Q	25
C11-C22 Aromatics	80		97		40-140	19		25
Naphthalene	68		83		40-140	20		25
2-Methylnaphthalene	69		84		40-140	20		25
Acenaphthylene	66		81		40-140	20		25
Acenaphthene	73		88		40-140	19		25
Fluorene	74		91		40-140	21		25
Phenanthrene	75		91		40-140	19		25
Anthracene	70		86		40-140	21		25
Fluoranthene	78		95		40-140	20		25
Pyrene	80		96		40-140	18		25
Benzo(a)anthracene	76		91		40-140	18		25
Chrysene	82		98		40-140	18		25
Benzo(b)fluoranthene	82		96		40-140	16		25
Benzo(k)fluoranthene	81		95		40-140	16		25
Benzo(a)pyrene	66		82		40-140	22		25
Indeno(1,2,3-cd)Pyrene	82		98		40-140	18		25
Dibenzo(a,h)anthracene	81		96		40-140	17		25
Benzo(ghi)perylene	78		94		40-140	19		25
Nonane (C9)	62		63		30-140	2		25



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample	e(s): 12-16,18	-20,22 Ba	tch: WG962237-2	WG962237-	3	
Decane (C10)	68		69		40-140	1		25
Dodecane (C12)	69		71		40-140	3		25
Tetradecane (C14)	71		73		40-140	3		25
Hexadecane (C16)	74		75		40-140	1		25
Octadecane (C18)	78		78		40-140	0		25
Nonadecane (C19)	77		78		40-140	1		25
Eicosane (C20)	80		79		40-140	1		25
Docosane (C22)	80		80		40-140	0		25
Tetracosane (C24)	80		80		40-140	0		25
Hexacosane (C26)	80		80		40-140	0		25
Octacosane (C28)	80		80		40-140	0		25
Triacontane (C30)	79		79		40-140	0		25
Hexatriacontane (C36)	79		80		40-140	1		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	70		69		40-140	
o-Terphenyl	81		95		40-140	
2-Fluorobiphenyl	78		97		40-140	
2-Bromonaphthalene	82		100		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Report Date: 12/21/16

Parameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s): 17 Batch:	WG962911-2 WG962911-	3	
C9-C18 Aliphatics	78	77	40-140	1	25
C19-C36 Aliphatics	92	89	40-140	3	25
C11-C22 Aromatics	107	105	40-140	2	25
Naphthalene	82	83	40-140	1	25
2-Methylnaphthalene	86	86	40-140	0	25
Acenaphthylene	86	86	40-140	0	25
Acenaphthene	95	93	40-140	2	25
Fluorene	99	96	40-140	3	25
Phenanthrene	101	98	40-140	3	25
Anthracene	97	94	40-140	3	25
Fluoranthene	107	103	40-140	4	25
Pyrene	107	105	40-140	2	25
Benzo(a)anthracene	104	100	40-140	4	25
Chrysene	110	107	40-140	3	25
Benzo(b)fluoranthene	112	107	40-140	5	25
Benzo(k)fluoranthene	112	108	40-140	4	25
Benzo(a)pyrene	94	92	40-140	2	25
Indeno(1,2,3-cd)Pyrene	107	104	40-140	3	25
Dibenzo(a,h)anthracene	111	109	40-140	2	25
Benzo(ghi)perylene	99	97	40-140	2	25
Nonane (C9)	61	62	30-140	2	25



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Report Date: 12/21/16

Parameter	LCS %Recovery Qu	LCSD al %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - V	Vestborough Lab Associate	ed sample(s): 17 Batch	n: WG962911-2 WG962911	-3	
Decane (C10)	68	70	40-140	3	25
Dodecane (C12)	74	75	40-140	1	25
Tetradecane (C14)	79	78	40-140	1	25
Hexadecane (C16)	83	80	40-140	4	25
Octadecane (C18)	86	84	40-140	2	25
Nonadecane (C19)	84	82	40-140	2	25
Eicosane (C20)	86	84	40-140	2	25
Docosane (C22)	87	85	40-140	2	25
Tetracosane (C24)	86	84	40-140	2	25
Hexacosane (C26)	86	84	40-140	2	25
Octacosane (C28)	86	85	40-140	1	25
Triacontane (C30)	87	86	40-140	1	25
Hexatriacontane (C36)	88	87	40-140	1	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	70		69		40-140	
o-Terphenyl	107		104		40-140	
2-Fluorobiphenyl	94		90		40-140	
2-Bromonaphthalene	97		93		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S

Project Number: Not Specified

Lab Number: L1640742

Report Date: 12/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s)	: 19,21 Batch:	WG963463-1 WG963463-2		
C5-C8 Aliphatics	97		97	70-130	0	25
C9-C12 Aliphatics	105		104	70-130	1	25
C9-C10 Aromatics	96		96	70-130	0	25
Benzene	93		94	70-130	1	25
Toluene	93		94	70-130	1	25
Ethylbenzene	95		95	70-130	1	25
p/m-Xylene	95		95	70-130	1	25
o-Xylene	95		96	70-130	1	25
Methyl tert butyl ether	94		95	70-130	2	25
Naphthalene	96		97	70-130	1	25
1,2,4-Trimethylbenzene	96		96	70-130	0	25
Pentane	89		88	70-130	0	25
2-Methylpentane	96		96	70-130	0	25
2,2,4-Trimethylpentane	103		102	70-130	1	25
n-Nonane	104		104	30-130	0	25
n-Decane	105		104	70-130	1	25
n-Butylcyclohexane	106		106	70-130	0	25



Project Name: WEYMOUTH C/S Lab Number:

L1640742

Project Number:

Not Specified

Report Date:

12/21/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 19,21 Batch: WG963463-1 WG963463-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	93		93		70-130	
2,5-Dibromotoluene-FID	97		96		70-130	



INORGANICS & MISCELLANEOUS



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-01
 Date Collected:
 12/14/16 08:35

 Client ID:
 B-415-11.8
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	77.7		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-02 Date Collected: 12/14/16 08:40
Client ID: B-415-12.2 Date Received: 12/14/16

Client ID: B-415-12.2 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	- Westborough Lab									
Solids, Total	76.1		%	0.100	NA	1	_	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-03
 Date Collected:
 12/14/16 08:45

 Client ID:
 B-415-13.4
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	71.0		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-04
 Date Collected:
 12/14/16 10:10

 Client ID:
 B-402-11.6
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	90.8		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-05
 Date Collected:
 12/14/16 10:15

 Client ID:
 B-402-12.2
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	91.4		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-06
 Date Collected:
 12/14/16 10:20

 Client ID:
 B-402-12.8
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	78.0		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-07
 Date Collected:
 12/14/16 11:00

 Client ID:
 B-401-11.5
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	· Westborough Lab)								
Solids, Total	57.9		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-08
 Date Collected:
 12/14/16 11:10

 Client ID:
 B-401-12.2
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	81.0		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-09
 Date Collected:
 12/14/16 11:50

 Client ID:
 B-400-11.4
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	- Westborough Lab									
Solids, Total	80.1		%	0.100	NA	1	_	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-10
 Date Collected:
 12/14/16 11:55

 Client ID:
 B-400-12.4
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	70.4		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-11 Date Collected: 12/14/16 13:05

Client ID: B-403-10 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lat)								
Solids, Total	94.4		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-12 Date Collected: 12/14/16 13:10

Client ID: B-403-12 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	90.1		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-13
 Date Collected:
 12/14/16 13:50

 Client ID:
 B-404-11.4
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	82.0		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-14 Date Collected: 12/14/16 14:00

Client ID: B-404-12 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	75.9		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-15 Date Collected: 12/14/16 14:10
Client ID: B-404-16.5 Date Received: 12/14/16

Client ID: B-404-16.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	86.6		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-16
 Date Collected:
 12/14/16 14:40

 Client ID:
 B-405-11.5
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	51.7		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-17
 Date Collected:
 12/14/16 14:50

 Client ID:
 B-405-12.5
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	85.4		%	0.100	NA	1	_	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-18
 Date Collected:
 12/14/16 15:10

 Client ID:
 B-406-11.8
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	64.4		%	0.100	NA	1	_	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-19 Date Collected: 12/14/16 15:20 Client ID: B-406-12.5 Date Received: 12/14/16

Client ID: B-406-12.5 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	90.4		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

Lab ID: L1640742-20 Date Collected: 12/14/16 15:30

Client ID: B-406-21 Date Received: 12/14/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	· - Westborough Lab)								
Solids, Total	87.7		%	0.100	NA	1	-	12/15/16 04:13	121,2540G	VB



Project Name: WEYMOUTH C/S Lab Number: L1640742

Project Number: Not Specified Report Date: 12/21/16

SAMPLE RESULTS

 Lab ID:
 L1640742-22
 Date Collected:
 12/14/16 08:45

 Client ID:
 B-451-13.4
 Date Received:
 12/14/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	73.9		%	0.100	NA	1	-	12/15/16 02:47	121,2540G	VB



Lab Duplicate Analysis
Batch Quality Control

Lab Number: Report Date:

L1640742 12/21/16

Project Name: WEYMOUTH C/S **Project Number:** Not Specified

Parameter	Native Sam	ple Du	plicate Sample	<u>Units</u>	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sa	ample(s): 01-20	QC Batch ID: V	WG961361-1	QC Sample: I	L1640742-01	Client ID:	B-415-11.8
Solids, Total	77.7		77.3	%	1		20



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation	Temp					
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1640742-01A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-02A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-03A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-04A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-05A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-06A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-07A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-08A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-09A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-10A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-11A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-12A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-13A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-14A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-15A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-16A	Glass 250ml/8oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-17A	Glass 250ml/8oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-18A	Glass 250ml/8oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-19A	Glass 250ml/8oz unpreserved	Α	N/A	2.3	Υ	Absent	EPH-DELUX-10(14)
L1640742-19B	Plastic 2oz unpreserved for TS	Α	N/A	2.3	Υ	Absent	TS(7)
L1640742-19C	Vial MeOH preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(28)
L1640742-20A	Glass 250ml/8oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640742-21A	Vial MeOH preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(28)
L1640742-22A	Glass 120ml/4oz unpreserved	Α	N/A	2.3	Υ	Absent	TS(7),EPH-DELUX-10(14)



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:WEYMOUTH C/SLab Number:L1640742Project Number:Not SpecifiedReport Date:12/21/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Serial_No:12211618:38

ID No.:17873 Revision 7

Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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Page 93 of 97	K= Zn Acetate O= Other									-				See rev	erse sid	de. rev. 12-Mar-2012)	

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ALPHA Lab ID		9 000	Collection	Sample Sample	VOC. D 8280 D 624 D 524.2 NETALS: D MCP 13 D.W.	EPH: CRanges & Targets C RCRAB CPP13 VPH: CRanges & Targets C Ranges Only TPH: CR CRAS C Targets C Ranges Only TPH: CR CRAG C Targets C Ranges Only	Coulant Only	Preservation ☐ Lab to do ☐
(Lab Use Only)	San	nple ID	Date Tin		NE NE			Sample Comments S
40742-21	TB01		13/14/6 153			X		TripBlank 1
22	B-451-	13.4	12/14/16 08	es Soil CF		×		
			 					
			 					
Container Type P= Plastic	Preservative			Container Type		VCE		
A= Amber glass V= Vial G= Glass	A None A None A None B HCl Vial C = HNO ₃ Preservative					ØF		(14-011-00)
B= Bacteria cup C= Cube	D= H ₂ SO ₄ E= NaOH F= MeOH	Q A Relinc	Dished By:	Pate/Time	Receive	d By:	Date/Time	CH30H36B
O= Other E= Encore D= BOD Bottle	G= NaHSO₄ H = Na₂S₂O₃ I= Ascorbic Àcid	emyc	No	12/14/16 07	Sur a	in	12/4/14/190	All samples submitted are subject to Alpha's Terms and Conditions.
Page 95 of 97	J = NH₄CI K= Zn Acetate O= Other							See reverse side. FORM NO: 01-01 (rev. 12-Mar-2012)

Quantitation Report (QT Reviewed)

Data Path : I:\OVPH\161220ali\

Data File : O1220A25.d Signal(s) : FID2B.ch

Acq On : 21 Dec 2016 2:58 am

Operator : OVPH:KD

Sample : 11640742-19D,41,16,23.5,.02

Misc : WG963463,ICAL12828

ALS Vial : 25 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 21 12:39:50 2016

Quant Method : I:\OVPH\161220ali\vph-ali160830.m

Quant Title : VPH ALIPHATIC

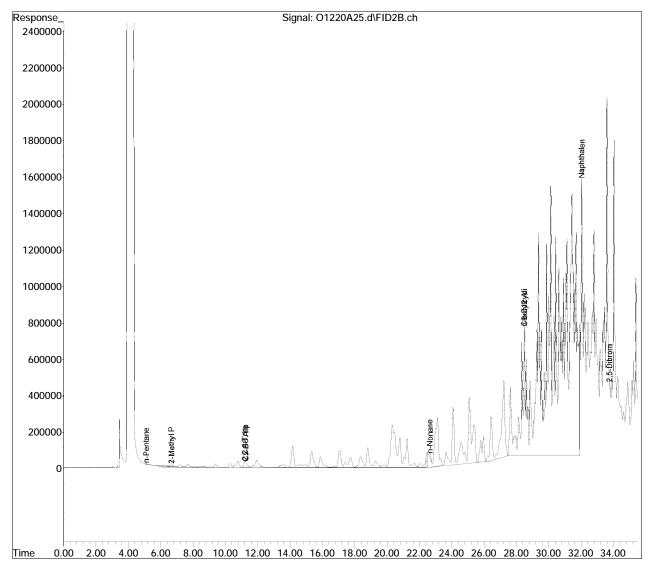
QLast Update : Wed Aug 31 07:53:22 2016

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. : Signal Phase : Signal Info :

Sub List : Default - All compounds listed



vph-ali160830.m Wed Dec 21 12:53:57 2016

Quantitation Report (QT Reviewed)

Data Path : I:\OVPH\161220aro\

Data File : 01220A25.d Signal(s) : CPDET1A.ch

Acq On : 21 Dec 2016 2:58 am

Operator : OVPH:KD

Sample : 11640742-19D,41,16,23.5,.02

Misc : WG963463,ICAL12829

ALS Vial : 25 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 21 12:48:36 2016

Quant Method : I:\OVPH\161220aro\vph-aro160830.m

Quant Title : VPH AROMATIC

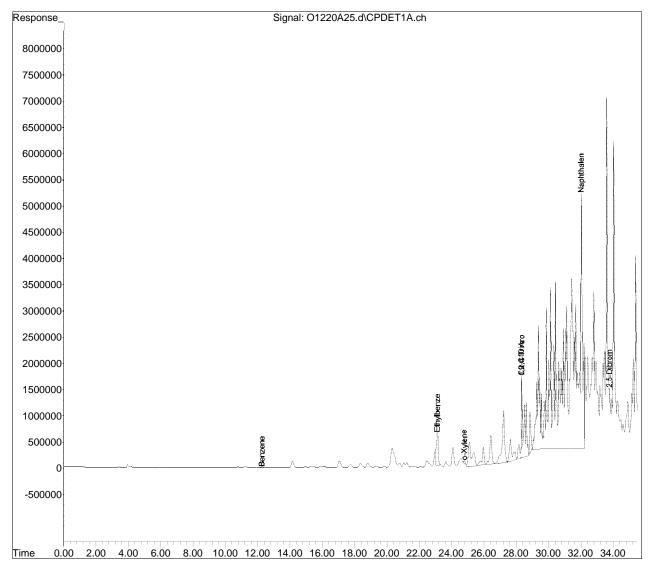
QLast Update : Wed Aug 31 07:50:36 2016

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. : Signal Phase : Signal Info :

Sub List : Default - All compounds listed



vph-aro160830.m Wed Dec 21 12:55:49 2016



ANALYTICAL REPORT

Lab Number: L1640954

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 12/22/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1640954 **Report Date:** 12/22/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1640954-01	B-407-11.8	SOIL	WEYMOUTH, MA	12/15/16 14:40	12/15/16
L1640954-02	B-407-12.8	SOIL	WEYMOUTH, MA	12/15/16 14:50	12/15/16
L1640954-03	B-407-17.5	SOIL	WEYMOUTH, MA	12/15/16 15:00	12/15/16



Project Name:WEYMOUTH C/SLab Number:L1640954Project Number:140143.0000.4903Report Date:12/22/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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	Client	Services	at 800	-624-9220	with a	any que	estions.	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

Case Narrative (continued)

MCP Related Narratives

EPH

L1640954-01: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the target compounds present in the sample.

L1640954-02: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question G:

L1640954-01 and -02: One or more of the target analytes did not achieve the requested CAM reporting limits. In reference to question H:

L1640954-01: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and oterphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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.

Willelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 12/22/16



ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-01 D Date Collected: 12/15/16 14:40

Client ID: B-407-11.8 Date Received: 12/15/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/18/16 17:10

Analytical Date: 12/21/16 12:50 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 12/21/16
Percent Solids: 91%

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbe	ons - Westborough La	ıb				
C9-C18 Aliphatics	12300		mg/kg	210		30
C19-C36 Aliphatics	21200		mg/kg	210		30
C11-C22 Aromatics	19900		mg/kg	210		30
C11-C22 Aromatics, Adjusted	19800		mg/kg	210		30
Naphthalene	14.5		mg/kg	10.5		30
2-Methylnaphthalene	ND		mg/kg	10.5		30
Acenaphthylene	ND		mg/kg	10.5		30
Acenaphthene	ND		mg/kg	10.5		30
Fluorene	ND		mg/kg	10.5		30
Phenanthrene	21.5		mg/kg	10.5		30
Anthracene	ND		mg/kg	10.5		30
Fluoranthene	ND		mg/kg	10.5		30
Pyrene	ND		mg/kg	10.5		30
Benzo(a)anthracene	ND		mg/kg	10.5		30
Chrysene	ND		mg/kg	10.5		30
Benzo(b)fluoranthene	ND		mg/kg	10.5		30
Benzo(k)fluoranthene	ND		mg/kg	10.5		30
Benzo(a)pyrene	ND		mg/kg	10.5		30
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	10.5		30
Dibenzo(a,h)anthracene	ND		mg/kg	10.5		30
Benzo(ghi)perylene	ND		mg/kg	10.5		30



Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-01 D

Client ID: B-407-11.8

Sample Location: WEYMOUTH, MA

Date Collected: 12/15/16 14:40

Date Received: 12/15/16

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance			
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	0	Q	40-140		
o-Terphenyl	0	Q	40-140		
2-Fluorobiphenyl	102		40-140		
2-Bromonaphthalene	107		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-02 D Date Collected:

Client ID: B-407-12.8

Sample Location: WEYMOUTH, MA

Matrix: Soil

Analytical Method: 98,EPH-04-1.1

Analytical Date: 12/21/16 13:27

Analyst: SR Percent Solids: 89% Date Collected: 12/15/16 14:50
Date Received: 12/15/16

Field Prep: Not Specified Extraction Method: EPA 3546

Extraction Date: 12/18/16 17:10

Cleanup Method1: EPH-04-1 Cleanup Date1: 12/21/16

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ıb				
C9-C18 Aliphatics	3300	r	ng/kg	72.7		10
C19-C36 Aliphatics	5650	r	ng/kg	72.7		10
C11-C22 Aromatics	6740	r	ng/kg	72.7		10
C11-C22 Aromatics, Adjusted	6670	r	ng/kg	72.7		10
Naphthalene	11.8	r	ng/kg	3.63		10
2-Methylnaphthalene	45.2	r	ng/kg	3.63		10
Acenaphthylene	ND	r	ng/kg	3.63		10
Acenaphthene	ND	r	ng/kg	3.63		10
Fluorene	ND	r	ng/kg	3.63		10
Phenanthrene	8.97	r	ng/kg	3.63		10
Anthracene	ND	r	ng/kg	3.63		10
Fluoranthene	ND	r	ng/kg	3.63		10
Pyrene	ND	r	ng/kg	3.63		10
Benzo(a)anthracene	ND	r	ng/kg	3.63		10
Chrysene	ND	r	ng/kg	3.63		10
Benzo(b)fluoranthene	ND	r	ng/kg	3.63		10
Benzo(k)fluoranthene	ND	r	ng/kg	3.63		10
Benzo(a)pyrene	ND	r	ng/kg	3.63		10
Indeno(1,2,3-cd)Pyrene	ND	r	ng/kg	3.63		10
Dibenzo(a,h)anthracene	ND	r	ng/kg	3.63		10
Benzo(ghi)perylene	ND	r	ng/kg	3.63		10



12/15/16 14:50

12/15/16

Date Collected:

Date Received:

Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-02 D

Client ID: B-407-12.8

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	53		40-140			
o-Terphenyl	117		40-140			
2-Fluorobiphenyl	106		40-140			
2-Bromonaphthalene	110		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-03 Date Collected: 12/15/16 15:00

Client ID: B-407-17.5 Date Received: 12/15/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 98,EPH-04-1.1 Extraction Date: 12/18/16 17:10

Analytical Date: 12/21/16 00:00 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 12/20/16
Percent Solids: 89%

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		mg/kg	7.36		1
C19-C36 Aliphatics	ND		mg/kg	7.36		1
C11-C22 Aromatics	ND		mg/kg	7.36		1
C11-C22 Aromatics, Adjusted	ND		mg/kg	7.36		1
Naphthalene	ND		mg/kg	0.368		1
2-Methylnaphthalene	ND		mg/kg	0.368		1
Acenaphthylene	ND		mg/kg	0.368		1
Acenaphthene	ND		mg/kg	0.368		1
Fluorene	ND		mg/kg	0.368		1
Phenanthrene	ND		mg/kg	0.368		1
Anthracene	ND		mg/kg	0.368		1
Fluoranthene	ND		mg/kg	0.368		1
Pyrene	ND		mg/kg	0.368		1
Benzo(a)anthracene	ND		mg/kg	0.368		1
Chrysene	ND		mg/kg	0.368		1
Benzo(b)fluoranthene	ND		mg/kg	0.368		1
Benzo(k)fluoranthene	ND		mg/kg	0.368		1
Benzo(a)pyrene	ND		mg/kg	0.368		1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.368		1
Dibenzo(a,h)anthracene	ND		mg/kg	0.368		1
Benzo(ghi)perylene	ND		mg/kg	0.368		1



Project Name: WEYMOUTH C/S Lab Number: L1640954

SAMPLE RESULTS

Lab ID: L1640954-03 Date Collected: 12/15/16 15:00

Client ID: B-407-17.5 Date Received: 12/15/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	48		40-140			
o-Terphenyl	77		40-140			
2-Fluorobiphenyl	82		40-140			
2-Bromonaphthalene	86		40-140			



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 98,EPH-04-1.1

Analyst: NS

Extraction Method: EPA 3546
Extraction Date: 12/18/16 17:10
Cleanup Method: EPH-04-1
Cleanup Date: 12/20/16

Parameter	Result	Qualifier	Units	RL	MDL	
Extractable Petroleum Hydrocarbons	s - Westbo	rough Lab	for sample(s)	: 01-03	Batch: WG9	62413-1
C9-C18 Aliphatics	ND		mg/kg	6.39		
C19-C36 Aliphatics	ND		mg/kg	6.39		
C11-C22 Aromatics	ND		mg/kg	6.39		
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.39		
Naphthalene	ND		mg/kg	0.319		
2-Methylnaphthalene	ND		mg/kg	0.319		
Acenaphthylene	ND		mg/kg	0.319		
Acenaphthene	ND		mg/kg	0.319		
Fluorene	ND		mg/kg	0.319		
Phenanthrene	ND		mg/kg	0.319		
Anthracene	ND		mg/kg	0.319		
Fluoranthene	ND		mg/kg	0.319		
Pyrene	ND		mg/kg	0.319		
Benzo(a)anthracene	ND		mg/kg	0.319		
Chrysene	ND		mg/kg	0.319		
Benzo(b)fluoranthene	ND		mg/kg	0.319		
Benzo(k)fluoranthene	ND		mg/kg	0.319		
Benzo(a)pyrene	ND		mg/kg	0.319		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.319		
Dibenzo(a,h)anthracene	ND		mg/kg	0.319		
Benzo(ghi)perylene	ND		mg/kg	0.319		

		Acceptance			
Surrogate	%Recovery	Qualifier	Criteria		
Chloro-Octadecane	59		40-140		
o-Terphenyl	74		40-140		
2-Fluorobiphenyl	75		40-140		
2-Bromonaphthalene	72		40-140		



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1640954

Report Date: 12/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	le(s): 01-03 B	atch: WG962413-2 WG96	2413-3	
C9-C18 Aliphatics	55		60	40-140	9	25
C19-C36 Aliphatics	72		73	40-140	1	25
C11-C22 Aromatics	88		94	40-140	7	25
Naphthalene	59		60	40-140	2	25
2-Methylnaphthalene	61		62	40-140	2	25
Acenaphthylene	62		64	40-140	3	25
Acenaphthene	66		69	40-140	4	25
Fluorene	70		74	40-140	6	25
Phenanthrene	78		81	40-140	4	25
Anthracene	78		81	40-140	4	25
Fluoranthene	85		88	40-140	3	25
Pyrene	86		89	40-140	3	25
Benzo(a)anthracene	84		88	40-140	5	25
Chrysene	93		97	40-140	4	25
Benzo(b)fluoranthene	89		93	40-140	4	25
Benzo(k)fluoranthene	89		93	40-140	4	25
Benzo(a)pyrene	77		83	40-140	8	25
Indeno(1,2,3-cd)Pyrene	84		88	40-140	5	25
Dibenzo(a,h)anthracene	80		84	40-140	5	25
Benzo(ghi)perylene	79		82	40-140	4	25
Nonane (C9)	44		44	30-140	0	25



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1640954

Report Date: 12/22/16

arameter	LCS %Recovery	Qual %l	LCSD Recovery	Qua	%Recov		Qual	RPD Limits	
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s)): 01-03	Batch:	WG962413-2	WG962413-3			
Decane (C10)	50		50		40-140	0		25	
Dodecane (C12)	51		52		40-140	2		25	
Tetradecane (C14)	52		54		40-140	4		25	
Hexadecane (C16)	57		58		40-140	2		25	
Octadecane (C18)	66		65		40-140	2		25	
Nonadecane (C19)	66		66		40-140	0		25	
Eicosane (C20)	68		68		40-140	0		25	
Docosane (C22)	68		68		40-140	0		25	
Tetracosane (C24)	68		68		40-140	0		25	
Hexacosane (C26)	68		69		40-140	1		25	
Octacosane (C28)	69		69		40-140	0		25	
Triacontane (C30)	70		70		40-140	0		25	
Hexatriacontane (C36)	64		69		40-140	8		25	

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	57		50		40-140	
o-Terphenyl	107		109		40-140	
2-Fluorobiphenyl	82		80		40-140	
2-Bromonaphthalene	85		83		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



INORGANICS & MISCELLANEOUS



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

SAMPLE RESULTS

 Lab ID:
 L1640954-01
 Date Collected:
 12/15/16 14:40

 Client ID:
 B-407-11.8
 Date Received:
 12/15/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	90.9		%	0.100	NA	1	-	12/16/16 12:41	121,2540G	RI



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

SAMPLE RESULTS

 Lab ID:
 L1640954-02
 Date Collected:
 12/15/16 14:50

 Client ID:
 B-407-12.8
 Date Received:
 12/15/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	88.9		%	0.100	NA	1	-	12/16/16 12:41	121,2540G	RI



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

SAMPLE RESULTS

 Lab ID:
 L1640954-03
 Date Collected:
 12/15/16 15:00

 Client ID:
 B-407-17.5
 Date Received:
 12/15/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab)								
Solids, Total	89.1		%	0.100	NA	1	-	12/16/16 12:41	121,2540G	RI



Project Name:WEYMOUTH C/SLab Number: L1640954Project Number:140143.0000.4903Report Date: 12/22/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation	Temp					
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1640954-01A	Glass 250ml/8oz unpreserved	Α	N/A	3.2	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640954-02A	Glass 250ml/8oz unpreserved	Α	N/A	3.2	Υ	Absent	TS(7),EPH-DELUX-10(14)
L1640954-03A	Glass 250ml/8oz unpreserved	Α	N/A	3.2	Υ	Absent	TS(7),EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

GLOSSARY

Acronyms

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).

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.

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.

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

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1640954

 Project Number:
 140143.0000.4903
 Report Date:
 12/22/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

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.



Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 7

Published Date: 8/5/2016 11:25:56 AM Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide **EPA 9050A:** NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility SM 2540D: TSS

EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form Pre-Qualtrax Document ID: 08-113

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Client Information	on	Projec	Location:) Qum	outh.	MA	Regul	atory R	equiren	ents	& P	roject		tion Requir	The state of the s	
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40954-01	B-407 B-407 B-40-7	-12,8	1215/16	1440 1450 1500	Soil Soil	CF CF			X X X							1 1
Container Type P= Plastic A= Amber glass V= Vial G= Glass B= Bacteria cup C= Cube O= Other E= Encore D= BOD Bottle Page 26 of 26	Preservative A= None B= HCI C= HNO ₃ D= H ₂ SO ₄ E= NaOH F= MeOH G= NaHSO ₄ H = Na ₂ S ₂ O ₃ I= Ascorbic Àcid J = NH ₄ CI K= Zn Acetate O= Other	Relini Cluy HC	uished By:		Pre	eservative	an		A ived By:		/		Time (75)	Alpha's Te See rever	es submitted are su erms and Condition se side. 1-01 (rev. 12-Mar-2012)	



ANALYTICAL REPORT

Lab Number: L1635344

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478

Report Date: 11/03/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7478

Lab Number: L1635344 **Report Date:** 11/03/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1635344-01	MW-202	WATER	WEYMOUTH, MA	11/01/16 11:38	11/01/16
L1635344-02	MW-203	WATER	WEYMOUTH, MA	11/01/16 12:05	11/01/16
L1635344-03	MW-204	WATER	WEYMOUTH, MA	11/01/16 13:30	11/01/16
L1635344-04	MW-205	WATER	WEYMOUTH, MA	11/01/16 13:55	11/01/16
L1635344-05	MW-206	WATER	WEYMOUTH, MA	11/01/16 15:50	11/01/16



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO						
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO						
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES						

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

Case Narrative (continued)

MCP Related Narratives

VPH

L1635344-01 and -05: The sample has elevated detection limits due to the dilution required by the sample matrix (foam).

In reference to question G:

L1635344-01 and -05: One or more of the target analytes did not achieve the requested CAM reporting limits.

EPH

In reference to question G:

L1635344-01 through -05: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG948103-2/-3 LCS/LCSD RPD, associated with L1635344-01 through -05, is above the acceptance criteria for dibenzo(a,h)anthracene (40%).

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.

Kelly Stenstrom

Authorized Signature:

Title: Technical Director/Representative Date: 11/03/16

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-01 Date Collected: 11/01/16 11:38

Client ID: MW-202 Date Received: 11/01/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/01/16 21:15
Analytical Date: 11/03/16 10:09 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 11/02/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	ug/l	100		1				
C19-C36 Aliphatics	ND	ug/l	100		1				
C11-C22 Aromatics	ND	ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND	ug/l	100		1				
Naphthalene	ND	ug/l	10.0		1				
2-Methylnaphthalene	ND	ug/l	10.0		1				
Acenaphthylene	ND	ug/l	10.0		1				
Acenaphthene	ND	ug/l	10.0		1				
Fluorene	ND	ug/l	10.0		1				
Phenanthrene	ND	ug/l	10.0		1				
Anthracene	ND	ug/l	10.0		1				
Fluoranthene	ND	ug/l	10.0		1				
Pyrene	ND	ug/l	10.0		1				
Benzo(a)anthracene	ND	ug/l	10.0		1				
Chrysene	ND	ug/l	10.0		1				
Benzo(b)fluoranthene	ND	ug/l	10.0		1				
Benzo(k)fluoranthene	ND	ug/l	10.0		1				
Benzo(a)pyrene	ND	ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND	ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND	ug/l	10.0		1				
Benzo(ghi)perylene	ND	ug/l	10.0		1				



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-01 Date Collected: 11/01/16 11:38

Client ID: MW-202 Date Received: 11/01/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	91		40-140		
o-Terphenyl	129		40-140		
2-Fluorobiphenyl	63		40-140		
2-Bromonaphthalene	62		40-140		



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-01 D

Client ID: MW-202

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/02/16 20:27

Analyst: JM

Date Collected: 11/01/16 11:38

Date Received: 11/01/16
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	91		70-130		
2,5-Dibromotoluene-FID	102		70-130		



Project Name: ATLANTIC BRIDGE

140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

SAMPLE RESULTS

Lab ID: L1635344-02

Client ID: MW-203

Sample Location: WEYMOUTH, MA

Matrix: Water

Project Number:

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/02/16 18:27

Analyst: JM

Date Collected:

11/01/16 12:05

Date Received: Field Prep:

11/01/16

Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Satisfactory

Laboratory Provided Preserved

Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westbo	rough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	90		70-130	
2,5-Dibromotoluene-FID	100		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-02 Date Collected: 11/01/16 12:05

Client ID: MW-203 Date Received: 11/01/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix:WaterExtraction Method:EPA 3510CAnalytical Method:98,EPH-04-1.1Extraction Date:11/01/16 21:15

Analytical Date: 11/02/16 21:40 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 11/02/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	b			
C9-C18 Aliphatics	ND	ug/l	100		1
C19-C36 Aliphatics	ND	ug/l	100		1
C11-C22 Aromatics	ND	ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	ug/l	100		1
Naphthalene	ND	ug/l	10.0		1
2-Methylnaphthalene	ND	ug/l	10.0		1
Acenaphthylene	ND	ug/l	10.0		1
Acenaphthene	ND	ug/l	10.0		1
Fluorene	ND	ug/l	10.0		1
Phenanthrene	ND	ug/l	10.0		1
Anthracene	ND	ug/l	10.0		1
Fluoranthene	ND	ug/l	10.0		1
Pyrene	ND	ug/l	10.0		1
Benzo(a)anthracene	ND	ug/l	10.0		1
Chrysene	ND	ug/l	10.0		1
Benzo(b)fluoranthene	ND	ug/l	10.0		1
Benzo(k)fluoranthene	ND	ug/l	10.0		1
Benzo(a)pyrene	ND	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND	ug/l	10.0		1
Dibenzo(a,h)anthracene	ND	ug/l	10.0		1
Benzo(ghi)perylene	ND	ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-02 Date Collected: 11/01/16 12:05

Client ID: MW-203 Date Received: 11/01/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	43		40-140	
o-Terphenyl	93		40-140	
2-Fluorobiphenyl	97		40-140	
2-Bromonaphthalene	102		40-140	



Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478 Lab Number:

L1635344

Report Date:

11/03/16

SAMPLE RESULTS

Lab ID: L1635344-03

Client ID: MW-204

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100, VPH-04-1.1 Analytical Date: 11/02/16 19:07

Analyst: JM Date Collected:

11/01/16 13:30

Date Received: Field Prep:

11/01/16

Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Satisfactory

Laboratory Provided Preserved

Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1
C9-C10 Aromatics	ND	ı	ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
Benzene	ND	ı	ug/l	2.00		1
Toluene	ND	ı	ug/l	2.00		1
Ethylbenzene	ND	ı	ug/l	2.00		1
p/m-Xylene	ND	ı	ug/l	2.00		1
o-Xylene	ND	ı	ug/l	2.00		1
Methyl tert butyl ether	ND	ı	ug/l	3.00		1
Naphthalene	ND	ı	ug/l	4.00		1

_			Acceptance Criteria	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-03 Date Collected: 11/01/16 13:30

Client ID: MW-204 Date Received: 11/01/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/01/16 21:15
Analytical Date: 11/02/16 22:18 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 11/02/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-03 Date Collected: 11/01/16 13:30

Client ID: MW-204 Date Received: 11/01/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specifi

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	57		40-140	
o-Terphenyl	82		40-140	
2-Fluorobiphenyl	79		40-140	
2-Bromonaphthalene	82		40-140	



Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

SAMPLE RESULTS

Lab ID: L1635344-04

Client ID: MW-205

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/02/16 19:47

Analyst: JM

Date Collected:

11/01/16 13:55

Date Received: Field Prep:

11/01/16 Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Satisfactory

Laboratory Provided Preserved

Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	92		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-04 Date Collected: 11/01/16 13:55

Client ID: MW-205 Date Received: 11/01/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/01/16 21:15
Analytical Date: 11/02/16 22:56 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 11/02/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-04 Date Collected: 11/01/16 13:55

Client ID: MW-205 Date Received: 11/01/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	46		40-140	
o-Terphenyl	80		40-140	
2-Fluorobiphenyl	72		40-140	
2-Bromonaphthalene	75		40-140	



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: Date Collected: 11/01/16 15:50

Client ID: MW-206 Date Received: 11/01/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/01/16 21:15

Analytical Date: 11/03/16 14:02 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 11/02/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough La	ab				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-05 Date Collected: 11/01/16 15:50

Client ID: MW-206 Date Received: 11/01/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	52		40-140	
o-Terphenyl	79		40-140	
2-Fluorobiphenyl	82		40-140	
2-Bromonaphthalene	83		40-140	



Project Name: ATLANTIC BRIDGE Lab Number: L1635344

SAMPLE RESULTS

Lab ID: L1635344-05 D

Client ID: MW-206

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/02/16 21:07

Analyst: JM

Date Collected: 11/01/16 15:50

Date Received: 11/01/16
Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Laboratory Provided Preserved

Container Received on Ice

Satisfactory

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	90		70-130	
2,5-Dibromotoluene-FID	100		70-130	



Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 98,EPH-04-1.1

Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 11/01/16 21:15
Cleanup Method: EPH-04-1
Cleanup Date: 11/02/16

Cy-C18 Aliphatics ND ug/l 100	Parameter	Result	Qualifier	Units	RL	MDI	_
C19-C36 Aliphatics ND ug/l 100 C11-C22 Aromatics ND ug/l 100 C11-C22 Aromatics, Adjusted ND ug/l 100 Naphthalene ND ug/l 10.0 2-Methylnaphthalene ND ug/l 10.0 Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 <td< td=""><td>Extractable Petroleum Hydrocarbo</td><td>ons - Westbor</td><td>ough Lab</td><td>for sample(s):</td><td>01-05</td><td>Batch:</td><td>WG948103-1</td></td<>	Extractable Petroleum Hydrocarbo	ons - Westbor	ough Lab	for sample(s):	01-05	Batch:	WG948103-1
C11-C22 Aromatics ND ug/l 100 C11-C22 Aromatics, Adjusted ND ug/l 100 Naphthalene ND ug/l 10.0 2-Methylnaphthalene ND ug/l 10.0 Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0	C9-C18 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted ND ug/l 100 Naphthalene ND ug/l 10.0 2-Methylnaphthalene ND ug/l 10.0 Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 <t< td=""><td>C19-C36 Aliphatics</td><td>ND</td><td></td><td>ug/l</td><td>100</td><td></td><td></td></t<>	C19-C36 Aliphatics	ND		ug/l	100		
Naphthalene ND ug/l 10.0 2-Methylnaphthalene ND ug/l 10.0 Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Benzo(a,h)anthracene ND ug/l 10.0	C11-C22 Aromatics	ND		ug/l	100		
2-Methylnaphthalene ND ug/l 10.0 Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Acenaphthylene ND ug/l 10.0 Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Naphthalene	ND		ug/l	10.0		
Acenaphthene ND ug/l 10.0 Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	2-Methylnaphthalene	ND		ug/l	10.0		
Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Acenaphthylene	ND		ug/l	10.0		
Phenanthrene ND ug/l 10.0 Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Acenaphthene	ND		ug/l	10.0		
Anthracene ND ug/l 10.0 Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Fluorene	ND		ug/l	10.0		
Fluoranthene ND ug/l 10.0 Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Phenanthrene	ND		ug/l	10.0		
Pyrene ND ug/l 10.0 Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Anthracene	ND		ug/l	10.0		
Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Fluoranthene	ND		ug/l	10.0		
Chrysene ND ug/l 10.0 Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Pyrene	ND		ug/l	10.0		
Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Benzo(a)anthracene	ND		ug/l	10.0		
Benzo(k)fluoranthene ND ug/l 10.0 Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Chrysene	ND		ug/l	10.0		
Benzo(a)pyrene ND ug/l 10.0 Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Benzo(b)fluoranthene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene ND ug/l 10.0 Dibenzo(a,h)anthracene ND ug/l 10.0	Benzo(k)fluoranthene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene ND ug/l 10.0	Benzo(a)pyrene	ND		ug/l	10.0		
· · ·	Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Benzo(ghi)perylene ND ug/l 10.0	Dibenzo(a,h)anthracene	ND		ug/l	10.0		
	Benzo(ghi)perylene	ND		ug/l	10.0		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	54		40-140	
o-Terphenyl	81		40-140	
2-Fluorobiphenyl	78		40-140	
2-Bromonaphthalene	80		40-140	



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/02/16 09:46

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons -	· Westboroug	h Lab for s	sample(s):	01-05	Batch:	WG948658-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

		-	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	85		70-130	
2,5-Dibromotoluene-FID	97		70-130	



Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	ole(s): 01-05 Ba	atch: WG948103-2 WG94	8103-3		
C9-C18 Aliphatics	71		71	40-140	0		25
C19-C36 Aliphatics	84		76	40-140	10		25
C11-C22 Aromatics	102		86	40-140	17		25
Naphthalene	85		71	40-140	18		25
2-Methylnaphthalene	87		73	40-140	18		25
Acenaphthylene	89		75	40-140	17		25
Acenaphthene	92		78	40-140	16		25
Fluorene	100		88	40-140	13		25
Phenanthrene	103		90	40-140	13		25
Anthracene	97		84	40-140	14		25
Fluoranthene	102		87	40-140	16		25
Pyrene	104		88	40-140	17		25
Benzo(a)anthracene	98		84	40-140	15		25
Chrysene	102		87	40-140	16		25
Benzo(b)fluoranthene	98		86	40-140	13		25
Benzo(k)fluoranthene	96		84	40-140	13		25
Benzo(a)pyrene	89		75	40-140	17		25
Indeno(1,2,3-cd)Pyrene	96		80	40-140	18		25
Dibenzo(a,h)anthracene	96		64	40-140	40	Q	25
Benzo(ghi)perylene	93		77	40-140	19		25
Nonane (C9)	46		50	30-140	8		25



Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
xtractable Petroleum Hydrocarbons - Westb	orough Lab Ass	sociated sample	e(s): 01-05	Batch: W	/G948103-2 WG948	3103-3			
Decane (C10)	60		60		40-140	0		25	
Dodecane (C12)	71		67		40-140	6		25	
Tetradecane (C14)	76		71		40-140	7		25	
Hexadecane (C16)	80		75		40-140	6		25	
Octadecane (C18)	83		76		40-140	9		25	
Nonadecane (C19)	82		74		40-140	10		25	
Eicosane (C20)	82		75		40-140	9		25	
Docosane (C22)	82		75		40-140	9		25	
Tetracosane (C24)	80		73		40-140	9		25	
Hexacosane (C26)	81		74		40-140	9		25	
Octacosane (C28)	81		74		40-140	9		25	
Triacontane (C30)	81		73		40-140	10		25	
Hexatriacontane (C36)	79		69		40-140	14		25	

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	71		63		40-140	
o-Terphenyl	104		90		40-140	
2-Fluorobiphenyl	96		83		40-140	
2-Bromonaphthalene	104		88		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635344

Report Date: 11/03/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s):	01-05 Batch	n: WG948658-1 WG948658-2	2	
C5-C8 Aliphatics	91		88	70-130	3	25
C9-C12 Aliphatics	85		81	70-130	5	25
C9-C10 Aromatics	89		89	70-130	0	25
Benzene	82		81	70-130	2	25
Toluene	85		85	70-130	1	25
Ethylbenzene	87		87	70-130	1	25
p/m-Xylene	89		89	70-130	1	25
o-Xylene	88		87	70-130	1	25
Methyl tert butyl ether	86		83	70-130	3	25
Naphthalene	99		94	70-130	4	25
1,2,4-Trimethylbenzene	89		89	70-130	0	25
Pentane	90		88	70-130	3	25
2-Methylpentane	92		91	70-130	1	25
2,2,4-Trimethylpentane	88		86	70-130	2	25
n-Nonane	89		84	30-130	5	25
n-Decane	88		83	70-130	5	25
n-Butylcyclohexane	90		86	70-130	5	25



Project Name: ATLANTIC BRIDGE **Project Number:**

140143.0000.7478

Lab Number:

L1635344

Report Date:

11/03/16

LCSD LCS %Recovery RPD %Recovery %Recovery Limits Parameter Qual Qual Limits RPD Qual

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-05 Batch: WG948658-1 WG948658-2

Surrogate	LCS %Recovery	LCSD Qual %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	90	83		70-130
2,5-Dibromotoluene-FID	98	92		70-130



Project Name:ATLANTIC BRIDGELab Number: L1635344Project Number:140143.0000.7478Report Date: 11/03/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1635344-01A	Vial HCI preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-01B	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-01C	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-01D	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-01E	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-02A	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-02B	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-02C	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-02D	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-02E	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-03A	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-03B	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-03C	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-03D	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-03E	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-04A	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-04B	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-04C	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-04D	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-04E	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-05A	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-05B	Vial HCl preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-05C	Vial HCI preserved	Α	N/A	3.7	Υ	Absent	VPH-DELUX-10(14)
L1635344-05D	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)
L1635344-05E	Amber 1000ml HCl preserved	Α	<2	3.7	Υ	Absent	EPH-DELUX-10(14)



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635344Project Number:140143.0000.7478Report Date:11/03/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 7

Page 1 of 1

Published Date: 8/5/2016 11:25:56 AM

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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	Mansfield, MA "EL: 508-822-9300	Project Name:	Atlantic Bridg	е		Re	gulato	ry R	equir	emen	ts/Re	port	Limits	3				
	FAX: 508-822-3288				*		e/Fed P	rogran	,					Crite				
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Phone: 617-350-344	43	Turn-Around	l Time															SAMPLE HANDLING T A Filtration
Fax: 617-350-3444		_ Standard	⊠ Ru:	sh (ONLY IF PRE	E-APPROVED)					:								☐ Done ☑ Not Needed #
Email: rniles@trcsol	lutions.com																	☐ Lab to do B
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(Lab Use Only)		Date	Time	Matrix	Initials		la							_				
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02	MW-203	11/1/16	1205	Aq	CF			ᆜ	片	Ц	片		片	H	H			4
8	MW-204	11/1/16	1330	Aq	LVH				片	님		片	님		片	片	님	4
oy	MW-205	11/1/16	1355	Aq	CF		\boxtimes	片	H	H	片		님	H	H	H	H	4
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FORM NO: D1-D1(I) (rev. 5-JAN-12)															V-1/	,		submitted are subject to Alpha's Payment Terms.
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ANALYTICAL REPORT

Lab Number: L1635611

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478

Report Date: 11/07/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7478

Lab Number: L1635611 **Report Date:** 11/07/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1635611-01	MW-201	WATER	WEYMOUTH, MA	11/03/16 12:15	11/03/16
L1635611-02	MW-221	WATER	WEYMOUTH, MA	11/03/16 11:15	11/03/16



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO							
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

Case Narrative (continued)

MCP Related Narratives

VPH

L1635611-01 and -02: The sample has elevated detection limits due to the dilution required by the sample matrix (Foam).

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

EPH

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG949548-3 LCSD recovery, associated with L1635611-01 and -02, is outside the acceptance criteria for c9-c18 aliphatics (39%); however, the target carbon ranges and analytes are within overall method allowances. The results of the original analysis are reported.

The WG949548-2/-3 LCS/LCSD RPDs, associated with L1635611-01 and -02, are above the acceptance criteria for c9-c18 aliphatics (61%), c11-c22 aromatics (34%), naphthalene (32%), 2-methylnaphthalene (31%), acenaphthylene (31%), acenaphthene (30%), fluorene (31%), phenanthrene (31%), anthracene (31%), fluoranthene (29%), pyrene (29%), benzo(a)anthracene (31%), chrysene (31%), benzo(b)fluoranthene (32%), benzo(k)fluoranthene (32%), benzo(a)pyrene (31%), indeno(1,2,3-cd)pyrene (31%), dibenzo(a,h)anthracene (32%) and benzo(ghi)perylene (31%).

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.

Custen Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 11/07/16

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: ATLANTIC BRIDGE Lab Number: L1635611

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/16 12:15

Client ID: MW-201 Date Received: 11/03/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 11/05/16 15:25

 Analytical Date:
 11/06/16 13:47
 Cleanup Method1:
 EPH-04-1

Analyst: SR Cleanup Date1: 11/06/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: ATLANTIC BRIDGE Lab Number: L1635611

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/16 12:15

Client ID: MW-201 Date Received: 11/03/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	77		40-140	
o-Terphenyl	85		40-140	
2-Fluorobiphenyl	66		40-140	
2-Bromonaphthalene	65		40-140	



Project Name: Lab Number: ATLANTIC BRIDGE L1635611

Project Number: 140143.0000.7478 **Report Date:** 11/07/16

SAMPLE RESULTS

Lab ID: L1635611-01 D

Client ID: MW-201

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100, VPH-04-1.1 Analytical Date: 11/04/16 23:41

Analyst: JM Date Collected: 11/03/16 12:15

Date Received: 11/03/16 Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Satisfactory Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

	Acceptance					
Surrogate	% Recovery	Qualifier	Qualifier Criteria			
2,5-Dibromotoluene-PID	93		70-130			
2,5-Dibromotoluene-FID	104		70-130			



Project Name: ATLANTIC BRIDGE Lab Number: L1635611

SAMPLE RESULTS

Lab ID: Date Collected: 11/03/16 11:15

Client ID: MW-221 Date Received: 11/03/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/05/16 15:25
Analytical Date: 11/06/16 14:19 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 11/06/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Unit	s RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	ug/l	100		1			
C19-C36 Aliphatics	ND	ug/l	100		1			
C11-C22 Aromatics	ND	ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND	ug/l	100		1			
Naphthalene	ND	ug/l	10.0		1			
2-Methylnaphthalene	ND	ug/l	10.0		1			
Acenaphthylene	ND	ug/l	10.0		1			
Acenaphthene	ND	ug/l	10.0		1			
Fluorene	ND	ug/l	10.0		1			
Phenanthrene	ND	ug/l	10.0		1			
Anthracene	ND	ug/l	10.0		1			
Fluoranthene	ND	ug/l	10.0		1			
Pyrene	ND	ug/l	10.0		1			
Benzo(a)anthracene	ND	ug/l	10.0		1			
Chrysene	ND	ug/l	10.0		1			
Benzo(b)fluoranthene	ND	ug/l	10.0		1			
Benzo(k)fluoranthene	ND	ug/l	10.0		1			
Benzo(a)pyrene	ND	ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND	ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND	ug/l	10.0		1			
Benzo(ghi)perylene	ND	ug/l	10.0		1			



Project Name: ATLANTIC BRIDGE Lab Number: L1635611

SAMPLE RESULTS

Lab ID: L1635611-02 Date Collected: 11/03/16 11:15

Client ID: MW-221 Date Received: 11/03/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	95		40-140	
2-Fluorobiphenyl	74		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: ATLANTIC BRIDGE Lab Number: L1635611

SAMPLE RESULTS

Lab ID: L1635611-02 D

Client ID: MW-221

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/05/16 00:21

Analyst: JM

Date Collected: 11/03/16 11:15

Date Received: 11/03/16
Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Satisfactory

Laboratory Provided Preserved

Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	87		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/04/16 09:37

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	ample(s):	01-02	Batch:	WG949269-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

		-	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	87		70-130	
2,5-Dibromotoluene-FID	98		70-130	



L1635611

Project Name: Lab Number: ATLANTIC BRIDGE **Project Number:** 140143.0000.7478

Report Date: 11/07/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 11/06/16 12:44

Analyst: SR Extraction Method: EPA 3510C 11/05/16 15:25 Extraction Date: EPH-04-1 Cleanup Method:

Cleanup Date: 11/06/16

Parameter	Result	Qualifier	Units	RL	MD	L
Extractable Petroleum Hydrocarbon	s - Westbo	rough Lab	for sample(s):	01-02	Batch:	WG949548-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

			Acceptance
Surrogate	%Recovery	Qualifier	Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	77		40-140
2-Fluorobiphenyl	67		40-140
2-Bromonaphthalene	65		40-140



11/07/16

Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635611

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ugh Lab Associ	ated sample(s)	: 01-02 Batch	n: WG949269-1 WG949269-	2	
C5-C8 Aliphatics	99		96	70-130	3	25
C9-C12 Aliphatics	94		88	70-130	6	25
C9-C10 Aromatics	93		92	70-130	1	25
Benzene	88		84	70-130	4	25
Toluene	90		88	70-130	3	25
Ethylbenzene	92		90	70-130	2	25
p/m-Xylene	94		93	70-130	2	25
o-Xylene	93		90	70-130	3	25
Methyl tert butyl ether	88		86	70-130	2	25
Naphthalene	103		98	70-130	5	25
1,2,4-Trimethylbenzene	93		92	70-130	1	25
Pentane	95		95	70-130	1	25
2-Methylpentane	101		98	70-130	3	25
2,2,4-Trimethylpentane	101		98	70-130	4	25
n-Nonane	100		94	30-130	6	25
n-Decane	92		86	70-130	6	25
n-Butylcyclohexane	99		95	70-130	4	25



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE **Project Number:**

Lab Number:

L1635611

140143.0000.7478

Report Date:

11/07/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG949269-1 WG949269-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	97		92		70-130	
2,5-Dibromotoluene-FID	107		101		70-130	



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635611

Report Date: 11/07/16

Parameter	LCS %Recovery		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	oorough Lab As	sociated sample(s):	01-02	Batch: WG9	949548-2 WG94	9548-3		
C9-C18 Aliphatics	73		39	Q	40-140	61	Q	25
C19-C36 Aliphatics	88		77		40-140	13		25
C11-C22 Aromatics	64		90		40-140	34	Q	25
Naphthalene	50		69		40-140	32	Q	25
2-Methylnaphthalene	51		70		40-140	31	Q	25
Acenaphthylene	54		74		40-140	31	Q	25
Acenaphthene	56		76		40-140	30	Q	25
Fluorene	58		79		40-140	31	Q	25
Phenanthrene	60		82		40-140	31	Q	25
Anthracene	59		81		40-140	31	Q	25
Fluoranthene	64		86		40-140	29	Q	25
Pyrene	65		87		40-140	29	Q	25
Benzo(a)anthracene	62		85		40-140	31	Q	25
Chrysene	65		89		40-140	31	Q	25
Benzo(b)fluoranthene	64		88		40-140	32	Q	25
Benzo(k)fluoranthene	63		87		40-140	32	Q	25
Benzo(a)pyrene	59		81		40-140	31	Q	25
Indeno(1,2,3-cd)Pyrene	63		86		40-140	31	Q	25
Dibenzo(a,h)anthracene	63		87		40-140	32	Q	25
Benzo(ghi)perylene	61		83		40-140	31	Q	25
Nonane (C9)	56		52		30-140	7		25



11/07/16

Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE

Lab Number: L1635611

Report Date:

Project Number:	140143.0000.7478

Parameter	LCS %Recovery	Qual %l	LCSD Recovery	Qual	%Recovery Limits	, RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s)): 01-02	Batch: W	G949548-2 WC	949548-3		
Decane (C10)	64		59		40-140	8		25
Dodecane (C12)	67		63		40-140	6		25
Tetradecane (C14)	72		66		40-140	9		25
Hexadecane (C16)	78		69		40-140	12		25
Octadecane (C18)	85		74		40-140	14		25
Nonadecane (C19)	84		74		40-140	13		25
Eicosane (C20)	86		76		40-140	12		25
Docosane (C22)	86		75		40-140	14		25
Tetracosane (C24)	85		75		40-140	13		25
Hexacosane (C26)	84		75		40-140	11		25
Octacosane (C28)	84		74		40-140	13		25
Triacontane (C30)	83		73		40-140	13		25
Hexatriacontane (C36)	81		71		40-140	13		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	72		54		40-140
o-Terphenyl	73		110		40-140
2-Fluorobiphenyl	58		79		40-140
2-Bromonaphthalene	59		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		



Project Name:ATLANTIC BRIDGELab Number: L1635611Project Number:140143.0000.7478Report Date: 11/07/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1635611-01A	Vial HCl preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-01B	Vial HCI preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-01C	Vial HCI preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-01D	Amber 1000ml HCl preserved	Α	<2	3.8	Υ	Absent	EPH-MS-10(14),EPH-DELUX- 10(14),EPHD-GC-10(14)
L1635611-01E	Amber 1000ml HCl preserved	Α	<2	3.8	Υ	Absent	EPH-MS-10(14),EPH-DELUX- 10(14),EPHD-GC-10(14)
L1635611-02A	Vial HCI preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-02B	Vial HCl preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-02C	Vial HCI preserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(14)
L1635611-02D	Amber 1000ml HCl preserved	Α	<2	3.8	Υ	Absent	EPH-MS-10(14),EPH-DELUX- 10(14),EPHD-GC-10(14)
L1635611-02E	Amber 1000ml HCl preserved	Α	<2	3.8	Υ	Absent	EPH-MS-10(14),EPH-DELUX- 10(14),EPHD-GC-10(14)



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635611Project Number:140143.0000.7478Report Date:11/07/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Revision 7 Published Date: 8/5/2016 11:25:56 AM

ID No.:17873

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

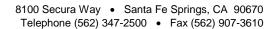
EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

	CHAIN OF	CUSTO	DY	PAGE 1 OF	= 1	Dat	e Rec'd	in Lab	: 11/	3/10	6			ALI	рна .	Job#	: LI6	35611	
ALPHA		Project Infor	mation			Re	port li			Dat	a Del		bles				ation	****	
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Email: rniles@trcso	lutions.com						ĺ											D laberda	В
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ALPHA Lab ID (Lab Use Only)	Sample ID	Date	Time	Sample Matrix	Sampler's Initials	\ \	EPH											Sample Specific Comments	
35611-01	MW-201	11/3/16	1215	Aq	LVH														4
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January 30, 2017

Ryan Niles TRC Companies, Inc. 2 Liberty Square 6th Floor Boston, MA 02109

Re: PTS File No: 47030

Physical Properties Data

Atlantic Bridge Project; 140143.0000.4903

Dear Mr. Niles:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your Atlantic Bridge Project; 140143.0000.4903 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2502.

Sincerely,

PTS Laboratories, Inc.

Michael Mark Brady, P.G. Laboratory Director

Encl.

PTS Laboratories

Project Name: Atlantic Bridge Project PTS File No: 47030

Project Number: 140143.0000.4903 Client: TRC Companies, Inc.

TEST PROGRAM - 20170119

						• • • • • •		
FLUID ID	Date	Time	Fluid Type	Fluid Cleaning	3-Point Viscosity LNAPL			Comments
			Method:	Proprietary	ASTM D445, D1481			
Date Received: 20170119								
MW-201 LNAPL	20170105/ 20170117	1500	LNAPL	X	X			
TOTALS:				1	1			1

Laboratory Test Program Notes

Standard TAT for basic analysis is 10-15 business days.

3-point viscosity includes viscosity and density at three temperatures (70, 100, 130°F).

Per client request in COC comments, run 3-point viscosity and density at 50, 70, and 100°F.

PTS Laboratories

PTS File No: 47030

Client: TRC Companies, Inc.

Report Date: 01/30/17

VISCOSITY, DENSITY, and SPECIFIC GRAVITY DATA

(METHODOLOGY: ASTM D445, ASTM D1481, API RP40)

Project Name: Atlantic Bridge Project Project No: 140143.0000.4903

SAMPLE	MATRIX	TEMPERATURE,	SPECIFIC	DENSITY,	VISCO	OSITY
ID	WATKIX	°F	GRAVITY	g/cc	centistokes	centipoise
MW-201 LNAPL	NAPL	50	0.9787	0.9785	44600	43600
		70	0.9792	0.9724	10700	10400
		100	0.9761	0.9624	2070	1990

QUALITY CONTROL DATA

Date: 01/20/17 01/24/17

FLUID TYPE: Cannon® CVS S3 Cannon® CVS S3

TEMPERATURE, °F: 70 DENSITY, MEASURED: 0.8669 DENSITY, PUBLISHED: 0.8666 RPD: 0.04

 VISCOSITY, MEASURED: 4.64
 4.65

 VISCOSITY, PUBLISHED: 4.57
 4.57

 RPD: 1.57
 1.88

CVS Lot #: 16101 CVS = Certified Viscosity Standard

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3E - Or	PO# 1633977	HMIT CIVI CONTRACT	24 HOURS 5 DAYS 72 HOURS NORMAL F. SAMPLE INTEGRITY (CHECK): INTACT X TEMP(F) 2 PTS QUOTE NO.	PTS FILE: 47030 COMMENTS	50,70,100 Degrees \$										ED BY		TIME	Phone (562) 347-2500 • Fax (562) 279-1150
PAGE			Density Package	3-60MF Ebee brodic	×										4. RECEIVED BY	COMPANY	DATE) • Fax
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ANALYTICAL REPORT

Lab Number: L1627080

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Ryan Niles
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7215

Report Date: 08/31/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627080 **Report Date:** 08/31/16

Alpha Sample ID Client ID Matrix Sample Location Date/Time Receive Date

L1627080-01 MW-201 (LNAPL) OIL BRIDGE ST. WEYMOUTH, MA 08/29/16 10:45 08/29/16



MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

Petroleum Hydrocarbon Identification by GC-FID

Petroleum Hydrocarbon Quantitation / Total Petroleum Hydrocarbons (TPH) by GC/FID

The sample was extracted and then analyzed using a gas chromatograph equipped with a flame ionization detector (GC/FID). The temperature program and associated experimental conditions were optimized to obtain maximum resolution in an eighty minute chromatographic run representative of hydrocarbons in the n-Octane (C8) to n-Tetracontane (C40) range. Qualitative evaluation of the sample is conducted by reviewing the sample chromatogram in conjunction with a chromatogram of a normal alkane series generated with the same chromatographic conditions. Chromatograms of hydrocarbon reference materials obtained from our library of 74 reference standards are also utilized to provide the best possible sample match. Quantitative determination of the sample hydrocarbon concentration is performed in accordance with EPA Method 8015M. The sample total hydrocarbon concentration and all associated quality control data are included in the report.

The following qualitative information is based on a tentative interpretation of chromatographic pattern recognition and boiling point ranges:

Total Petroleum Hydrocarbon Identification

L1627080-01 contains material eluting in the range of n-Nonane (C9) to after the elution of n-Octatriacontane (C38).

Based on the data generated, L1627080-01 contains a mixture of material eluting in the low, mid and high molecular weight ranges of the chromatogram. The mixture is a combination of Diesel Fuel/Fuel Oil #2 and material which is similar to a lubricating, motor or waste oil type product. As the product deteriorates, the nalkanes are preferentially degraded, leaving behind other constituents such as isoprenoids.



Serial_No:08311615:36

Project Name:ATLANTIC BRIDGELab Number:L1627080Project Number:140143.0000.7215Report Date:08/31/16

Case Narrative (continued)

The analytical testing of the sample identified a pattern of isoprenoids. The level of alkanes and their ratios to the isoprenoids present indicates that the fuel oil has undergone degradation.

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:

Juan & Med Susan O' Neil

Title: Technical Director/Representative Date: 08/31/16

ORGANICS



PETROLEUM HYDROCARBONS



Serial_No:08311615:36

Project Name: ATLANTIC BRIDGE Lab Number: L1627080

Project Number: 140143.0000.7215 **Report Date:** 08/31/16

SAMPLE RESULTS

 Lab ID:
 L1627080-01
 Date Collected:
 08/29/16 10:45

 Client ID:
 MW-201 (LNAPL)
 Date Received:
 08/29/16

Client ID: MW-201 (LNAPL) Date Received: 08/29/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Oil Extraction Method:EPA 3580A

Analytical Method: 1,8015D(M) Extraction Date: 08/30/16 06:23
Analytical Date: 08/30/16 15:50

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Petroleum Hydrocarbon Identification I	by GC-FID - Mans	sfield Lab					
Total Petroleum Hydrocarbons (C9-C44)	491000		ma/ka	5670		1	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
o-Terphenyl	101		50-130	
d50-Tetracosane	98		50-130	



Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7215

Lab Number: L1627080

Report Date: 08/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: Analytical Date: 1,8015D(M) 08/30/16 09:57

Analyst: WR

Extraction Method: EPA 3580A

Extraction Date: 08/30/16 06:23

Parameter Result Qualifier Units RL MDL

Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab for sample(s): 01 Batch:

WG927146-1

Total Petroleum Hydrocarbons (C9-C44) ND mg/kg 6600 ---

	Acceptance									
Surrogate	%Recovery	Qualifier	Criteria							
o-Terphenyl	101		50-130							
d50-Tetracosane	98		50-130							



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627080

Report Date: 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits		
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab Associated sample(s): 01 Batch: WG927146-2 WG927146-3										
Nonane (C9)	91		95		50-130	4		30		
Decane (C10)	86		90		50-130	5		30		
Dodecane (C12)	82		84		50-130	2		30		
Tetradecane (C14)	96		94		50-130	2		30		
Hexadecane (C16)	104		107		50-130	3		30		
Octadecane (C18)	106		106		50-130	0		30		
Nonadecane (C19)	97		97		50-130	0		30		
Eicosane (C20)	100		100		50-130	0		30		
Docosane (C22)	101		101		50-130	0		30		
Tetracosane (C24)	102		100		50-130	2		30		
Hexacosane (C26)	100		99		50-130	1		30		
Octacosane (C28)	102		101		50-130	1		30		
Triacontane (C30)	101		100		50-130	1		30		
Hexatriacontane (C36)	98		98		50-130	0		30		

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
o-Terphenyl	101		103		50-130	
d50-Tetracosane	96		98		50-130	



Serial_No:08311615:36

Project Name:ATLANTIC BRIDGELab Number: L1627080Project Number:140143.0000.7215Report Date: 08/31/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Information Temp deg C Pres Seal **Container ID Container Type** Analysis(*) Cooler рΗ L1627080-01A Glass 60mL/2oz unpreserved 3.8 A2-PHI(365) Α N/A Υ Absent



GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:08311615:36

Project Name:ATLANTIC BRIDGELab Number:L1627080Project Number:140143.0000.7215Report Date:08/31/16

REFERENCES

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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.



Serial_No:08311615:36

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Revision 7

Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

ID No.:17873

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Azobenzene; Azobenzene;

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide **EPA 9050A:** NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form Pre-Qualtrax Document ID: 08-113

	CHAIN OF	CUSTO	DY	PAGE 1 OF	1	Da	te Rec'o	d in Lai	b:		8/2	291	16	AL	PHA .	Job#	:	4627080
ALPHA Pro		Project Infor	oject Information			Report Information Data Deliverables												
ANALYTIC					☐ FAX ☐ EMAIL					L		☐ Same as Client info				PO #: 95219		
Westborough, MA	Mansfield, MA					☐ ADEx ☐ Add'l Deliverables												
TEL: 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288	Project Name:	Atlantic Brid	lge			Regulatory Requirements/Report Limits											
Client Informat		Project Location: Bridge St, Weymouth, MA				State/Fed Program MCP								Criteria RCGW-2				
Client: TRC		Project #: 1401											EASONABLE CONFIDENCE PROTOCOLS					
Address: 2 Liberty	Sq	Project Manage		1000000									cal Methods Required?					
Boston, MA		ALPHA Quote					Yes No Are CT RCP (Re						P (Rea	asonabl	e Conti	dence	Protoco	
Phone: 617-385-6	033	Turn-Around					AIVALISIS						T					SAMPLE HANDLING T A L
Fax: 617-350-3444	1	☐ Standard	⊠ Ri	u sh (ONLY IF PR	E-APPROVED)													Filtration
Email: rniles@trcs	olutions.com																	□ Not Needed #
☐ These samples have	been Previously analyzed by Alpha	Due Date: 48-H	R Time	:														Preservation O
	ecific Requirements/Comments/ we groundwater and Spray			et.		fingerprint												☐ Lab to do Preservation ☐ Lab to do (Please specify below) E
ALPHA Lab ID (Lab Use Only)	Sample ID	Colle	ection Time	Sample Matrix	Sampler's Initials	TPH fing												Sample Specific Comments
7080 -01	MW-201 (LNAPL)	8/29/16	10:45	OIL	LH													1
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						H	片		H		ᆸ	H		片	H		H	
DI EASE ANSWED	QUESTIONS ABOVE!		4						 ' '		Ш		Ш	Ц,	Ш	Ш	Ш	
TELAGE ANOTHER	QOESTIONS ABOVE:				ntainer Type Preservative	-	-	-	-	-	-	-	-	-	-	-	-	Please print clearly, legibly
IS YOUR PROJECT Relinquished By:				Date/Time								ר	ate/Tim		and completely. Samples can not be logged in and			
	or CT RCP?			Date/Time Received By: 12/29 1:452 HCM An 12:116 1:617 Huml Lutt					2 Sm \$ 39/10			457	turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.					

GC-FID Chromatogram

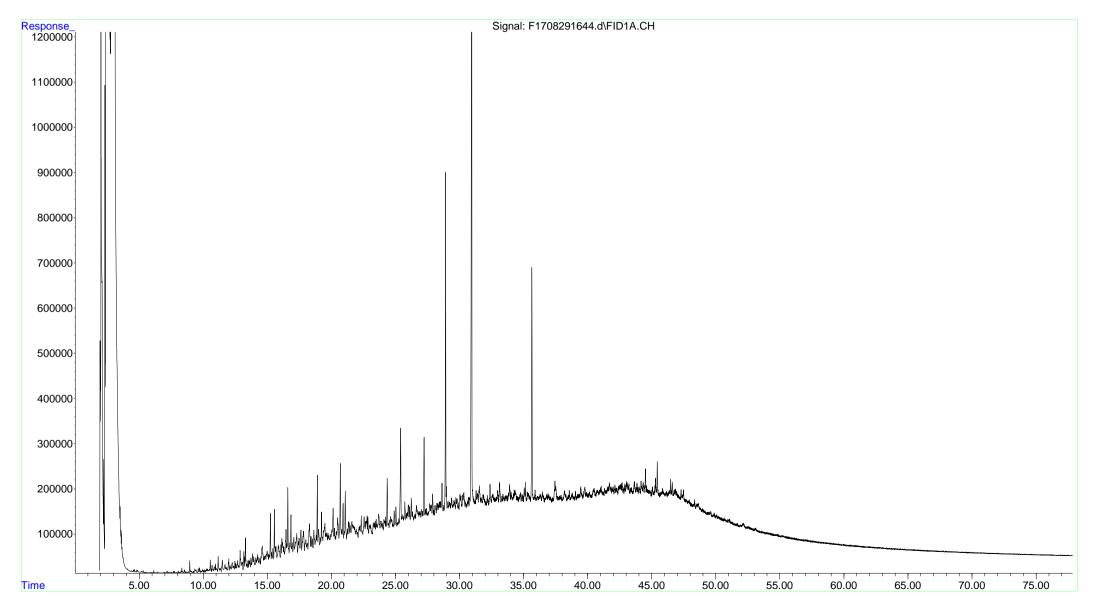
File :0:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291644.d

Operator : FID17:WR

Acquired: 30 Aug 2016 3:50 pm using AcqMethod FID17.M

Instrument : FID17
Sample : L1627080-01

Misc Info: WG927410, WG927146, ICAL11783



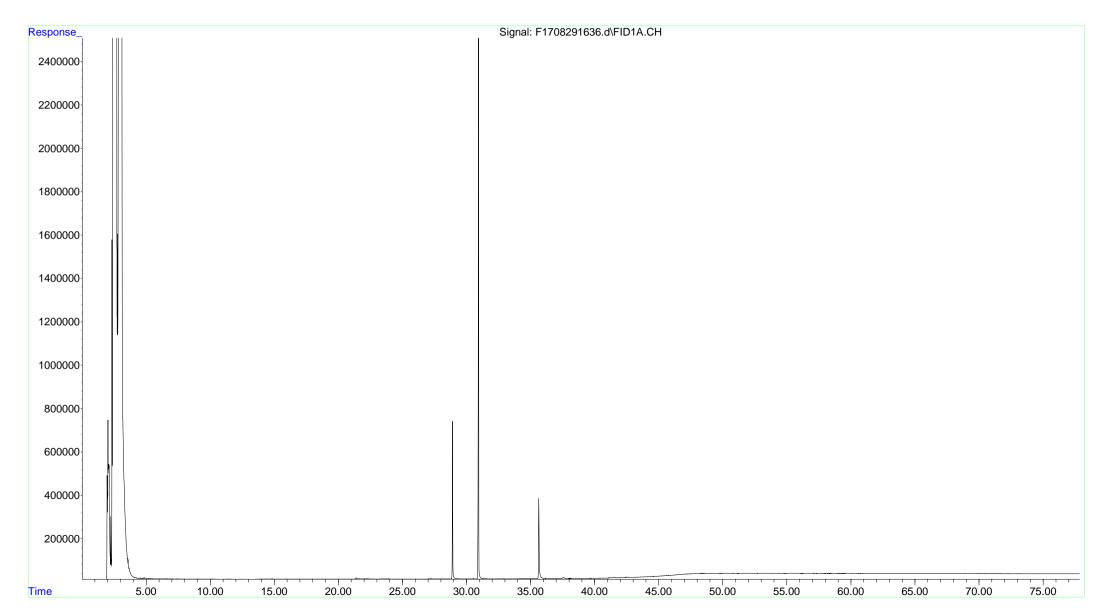
File :0:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291636.d

Operator : FID17:WR

Acquired: 30 Aug 2016 9:57 am using AcqMethod FID17.M

Instrument: FID17

Sample : WG927146-1 (Method Blank)
Misc Info : WG927410, WG927146, ICAL11783



File :0:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291638.d

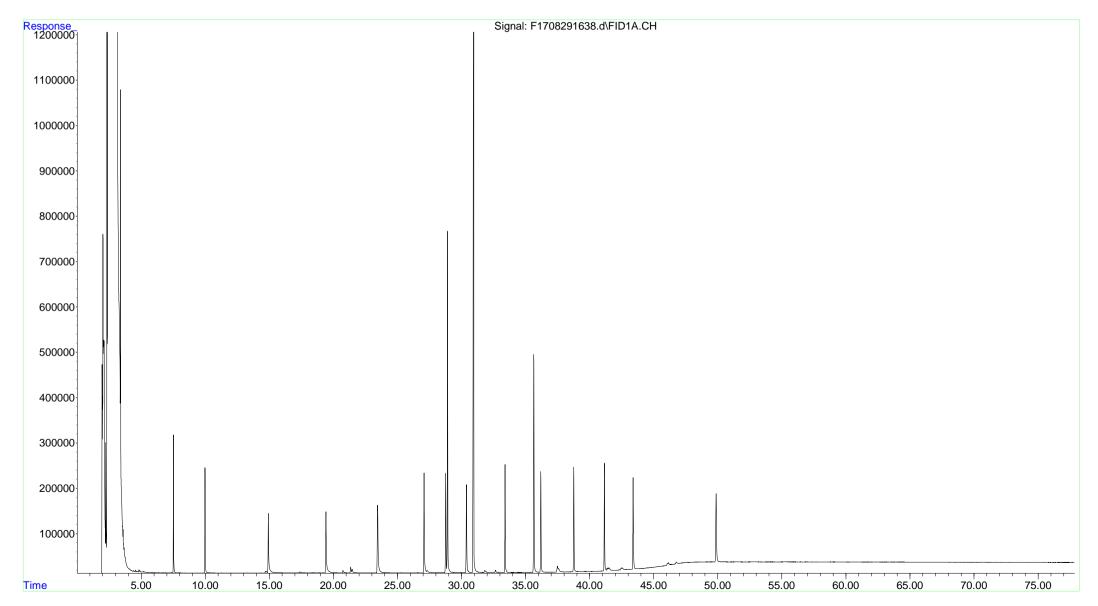
Operator : FID17:WR

Acquired: 30 Aug 2016 11:25 am using AcqMethod FID17.M

Instrument : FID17

Sample : WG927146-2 (Laboratory Control Sample)

Misc Info: WG927410, WG927146, ICAL11783



File :0:\Forensics\Data\FID17\2016\Aug\Aug29\F1708291640.d

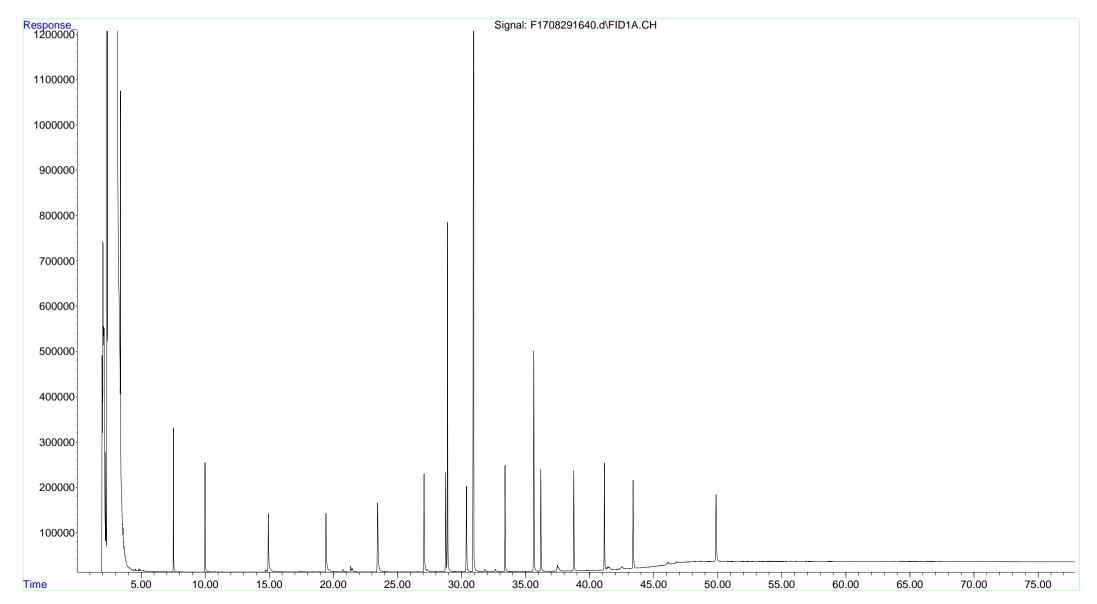
Operator : FID17:WR

Acquired : 30 Aug 2016 12:53 pm using AcqMethod FID17.M

Instrument : FID17

Sample : WG927146-3 (Laboratory Control Sample Duplicate)

Misc Info: WG927410, WG927146, ICAL11783



Petroleum Reference Standards

Data Path: 0:\Forensics\Data\FID17\2016\Aug\Aug29\

Data File : F1708291646.d

Signal(s) : FID1A.CH

: 30 Aug 2016 5:19 pm Acq On

Operator : FID17:WR

Sample : Alkane Reference Standard (C8 - C40)

: WG927410,FRAX49 Misc

ALS Vial : 23 Sample Multiplier: 1

Integration File: SHCINT2.E Quant Time: Aug 31 10:05:54 2016

Quant Method: 0:\Forensics\Data\FID17\2016\Aug\Aug29\HC17102615F.M

Quant Title : FID Forensics

QLast Update: Tue Aug 30 09:55:44 2016 Response via: Initial Calibration

Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0 Signal Phase : Rtx-5MS Signal Info : 0.25mm

Sub List : CCAL - CCAL

System Monitoring Compounds 19) s ortho-terphenyl 28.933 63551905 50.752 ug/mL M Spiked Amount 50.000 Range 50 - 130 Recovery = 101.50% 24) s d50-Tetracosane 35.654 51543199 49.142 ug/mL M Spiked Amount 50.000 Range 50 - 130 Recovery = 98.28% Target Compounds 2) t n-Octane (C8) 5.368 43434341 45.473 ug/mL M 3) t n-Nonane (C9) 7.534 45928865 46.551 ug/mL M 4) t n-Decane (C10) 9.999 48346475 47.440 ug/mL M 5) t n-Undecane (C11) 12.504 49561403 48.210 ug/mL M 6) t n-Dodecane (C12) 14.929 51399059 49.152 ug/mL M 6) t n-Tridecane (C13) 17.238 52467545 49.919 ug/mL M 9) t n-Tetradecane (C14) 19.425 53452943 50.248 ug/mL M 9) t n-Tetradecane (C15) 21.494 54979172 50.786 ug/mL M 11) t n-Pentadecane (C16) 23.454 55504875 51.345 ug/mL M 12) t n-Hexadecane (C17) 25.319 55049109 50.383 ug/mL M	Compound	R.T.	Response	Conc Units
19) s ortho-terphenyl 28.933 63551905 50.752 ug/mL M Spiked Amount 50.000 Range 50 - 130 Recovery = 101.50% 49.142 ug/mL M Spiked Amount 50.000 Range 50 - 130 Recovery = 98.28% Target Compounds 2) t n-Octane (C8) 5.368 43434341 45.473 ug/mL M 3) t n-Nonane (C9) 7.534 45928865 46.551 ug/mL M 4) t n-Decane (C10) 9.999 48346475 47.440 ug/mL M 5) t n-Undecane (C11) 12.504 49561403 48.210 ug/mL M 6) t n-Dodecane (C12) 14.929 51399059 49.152 ug/mL M 6) t n-Tridecane (C13) 17.238 52467545 49.919 ug/mL M 9) t n-Tetradecane (C14) 19.425 53452943 50.248 ug/mL M 1) t n-Pentadecane (C15) 21.494 54979172 50.786 ug/mL M 12) t n-Hexadecane (C16) 23.454 55504875 51.345 ug/mL M 14) t n-Heptadecane (C17) 25.319 55049109 50.383 ug/mL M		30.949	58901570	50.000 ug/mL M4
2) t n-Octane (C8) 5.368 43434341 45.473 ug/mL M 3) t n-Nonane (C9) 7.534 45928865 46.551 ug/mL M 4) t n-Decane (C10) 9.999 48346475 47.440 ug/mL M 5) t n-Undecane (C11) 12.504 49561403 48.210 ug/mL M 6) t n-Dodecane (C12) 14.929 51399059 49.152 ug/mL M 7) t n-Tridecane (C13) 17.238 52467545 49.919 ug/mL M 9) t n-Tetradecane (C14) 19.425 53452943 50.248 ug/mL M 11) t n-Pentadecane (C15) 21.494 54979172 50.786 ug/mL M 12) t n-Hexadecane (C16) 23.454 55504875 51.345 ug/mL M 14) t n-Heptadecane (C17) 25.319 55049109 50.383 ug/mL M	19) s ortho-terphenyl Spiked Amount 50.000 Range 24) s d50-Tetracosane	50 - 130 35.654	Recovery = 51543199	49.142 ug/mL M4
16) t n-Octadecane (C18) 27.091 57019124 51.382 ug/mL M 17) t Phytane 27.251 50065683 51.482 ug/mL M 18) t n-Nonadecane (C19) 28.782 56709327 51.410 ug/mL M 20) t n-Eicosane (C20) 30.396 56670814 51.508 ug/mL M 21) t n-Heneicosane (C21) 31.939 57266169 51.610 ug/mL M 22) t n-Docosane (C22) 33.419 57534914 51.453 ug/mL M 23) t n-Tricosane (C23) 34.836 57915797 51.362 ug/mL M 25) t n-Tetracosane (C24) 36.202 57975971 51.263 ug/mL M 26) t n-Pentacosane (C25) 37.515 57406299 51.215 ug/mL M 27) t n-Hexacosane (C26) 38.782 58536715 51.118 ug/mL M 28) t n-Heptacosane (C27) 40.000 57821608 51.000 ug/mL M 29) t n-Octacosane (C28) 41.180 57723599 51.180 ug/mL M 30) t n-Nonacosane (C29) 42.317 57696990 50.894 ug/mL M 31) t n-Triacontane (C30) 43.420 57695232 50.803 ug/mL M 32) t n-Hentriacontane (C31) 44.486 57722753 50.696 ug/mL M 33) t n-Dotriacontane (C32) 45.519 58189009 50.763 ug/mL M 34) t n-Tritriacontane (C33) 46.521 54900357 50.694 ug/mL M 35) t n-tetratriacontane (C33) 47.524 57414025 50.647 ug/mL M 36) t n-Pentatriacontane (C36) 49.915 59109947 50.508 ug/mL M 37) t n-Hexatriacontane (C36) 49.915 59109947 50.508 ug/mL M 38) t n-Heptatriacontane (C36) 51.381 57562682 50.398 ug/mL M	2) t n-Octane (C8) 3) t n-Nonane (C9) 4) t n-Decane (C10) 5) t n-Undecane (C11) 6) t n-Dodecane (C12) 7) t n-Tridecane (C13) 9) t n-Tetradecane (C14) 11) t n-Pentadecane (C15) 12) t n-Hexadecane (C16) 14) t n-Heptadecane (C17) 15) t Pristane 16) t n-Octadecane (C18) 17) t Phytane 18) t n-Nonadecane (C19) 20) t n-Eicosane (C20) 21) t n-Heneicosane (C21) 22) t n-Docosane (C22) 23) t n-Tricosane (C23) 25) t n-Tetracosane (C24) 26) t n-Pentacosane (C25) 27) t n-Hexacosane (C26) 28) t n-Heptacosane (C27) 29) t n-Octacosane (C28) 30) t n-Nonacosane (C29) 31) t n-Triacontane (C30) 32) t n-Hentriacontane (C31) 33) t n-Dotriacontane (C32) 34) t n-Tritriacontane (C33) 35) t n-tetratriacontane (C34) 36) t n-Hexatriacontane (C36) 37) t n-Hexatriacontane (C37)	7.534 9.999 12.504 14.929 17.238 19.425 21.494 23.454 25.319 25.427 27.091 27.251 28.782 30.396 31.939 33.419 34.836 36.202 37.515 38.782 40.000 41.180 42.317 43.420 44.486 45.519 46.521 47.524 48.641 49.915 51.381	45928865 48346475 49561403 51399059 52467545 53452943 54979172 55504875 55049109 57053658 57019124 50065683 56709327 56670814 57266169 57534914 57915797 57975971 57406299 58536715 57821608 57723599 57696990 57695232 57722753 58189009 54900357 57414025 57725878 59109947 57562682	45.473 ug/mL M4 46.551 ug/mL M4 47.440 ug/mL M4 48.210 ug/mL M4 49.152 ug/mL M4 49.919 ug/mL M4 50.248 ug/mL M4 50.383 ug/mL M4 51.345 ug/mL M4 51.382 ug/mL M4 51.382 ug/mL M4 51.482 ug/mL M4 51.480 ug/mL M4 51.410 ug/mL M4 51.453 ug/mL M4 51.263 ug/mL M4 51.263 ug/mL M4 51.263 ug/mL M4 51.215 ug/mL M4 51.610 ug/mL M4 51.630 ug/mL M4 51.631 ug/mL M4 51.633 ug/mL M4 51.647 ug/mL M4 50.694 ug/mL M4 50.638 ug/mL M4 50.638 ug/mL M4 50.638 ug/mL M4 50.638 ug/mL M4 50.508 ug/mL M4 50.398 ug/mL M4 50.398 ug/mL M4 50.398 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : 0:\Forensics\Data\FID17\2016\Aug\Aug29\

Data File : F1708291646.d

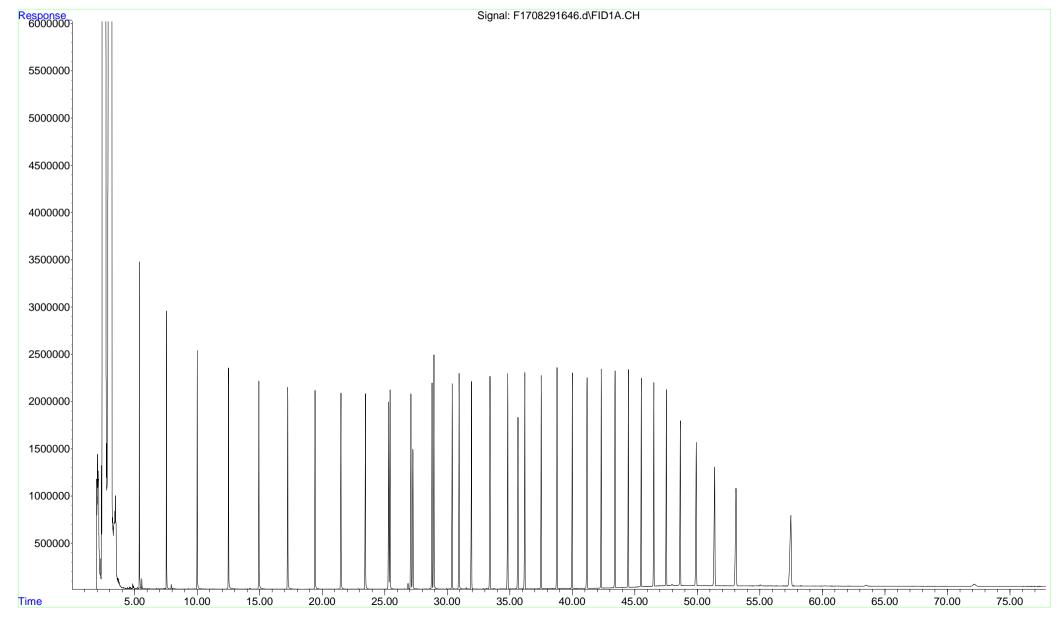
Operator : FID17:WR

Acquired : 30 Aug 2016 5:19 pm using AcqMethod FID17.M

Instrument: FID17

Sample : Alkane Reference Standard (C8 - C40)

Misc Info: WG927410,FRAX49



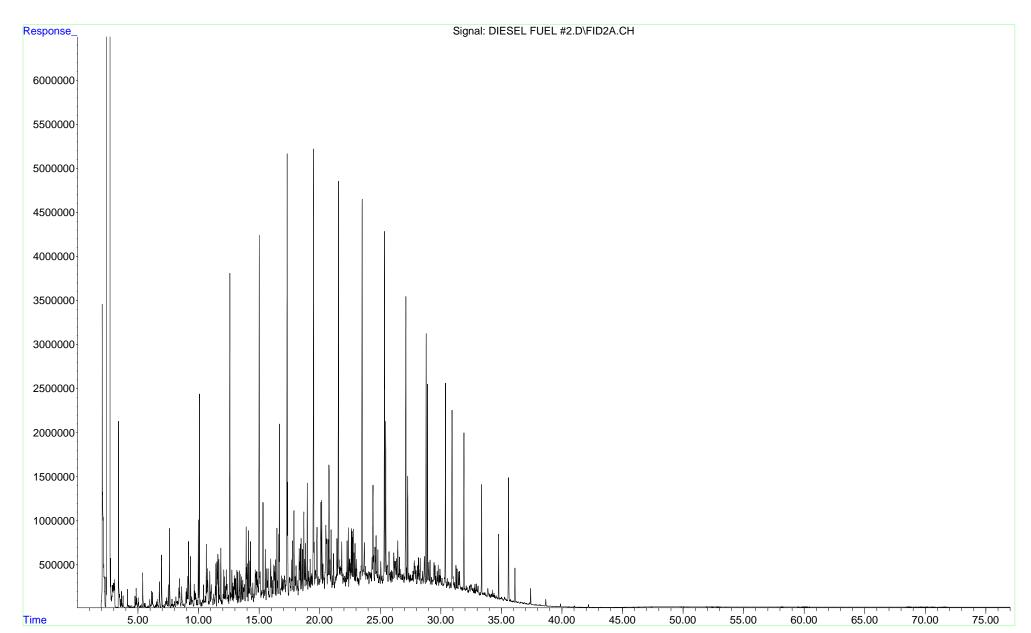
File :0:\FORENSICS\LIBRARY\HYDROCARBON REFERENCE STANDARDS\DIESEL

... FUEL #2.D Operator : PAH2:AC Instrument : PAH 2

Acquired : 18 Nov 2011 8:19 pm using AcqMethod FRNC2AF.M

Sample : #2 DIESEL FUEL

Misc Info : F050410A



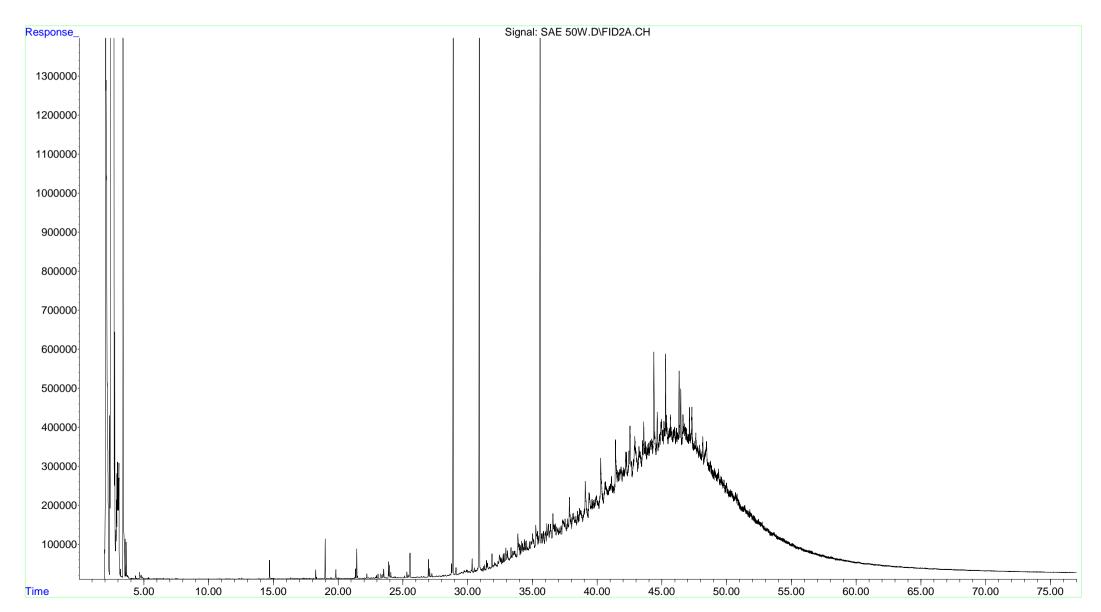
File :0:\Forensics\LIBRARY\Hydrocarbon Reference Standards\SAE 50W

... D
Operator : PAH2:AC
Instrument : PAH 2

Acquired : 19 Nov 2011 2:34 am using AcqMethod FRNC2AF.M

Sample : SAE 50W Motor Oil

Misc Info : 1X





ANALYTICAL REPORT

Lab Number: L1635614

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7478

Report Date: 11/29/16

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



11/03/16

Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7478

L1635614-01

MW-201 (LNAPL)

Lab Number: L1635614 **Report Date:** 11/29/16

11/03/16 09:30

Alpha Sample ID Client ID Matrix Sample Collection Date/Time Receive Date

WEYMOUTH, MA

OIL



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	A response to questions G, H and I is required for "Presumptive Certainty" status					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES				
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO				
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES				

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

Case Narrative (continued)

Report Submission

This final report replaces the partial report issued November 10, 2016 and includes the results of all requested analyses.

The analyses of Viscosity, Density, and Molecular Weight were subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

MCP Related Narratives

VPH

L1635614-01: The sample has elevated detection limits due to the dilution required by the sample matrix. In reference to question H:

L1635614-01: The surrogate recovery is outside the acceptance criteria for 2,5-Dibromotoluene-FID (167%); however, the sample was not re-analyzed due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

EPH

L1635614-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

In reference to question H:

L1635614-01: The surrogate recoveries are below the acceptance criteria for chloro-octadecane (0%) and oterphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 11/29/16



ORGANICS



PETROLEUM HYDROCARBONS



Project Name: ATLANTIC BRIDGE Lab Number: L1635614

SAMPLE RESULTS

Lab ID: L1635614-01 D Date Collected: 11/03/16 09:30

Client ID: MW-201 (LNAPL) Date Received: 11/03/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Oil

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/09/16 10:13

Analyst: JM

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Quality Control Information

Condition of sample received:

Sample Temperature upon receipt:

Were samples received in methanol?

Methanol ratio:

Satisfactory

Received on Ice

Covering the Soil

Qualifier Units RL MDL **Dilution Factor Parameter** Result Volatile Petroleum Hydrocarbons - Westborough Lab C5-C8 Aliphatics ND mg/kg 484 20 C9-C12 Aliphatics 2120 484 20 mg/kg --C9-C10 Aromatics 1390 484 20 mg/kg C5-C8 Aliphatics, Adjusted ND 484 20 mg/kg --C9-C12 Aliphatics, Adjusted 730 mg/kg 484 20 ND 20 Benzene mg/kg 19.4 --Toluene ND mg/kg 19.4 20 ND Ethylbenzene 19.4 20 mg/kg --ND p/m-Xylene mg/kg 19.4 20 -o-Xylene ND mg/kg 19.4 20 Methyl tert butyl ether ND mg/kg 9.69 20 Naphthalene ND mg/kg 38.8 __ 20

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	127	Q ualifier	70-130	
2,5-Dibromotoluene-FID	167	Q	70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1635614

SAMPLE RESULTS

Lab ID: L1635614-01 D Date Collected: 11/03/16 09:30

Client ID: MW-201 (LNAPL) Date Received: 11/03/16

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Oil Extraction Method: EPA 3580A

Analytical Method: 98,EPH-04-1.1 Extraction Date: 11/07/16 17:15

Analytical Date: 11/09/16 00:20 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 11/07/16

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Quality Control Information

Condition of sample received: Satisfactory
Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbor	s - Westborough La	ab				
C9-C18 Aliphatics	58700		mg/kg	1700		20
C19-C36 Aliphatics	93200		mg/kg	1700		20
C11-C22 Aromatics	93200		mg/kg	1700		20
C11-C22 Aromatics, Adjusted	93200		mg/kg	1700		20
Naphthalene	ND		mg/kg	84.9		20
2-Methylnaphthalene	ND		mg/kg	84.9		20
Acenaphthylene	ND		mg/kg	84.9		20
Acenaphthene	ND		mg/kg	84.9		20
Fluorene	ND		mg/kg	84.9		20
Phenanthrene	ND		mg/kg	84.9		20
Anthracene	ND		mg/kg	84.9		20
Fluoranthene	ND		mg/kg	84.9		20
Pyrene	ND		mg/kg	84.9		20
Benzo(a)anthracene	ND		mg/kg	84.9		20
Chrysene	ND		mg/kg	84.9		20
Benzo(b)fluoranthene	ND		mg/kg	84.9		20
Benzo(k)fluoranthene	ND		mg/kg	84.9		20
Benzo(a)pyrene	ND		mg/kg	84.9		20
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	84.9		20
Dibenzo(a,h)anthracene	ND		mg/kg	84.9		20
Benzo(ghi)perylene	ND		mg/kg	84.9		20



Project Name: ATLANTIC BRIDGE Lab Number: L1635614

SAMPLE RESULTS

Lab ID: L1635614-01 D Date Collected: 11/03/16 09:30

Client ID: MW-201 (LNAPL) Date Received: 11/03/16
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	0	Q	40-140	
o-Terphenyl	0	Q	40-140	
2-Fluorobiphenyl	89		40-140	
2-Bromonaphthalene	93		40-140	



L1635614

Lab Number:

Project Name: ATLANTIC BRIDGE **Project Number:**

140143.0000.7478 Report Date: 11/29/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 11/08/16 01:46

Analyst:

DV

Extraction Method: EPA 3580A 11/07/16 17:15 Extraction Date:

EPH-04-1 Cleanup Method: Cleanup Date: 11/07/16

arameter	Result	Qualifier	Units	RL		MDL
xtractable Petroleum Hydrocar	bons - Westbor	ough Lab	for sample(s):	01	Batch:	WG949964-1
C9-C18 Aliphatics	ND		mg/kg	895		
C19-C36 Aliphatics	ND		mg/kg	895		
C11-C22 Aromatics	ND		mg/kg	895		
C11-C22 Aromatics, Adjusted	ND		mg/kg	895		
Naphthalene	ND		mg/kg	44.8		
2-Methylnaphthalene	ND		mg/kg	44.8		
Acenaphthylene	ND		mg/kg	44.8		
Acenaphthene	ND		mg/kg	44.8		
Fluorene	ND		mg/kg	44.8		
Phenanthrene	ND		mg/kg	44.8		
Anthracene	ND		mg/kg	44.8		
Fluoranthene	ND		mg/kg	44.8		
Pyrene	ND		mg/kg	44.8		
Benzo(a)anthracene	ND		mg/kg	44.8		
Chrysene	ND		mg/kg	44.8		
Benzo(b)fluoranthene	ND		mg/kg	44.8		
Benzo(k)fluoranthene	ND		mg/kg	44.8		
Benzo(a)pyrene	ND		mg/kg	44.8		
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	44.8		
Dibenzo(a,h)anthracene	ND		mg/kg	44.8		
Benzo(ghi)perylene	ND		mg/kg	44.8		

		-	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	72		40-140	
2-Fluorobiphenyl	82		40-140	
2-Bromonaphthalene	79		40-140	



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 11/09/16 09:17

Analyst: JM

Parameter	Result	Qualifier	Units		RL	MDL	
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	ample(s):	01	Batch:	WG950701-3	
C5-C8 Aliphatics	ND		mg/kg	2	26.6		
C9-C12 Aliphatics	ND		mg/kg	2	26.6		
C9-C10 Aromatics	ND		mg/kg	2	26.6		
C5-C8 Aliphatics, Adjusted	ND		mg/kg	2	26.6		
C9-C12 Aliphatics, Adjusted	ND		mg/kg	2	26.6		
Benzene	ND		mg/kg	1	.07		
Toluene	ND		mg/kg	1	.07		
Ethylbenzene	ND		mg/kg	1	.07		
p/m-Xylene	ND		mg/kg	1	.07		
o-Xylene	ND		mg/kg	1	.07		
Methyl tert butyl ether	ND		mg/kg	0	.533		
Naphthalene	ND		mg/kg	2	2.13		

	Acceptance				
Surrogate	%Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	92		70-130		
2,5-Dibromotoluene-FID	93		70-130		



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635614

Report Date:

11/29/16

arameter	LCS %Recovery Qua	LCSD I %Recovery Q	%Recovery ual Limits	RPD	RPD Qual Limits
xtractable Petroleum Hydrocarbo	ons - Westborough Lab Associated	d sample(s): 01 Batch: V	VG949964-2 WG949964	- 3	
C9-C18 Aliphatics	109	117	40-140	7	25
C19-C36 Aliphatics	114	135	40-140	17	25
C11-C22 Aromatics	109	97	40-140	12	25
Naphthalene	82	69	40-140	17	25
2-Methylnaphthalene	80	68	40-140	16	25
Acenaphthylene	85	72	40-140	17	25
Acenaphthene	85	70	40-140	19	25
Fluorene	82	69	40-140	17	25
Phenanthrene	80	67	40-140	18	25
Anthracene	83	68	40-140	20	25
Fluoranthene	85	72	40-140	17	25
Pyrene	88	74	40-140	17	25
Benzo(a)anthracene	78	66	40-140	17	25
Chrysene	85	72	40-140	17	25
Benzo(b)fluoranthene	80	71	40-140	12	25
Benzo(k)fluoranthene	88	74	40-140	17	25
Benzo(a)pyrene	79	68	40-140	15	25
Indeno(1,2,3-cd)Pyrene	75	66	40-140	13	25
Dibenzo(a,h)anthracene	77	63	40-140	20	25
Benzo(ghi)perylene	80	70	40-140	13	25
Nonane (C9)	76	78	30-140	3	25



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number:

L1635614

Report Date:

11/29/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Wes	tborough Lab Ass	ociated samp	e(s): 01 Batc	h: WG949964-2 WG949964	-3	
Decane (C10)	81		82	40-140	1	25
Dodecane (C12)	82		84	40-140	2	25
Tetradecane (C14)	82		84	40-140	2	25
Hexadecane (C16)	85		89	40-140	5	25
Octadecane (C18)	89		95	40-140	7	25
Nonadecane (C19)	85		88	40-140	3	25
Eicosane (C20)	90		96	40-140	6	25
Docosane (C22)	90		94	40-140	4	25
Tetracosane (C24)	88		93	40-140	6	25
Hexacosane (C26)	86		91	40-140	6	25
Octacosane (C28)	86		90	40-140	5	25
Triacontane (C30)	83		88	40-140	6	25
Hexatriacontane (C36)	81		86	40-140	6	25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	77		89		40-140	
o-Terphenyl	86		77		40-140	
2-Fluorobiphenyl	95		76		40-140	
2-Bromonaphthalene	94		74		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



11/29/16

Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7478

Lab Number: L1635614

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westb	oorough Lab Associa	ated sample(s)	: 01 Batch:	WG950701-1	WG950701-2			
C5-C8 Aliphatics	89		96		70-130	7		25
C9-C12 Aliphatics	100		106		70-130	6		25
C9-C10 Aromatics	95		99		70-130	5		25
Benzene	91		98		70-130	7		25
Toluene	94		100		70-130	6		25
Ethylbenzene	95		100		70-130	6		25
p/m-Xylene	95		100		70-130	5		25
o-Xylene	96		101		70-130	5		25
Methyl tert butyl ether	88		98		70-130	10		25
Naphthalene	91		102		70-130	12		25
1,2,4-Trimethylbenzene	95		99		70-130	5		25
Pentane	81		87		70-130	7		25
2-Methylpentane	89		96		70-130	7		25
2,2,4-Trimethylpentane	95		101		70-130	6		25
n-Nonane	100		105		30-130	5		25
n-Decane	101		105		70-130	4		25
n-Butylcyclohexane	101		107		70-130	6		25



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE **Project Number:**

Lab Number:

L1635614

140143.0000.7478

Report Date:

11/29/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG950701-1 WG950701-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	92		100		70-130	
2,5-Dibromotoluene-FID	91		100		70-130	



Project Name:ATLANTIC BRIDGELab Number: L1635614Project Number:140143.0000.7478Report Date: 11/29/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1635614-01A	Glass 60mL/2oz unpreserved	Α	N/A	3.8	Υ	Absent	-
L1635614-01B	Glass 500ml/16oz unpreserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(28),EPH- DELUX-10(14)
L1635614-01C	Glass 500ml/16oz unpreserved	Α	N/A	3.8	Y	Absent	SUB- MOLECULARWEIGHT(14),SUB- DENSITY(28),SUB-VISCOSITY()
L1635614-01X	Vial unpreserved	Α	N/A	3.8	Υ	Absent	VPH-DELUX-10(28)



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J · Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:ATLANTIC BRIDGELab Number:L1635614Project Number:140143.0000.7478Report Date:11/29/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Revision 7 Published Date: 8/5/2016 11:25:56 AM

ID No.:17873

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility **SM 2540D:** TSS

EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

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Westborough, MA	Mansfield, MA	Project Name:	Atlantic Bridg	je				ory R	eguir	ement	ALC: N		Town Control of						
TEL: 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288						e/Fed F			SIII GIII	.S/TC	POIL	-1111116	Crite	ria		MADOUS, Y		NUCCES
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Address: 2 Liberty	Square	Project Manage	er: Rick Paqu	ette			Yes		⊠ No		Are	CT RC	P (Rea	sonable	e Confi	dence F	rotocols	s) Required?	E-d to
Boston, MA 02109		ALPHA Quote	#:		Addition in the	AN	ALYS	IS						_			,	SAMPLE HANDLING	T 0 T
Phone: 617-350-3	443	Turn-Around	l Time															Filtration	Å
Fax: 617-350-3444	4	_ 🛭 Standard	Ru	sh (ONLY IF PR	E-APPROVED)				22.									☐ Done ☑ Not Needed	#
Email: rniles@trcs	olutions.com	-																☐ Lab to do	В
	e been Previously analyzed by Alpha	Due Date:	Time:															Preservation ☐ Lab to do	Ť
Other Project Sp	pecific Requirements/Comments	s/Detection Limit	ts:	1.3 1.4						1				13	£4			(Please specify below)	B T T L E S
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	er				Т	↓		Viscosity	density	Molecular									
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	MIN COA (I NIA DI)	11/3/16	0930								П	ГП		· 	ÌП	ПП		See Melissa Gulli	1
35614-01	MW-201 (LNAPL)	11/3/16	0100	LNAPL														Occ Menosa Cam	<u> </u>
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PLEASE ANSWER	QUESTIONS ABOVE!				ntainer Type Preservative	A	A	A	A	A	-		-		-	-	-	Please print clearly, legible	
IS VOUD	PROJECT		Relino	uished By:	1636 Valive	-	ate/Time				Receiv	ed Bv			п	ate/Tim	e	and completely. Samples not be logged in and turnaround time clock will	
3	or CT RCP?	1000	en V. Hor			Date/Time Received By:				ce B					start until any ambiguities resolved. All samples				
FORM NO: 01-01(I) (rev. 5-JAN-12)	UI CI KUP!	h	11	ages 1	SPE	11/2/10	6.	V - (1	7	2	1		-	1/3/0	6 10	05	submitted are subject to Alpha's Payment Terms.	
(18V, 3-JAIN-(2)	2000					7													

Quantitation Report (QT Reviewed)

Data Path : I:\OVPH\161109ali\

Data File : O1109A05.d Signal(s) : FID2B.ch

Acq On : 9 Nov 2016 10:13 am

Operator : OVPH:JM

Sample : 11635614-01D,41,10.66,1.1,.005

Misc : WG950701,ICAL12828 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 09 10:56:15 2016

Quant Method : I:\OVPH\161109ali\vph-ali160830.m

Quant Title : VPH ALIPHATIC

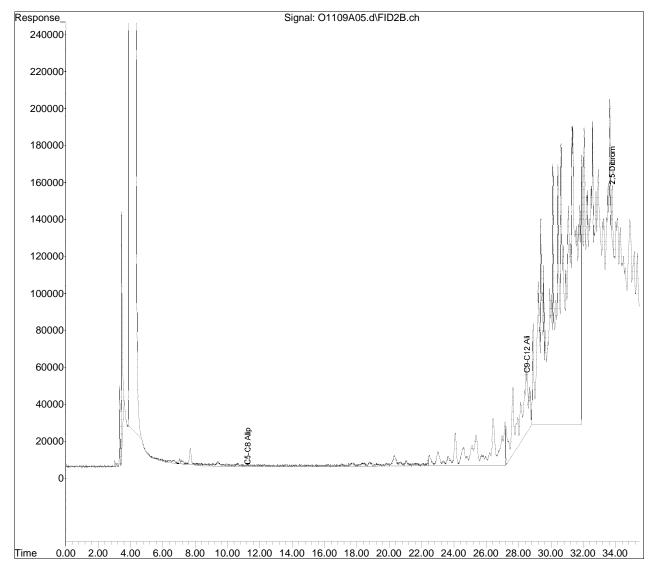
QLast Update : Wed Aug 31 07:53:22 2016

Response via : Initial Calibration

Integrator: ChemStation

Volume Inj. : Signal Phase : Signal Info :

Sub List : Default - All compounds listed



vph-ali160830.m Wed Nov 09 13:05:24 2016



Certificate of Analysis

Number: 1030-16110356-001A

Houston Laboratories 8820 Interchange Drive Houston, TX 77054 Phone 713-660-0901

Nov. 29, 2016

Ashaley Kane Alpha Analytical 8 Walkup Drive Westborough, MA 01581

Station Name: MW-201 (LNAPL)

Sample Conditions:

Sampled By: N/A

Sample Of: Liquid Spot Sample Date: 11/03/2016 09:30

Analytical Data

Test	Method	Result	Units	Detection Lab Limit Tech.	Analysis Date
Viscosity - Kinematic @ 104°F	ASTM D-445	1560	cSt	FM	11/29/2016
Viscosity - Kinematic @ 104°F	ASTM D-445	7228	SUS	FM	11/29/2016
API Gravity @ 60° F	ASTM D-5002	13.54	0	JJH	11/10/2016
Specific Gravity @ 60/60° F	ASTM D-5002	0.9756		JJH	11/10/2016
Density @ 60° F	ASTM D-5002	0.9746	g/ml	JJH	11/10/2016
Molecular Weight	Proprietary	485	g/mol	JSG	11/11/2016

Comments:

Quality Assurance:

AS-D-445: Analysis perfored on hydrocarbon layer.

Chio Haley

Hydrocarbon Laboratory Manager

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

L1635614 Dept. Code SPL Work Order No.: Acct. Mate Code: Page **Pages** Report To: Alpha Analytical Project/Station Name: Project/Station Number: Project/Station Location: (Company Name): Requested TAT Address: 8 Walkup Drive Special Instructions: 10 business days City/State/Zip: Westboro 1581 MA Indicate Billing Type: Ashaley Kane subreports@alphalab.com Net 30 day Acct. Check # Contact: (Place "X", where Phone: 508-439-5158 508-898-9193 appropriate) <<Contact SPL, Inc for CC payment arrangements Credit Card * Surcharges May Apply Invoice To: Requested Analysis Alpha Analytical (See quote for details) (Company Name): (Place an "X" next to Sample ID below) Address: 8 Walkup Drive Terms: Cylinders will be rented for \$10/cyl. All cylinders checked out are to be returned within 21 days, City/State/Zip: Westboro MA 1581 whether they contain sample or not. Accounts Payable ap@alphalab.com Cylinders not returned after 30 days AS-D-5002 will be considered lost and will be AS-D-445 Phone: 508-439-5158 Fax: 508-898-9193 billed at current replacement cost. Client PO# or Ref. No.: N/A Contract/Proposal #: **SPLQ7378** (i.e. SPLQ####) Cylinder Tracking Info Sample Composite Duplicate Sample Sample Type Sample ID Spot (used to log/track sample) (Gas/Lig. Date -Time Cylinder # Date Out Date In Comments /Solid) MW-201 (LNAP) "/3/14 9:30 Oil V V Sampled By-Print Name: Received By-Company: Signature: Date: Time: Relinquished By-Print Name: Received By-Print Name: Date Time: 12.31 14:25 Signature: Signature: Date: Date: Relinquished By-Print Name: Time: Received By-Print Name: Time: Signature: Signature: Date: Relinquished By-Print Name: Received By-Print Name: Date: Time: Signature: Signature:



ANALYTICAL REPORT

Lab Number: L1700253

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 01/11/17

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253 **Report Date:** 01/11/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1700253-01	MW-416	WATER	WEYMOUTH, MA	01/03/17 10:55	01/04/17
L1700253-02	MW-417	WATER	WEYMOUTH, MA	01/03/17 10:45	01/04/17
L1700253-03	MW-400	WATER	WEYMOUTH, MA	01/03/17 13:35	01/04/17
L1700253-04	MW-401	WATER	WEYMOUTH, MA	01/03/17 13:50	01/04/17
L1700253-05	MW-203	WATER	WEYMOUTH, MA	01/03/17 15:20	01/04/17
L1700253-06	MW-205	WATER	WEYMOUTH, MA	01/03/17 15:25	01/04/17
L1700253-07	TRIP BLANK	WATER	WEYMOUTH, MA	01/03/17 16:00	01/04/17
L1700253-08	MW-204	WATER	WEYMOUTH, MA	01/04/17 09:55	01/04/17
L1700253-09	MW-202	WATER	WEYMOUTH, MA	01/04/17 10:00	01/04/17
L1700253-10	MW-411	WATER	WEYMOUTH, MA	01/04/17 11:25	01/04/17
L1700253-11	MW-409	WATER	WEYMOUTH, MA	01/04/17 11:40	01/04/17
L1700253-12	MW-206	WATER	WEYMOUTH, MA	01/04/17 13:10	01/04/17
L1700253-13	TRIP BLANK	WATER	WEYMOUTH, MA	01/04/17 14:50	01/04/17
L1700253-14	MW-405	WATER	WEYMOUTH, MA	01/04/17 14:40	01/04/17
L1700253-15	MW-403	WATER	WEYMOUTH, MA	01/04/17 14:55	01/04/17



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 Report Date: 01/11/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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	Client	Services	at 800-	-624-922	20 with a	any c	questions	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1700253-01 through -06, -08 through -12, -14 and -15: One or more of the target analytes did not achieve the requested CAM reporting limits.

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.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

ДІРНА

Date: 01/11/17

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-01 Date Collected: 01/03/17 10:55

Client ID: MW-416 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Motrice Motor

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

01/08/17 02:13

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	96		70-130	
2,5-Dibromotoluene-FID	96		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-01 Date Collected: 01/03/17 10:55

Client ID: MW-416 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/09/17 09:35

Analytical Date: 01/10/17 03:18 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: Date Collected: 01/03/17 10:55

Client ID: MW-416 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance		
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	61		40-140		
o-Terphenyl	83		40-140		
2-Fluorobiphenyl	82		40-140		
2-Bromonaphthalene	85		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-02 Date Collected: 01/03/17 10:45

Client ID: MW-417 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 01/08/17 02:53

Analyst: KD

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	94		70-130			
2,5-Dibromotoluene-FID	94		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-02 Date Collected: 01/03/17 10:45

Client ID: MW-417 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

Analytical Date: 01/07/17 08:11 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.9		1		
2-Methylnaphthalene	ND		ug/l	10.9		1		
Acenaphthylene	ND		ug/l	10.9		1		
Acenaphthene	ND		ug/l	10.9		1		
Fluorene	ND		ug/l	10.9		1		
Phenanthrene	ND		ug/l	10.9		1		
Anthracene	ND		ug/l	10.9		1		
Fluoranthene	ND		ug/l	10.9		1		
Pyrene	ND		ug/l	10.9		1		
Benzo(a)anthracene	ND		ug/l	10.9		1		
Chrysene	ND		ug/l	10.9		1		
Benzo(b)fluoranthene	ND		ug/l	10.9		1		
Benzo(k)fluoranthene	ND		ug/l	10.9		1		
Benzo(a)pyrene	ND		ug/l	10.9		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.9		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.9		1		
Benzo(ghi)perylene	ND		ug/l	10.9		1		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-02 Date Collected: 01/03/17 10:45

Client ID: MW-417 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	68		40-140	
o-Terphenyl	58		40-140	
2-Fluorobiphenyl	64		40-140	
2-Bromonaphthalene	56		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-03 Date Collected: 01/03/17 13:35

Client ID: MW-400 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 01/08/17 03:34

Quality Control Information

KD

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	97		70-130		
2,5-Dibromotoluene-FID	96		70-130		



Analyst:

Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-03 Date Collected: 01/03/17 13:35

Client ID: MW-400 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

Analytical Date: 01/07/17 08:42 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.9		1				
2-Methylnaphthalene	ND		ug/l	10.9		1				
Acenaphthylene	ND		ug/l	10.9		1				
Acenaphthene	ND		ug/l	10.9		1				
Fluorene	ND		ug/l	10.9		1				
Phenanthrene	ND		ug/l	10.9		1				
Anthracene	ND		ug/l	10.9		1				
Fluoranthene	ND		ug/l	10.9		1				
Pyrene	ND		ug/l	10.9		1				
Benzo(a)anthracene	ND		ug/l	10.9		1				
Chrysene	ND		ug/l	10.9		1				
Benzo(b)fluoranthene	ND		ug/l	10.9		1				
Benzo(k)fluoranthene	ND		ug/l	10.9		1				
Benzo(a)pyrene	ND		ug/l	10.9		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.9		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.9		1				
Benzo(ghi)perylene	ND		ug/l	10.9		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-03 Date Collected: 01/03/17 13:35

Client ID: MW-400 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	81		40-140	
o-Terphenyl	88		40-140	
2-Fluorobiphenyl	81		40-140	
2-Bromonaphthalene	72		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-04 Date Collected: 01/03/17 13:50

Client ID: MW-401 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

01/08/17 04:14

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	96		70-130	
2,5-Dibromotoluene-FID	96		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-04 Date Collected: 01/03/17 13:50

Client ID: MW-401 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

Analytical Date: 01/07/17 09:14 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND	I	ug/l	100		1				
C19-C36 Aliphatics	ND	ı	ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND	ı	ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND	1	ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND	1	ug/l	10.0		1				
Pyrene	ND	1	ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND	1	ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND	1	ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-04 Date Collected: 01/03/17 13:50

Client ID: MW-401 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	82		40-140	
o-Terphenyl	91		40-140	
2-Fluorobiphenyl	83		40-140	
2-Bromonaphthalene	76		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-05 Date Collected: 01/03/17 15:20

Client ID: MW-203 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 01/10/17 15:34

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	101		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-05 Date Collected: 01/03/17 15:20

Client ID: MW-203 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23
Analytical Date: 01/07/17 09:45 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-05 Date Collected: 01/03/17 15:20

Client ID: MW-203 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	71		40-140		
o-Terphenyl	78		40-140		
2-Fluorobiphenyl	76		40-140		
2-Bromonaphthalene	67		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-06 Date Collected: 01/03/17 15:25

Client ID: MW-205 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/09/17 20:09

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	92		70-130	
2,5-Dibromotoluene-FID	89		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-06 Date Collected: 01/03/17 15:25

Client ID: MW-205 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

Analytical Date: 01/07/17 10:16 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	u	g/l 100		1				
C19-C36 Aliphatics	ND	u	g/l 100		1				
C11-C22 Aromatics	ND	u	g/l 100		1				
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1				
Naphthalene	ND	u	g/l 10.0		1				
2-Methylnaphthalene	ND	u	g/l 10.0		1				
Acenaphthylene	ND	u	g/l 10.0		1				
Acenaphthene	ND	u	g/l 10.0		1				
Fluorene	ND	u	g/l 10.0		1				
Phenanthrene	ND	u	g/l 10.0		1				
Anthracene	ND	u	g/l 10.0		1				
Fluoranthene	ND	u	g/l 10.0		1				
Pyrene	ND	u	g/l 10.0		1				
Benzo(a)anthracene	ND	u	g/l 10.0		1				
Chrysene	ND	u	g/l 10.0		1				
Benzo(b)fluoranthene	ND	u	g/l 10.0		1				
Benzo(k)fluoranthene	ND	u	g/l 10.0		1				
Benzo(a)pyrene	ND	u	g/l 10.0		1				
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1				
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1				
Benzo(ghi)perylene	ND	u	g/l 10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-06 Date Collected: 01/03/17 15:25

Client ID: MW-205 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	81		40-140	
o-Terphenyl	91		40-140	
2-Fluorobiphenyl	85		40-140	
2-Bromonaphthalene	77		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-07 Date Collected: 01/03/17 16:00

Client ID: TRIP BLANK Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/09/17 18:49

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	90		70-130	
2,5-Dibromotoluene-FID	86		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-08 Date Collected: 01/04/17 09:55

Client ID: MW-204 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/09/17 20:49

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND		ug/l	50.0		1				
C9-C10 Aromatics	ND		ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1				
Benzene	ND		ug/l	2.00		1				
Toluene	ND		ug/l	2.00		1				
Ethylbenzene	ND		ug/l	2.00		1				
p/m-Xylene	ND		ug/l	2.00		1				
o-Xylene	ND		ug/l	2.00		1				
Methyl tert butyl ether	ND		ug/l	3.00		1				
Naphthalene	ND		ug/l	4.00		1				

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	94		70-130		
2,5-Dibromotoluene-FID	92		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-08 Date Collected: 01/04/17 09:55

Client ID: MW-204 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix:WaterExtraction Method:EPA 3510CAnalytical Method:98,EPH-04-1.1Extraction Date:01/05/17 07:23

Analytical Date: 01/07/17 00:20 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-08 Date Collected: 01/04/17 09:55

Client ID: MW-204 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	83		40-140	
o-Terphenyl	89		40-140	
2-Fluorobiphenyl	84		40-140	
2-Bromonaphthalene	75		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-09 Date Collected: 01/04/17 10:00

Client ID: MW-202 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analytical Date: 01/09/17 21:29
Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	97		70-130	
2,5-Dibromotoluene-FID	95		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-09 Date Collected: 01/04/17 10:00

Client ID: MW-202 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

 Analytical Date:
 01/07/17 00:51
 Cleanup Method1:
 EPH-04-1

 Analyst:
 EK
 Cleanup Date1:
 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-09 Date Collected: 01/04/17 10:00

Client ID: MW-202 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	78		40-140		
o-Terphenyl	70		40-140		
2-Fluorobiphenyl	65		40-140		
2-Bromonaphthalene	57		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-10 Date Collected: 01/04/17 11:25

Client ID: MW-411 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/09/17 22:09

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	97		70-130			
2,5-Dibromotoluene-FID	94		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-10 Date Collected: 01/04/17 11:25

Client ID: MW-411 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 07:23

Analytical Date: 01/07/17 01:23 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-10 Date Collected: 01/04/17 11:25

Client ID: MW-411 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	85		40-140			
o-Terphenyl	92		40-140			
2-Fluorobiphenyl	85		40-140			
2-Bromonaphthalene	86		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-11 Date Collected: 01/04/17 11:40

Client ID: MW-409 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/09/17 22:49

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

Ourse made	0/ B	0	Acceptance Criteria	
Surrogate	% Recovery	Qualifier	Onteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	92		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-11 Date Collected: 01/04/17 11:40

Client ID: MW-409 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 01/05/17 07:24

 Analytical Date:
 01/07/17 01:54
 Cleanup Method1:
 EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-11 Date Collected: 01/04/17 11:40

Client ID: MW-409 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	86		40-140	
2-Fluorobiphenyl	78		40-140	
2-Bromonaphthalene	71		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-12 Date Collected: 01/04/17 13:10

Client ID: MW-206 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 01/09/17 23:28

JM

Quality Control Information

Condition of sample received:

Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	91		70-130			
2,5-Dibromotoluene-FID	88		70-130			



Analyst:

Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-12 Date Collected: 01/04/17 13:10

Client ID: MW-206 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 09:58

Analytical Date: 01/07/17 02:25 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-12 Date Collected: 01/04/17 13:10

Client ID: MW-206 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	78		40-140		
o-Terphenyl	83		40-140		
2-Fluorobiphenyl	76		40-140		
2-Bromonaphthalene	68		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700253

Project Number: 140143.0000.4903 **Report Date:** 01/11/17

SAMPLE RESULTS

Lab ID: L1700253-13 Date Collected: 01/04/17 14:50

Client ID: TRIP BLANK Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/09/17 19:29

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
/olatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND		ug/l	50.0		1				
C9-C10 Aromatics	ND		ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1				
Benzene	ND		ug/l	2.00		1				
Toluene	ND		ug/l	2.00		1				
Ethylbenzene	ND		ug/l	2.00		1				
p/m-Xylene	ND		ug/l	2.00		1				
o-Xylene	ND		ug/l	2.00		1				
Methyl tert butyl ether	ND		ug/l	3.00		1				
Naphthalene	ND		ug/l	4.00		1				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	88		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-14 Date Collected: 01/04/17 14:40

Client ID: MW-405 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/10/17 00:08

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westbo	rough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	92		70-130			
2,5-Dibromotoluene-FID	89		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-14 Date Collected: 01/04/17 14:40

Client ID: MW-405 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 09:58

Analytical Date: 01/07/17 02:57 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-14 Date Collected: 01/04/17 14:40

Client ID: MW-405 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	86		40-140		
o-Terphenyl	86		40-140		
2-Fluorobiphenyl	80		40-140		
2-Bromonaphthalene	72		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-15 Date Collected: 01/04/17 14:55

Client ID: MW-403 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 01/11/17 09:34

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
2,5-Dibromotoluene-PID	97		70-130				
2,5-Dibromotoluene-FID	100		70-130				



Analyst:

JM

Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-15 Date Collected: 01/04/17 14:55

Client ID: MW-403 Date Received: 01/04/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/05/17 09:58

Analytical Date: 01/07/17 03:28 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 01/05/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough Lal	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1700253

SAMPLE RESULTS

Lab ID: L1700253-15 Date Collected: 01/04/17 14:55

Client ID: MW-403 Date Received: 01/04/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	81		40-140	
o-Terphenyl	87		40-140	
2-Fluorobiphenyl	81		40-140	
2-Bromonaphthalene	74		40-140	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1700253

Report Date: 01/11/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 01/07/17 04:31

Analyst:

ΕK

Extraction Method: EPA 3510C 01/05/17 07:23 Extraction Date: EPH-04-1 Cleanup Method:

Cleanup Date: 01/05/17

Parameter	Result	Qualifier	Units	RL	MDL	
Extractable Petroleum Hydrocarbon WG967074-1	ns - Westbo	rough Lab	for sample(s):	02-06	,08-12,14-15	Batch:
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		



Project Name: WEYMOUTH C/S Lab Number: L1700253

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 01/07/17 04:31

Analyst: EK

Extraction Method: EPA 3510C Extraction Date: 01/05/17 07:23

Cleanup Method: EPH-04-1 Cleanup Date: 01/05/17

ParameterResultQualifierUnitsRLMDLExtractable Petroleum Hydrocarbons - Westborough Lab for sample(s):02-06,08-12,14-15Batch:WG967074-1

			Acceptance	
Surrogate	%Recovery	Recovery Qualifier		
Chloro-Octadecane	85		40-140	
o-Terphenyl	98		40-140	
2-Fluorobiphenyl	91		40-140	
2-Bromonaphthalene	83		40-140	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1700253

Report Date: 01/11/17

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 01/10/17 01:47

Analyst: NS Extraction Method: EPA 3510C Extraction Date: 01/09/17 09:35 Cleanup Method: EPH-04-1

Cleanup Date: 01/09/17

Parameter	Result	Qualifier	Units	RL		MDL
Extractable Petroleum Hydrocarbor	ns - Westbor	ough Lab	for sample(s):	01	Batch:	WG967974-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	72		40-140	
o-Terphenyl	72		40-140	
2-Fluorobiphenyl	69		40-140	
2-Bromonaphthalene	72		40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/07/17 12:15

Analyst: JM

Result	Qualifier	Units	RL		MDL
- Westboroug	h Lab for s	sample(s):	01-04	Batch:	WG968130-3
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	3.00		
ND		ug/l	4.00		
	ND N	ND N	ND ug/l	ND ug/l 50.0 ND ug/l 2.00 ND ug/l 3.00	ND ug/l 50.0 ND ug/l 2.00 ND ug/l 3.00

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	89		70-130			
2,5-Dibromotoluene-FID	88		70-130			



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/09/17 17:42

Analyst: KD

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons -	Westboroug	h Lab for s	ample(s):	06-14	Batch:	WG968507-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

	Acceptance						
Surrogate	%Recovery	Qualifier	Criteria				
2,5-Dibromotoluene-PID	92		70-130				
2,5-Dibromotoluene-FID	89		70-130				



L1700253

01/11/17

Project Name: WEYMOUTH C/S Lab Number:
Project Number: 140143.0000.4903 Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 10:16

Analyst: JM

Parameter	Result	Qualifier	Units		RL	MDL	
Volatile Petroleum Hydrocarbons - V	Nestborough	n Lab for s	sample(s):	05	Batch:	WG968737-3	
C5-C8 Aliphatics	ND		ug/l	5	50.0		
C9-C12 Aliphatics	ND		ug/l	5	50.0		
C9-C10 Aromatics	ND		ug/l	5	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	5	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	5	50.0		
Benzene	ND		ug/l	2	2.00		
Toluene	ND		ug/l	2	2.00		
Ethylbenzene	ND		ug/l	2	2.00		
p/m-Xylene	ND		ug/l	2	2.00		
o-Xylene	ND		ug/l	2	2.00		
Methyl tert butyl ether	ND		ug/l	3	3.00		
Naphthalene	ND		ug/l	4	1.00		

		-	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	94		70-130	
2,5-Dibromotoluene-FID	95		70-130	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/11/17 08:39

Analyst: JM

Parameter	Result	Qualifier	Units		RL	MDL	
Volatile Petroleum Hydrocarbons -	Westboroug	h Lab for s	sample(s):	15	Batch:	WG968743-3	
C5-C8 Aliphatics	ND		ug/l	5	50.0		
C9-C12 Aliphatics	ND		ug/l	5	0.0		
C9-C10 Aromatics	ND		ug/l	5	0.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	5	0.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	5	0.0		
Benzene	ND		ug/l	2	2.00		
Toluene	ND		ug/l	2	2.00		
Ethylbenzene	ND		ug/l	2	2.00		
p/m-Xylene	ND		ug/l	2	2.00		
o-Xylene	ND		ug/l	2	2.00		
Methyl tert butyl ether	ND		ug/l	3	3.00		
Naphthalene	ND		ug/l	4	.00		

		Acceptance						
Surrogate	%Recovery	Qualifier	Criteria					
2,5-Dibromotoluene-PID	97		70-130					
2,5-Dibromotoluene-FID	99		70-130					



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700253

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	le(s): 02-06,08-	12,14-15	Batch: WG967074	-2 WG967	074-3
C9-C18 Aliphatics	72		72		40-140	0	25
C19-C36 Aliphatics	91		95		40-140	4	25
C11-C22 Aromatics	90		81		40-140	11	25
Naphthalene	71		63		40-140	12	25
2-Methylnaphthalene	72		64		40-140	12	25
Acenaphthylene	78		68		40-140	14	25
Acenaphthene	80		70		40-140	13	25
Fluorene	82		71		40-140	14	25
Phenanthrene	86		78		40-140	10	25
Anthracene	88		80		40-140	10	25
Fluoranthene	91		83		40-140	9	25
Pyrene	93		84		40-140	10	25
Benzo(a)anthracene	87		80		40-140	8	25
Chrysene	94		86		40-140	9	25
Benzo(b)fluoranthene	91		84		40-140	8	25
Benzo(k)fluoranthene	93		85		40-140	9	25
Benzo(a)pyrene	86		78		40-140	10	25
Indeno(1,2,3-cd)Pyrene	88		80		40-140	10	25
Dibenzo(a,h)anthracene	91		85		40-140	7	25
Benzo(ghi)perylene	86		79		40-140	8	25
Nonane (C9)	52		52		30-140	0	25



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700253

arameter	LCS %Recovery		LCSD ecovery	Qual	%Rec	-	RPD	Qual	RPD Limits	
ktractable Petroleum Hydrocarbons - Westb	orough Lab As:	sociated sample(s):	02-06,08-1	2,14-15	Batch:	WG967074-2	WG9670	74-3		
Decane (C10)	61		60		40-1	40	2		25	
Dodecane (C12)	69		67		40-1	40	3		25	
Tetradecane (C14)	74		72		40-1	40	3		25	
Hexadecane (C16)	79		81		40-1	40	3		25	
Octadecane (C18)	85		88		40-1	40	3		25	
Nonadecane (C19)	85		88		40-1	40	3		25	
Eicosane (C20)	87		90		40-1	40	3		25	
Docosane (C22)	88		91		40-1	40	3		25	
Tetracosane (C24)	88		92		40-1	40	4		25	
Hexacosane (C26)	89		92		40-1	40	3		25	
Octacosane (C28)	89		93		40-1	40	4		25	
Triacontane (C30)	88		92		40-1	40	4		25	
Hexatriacontane (C36)	87		91		40-1	40	4		25	

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
Chloro-Octadecane	85		89		40-140	
o-Terphenyl	94		84		40-140	
2-Fluorobiphenyl	88		78		40-140	
2-Bromonaphthalene	86		75		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700253

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westl	borough Lab As	ssociated sampl	e(s): 01 Batch:	WG967974-2 WG967974	-3	
C9-C18 Aliphatics	80		74	40-140	8	25
C19-C36 Aliphatics	82		81	40-140	1	25
C11-C22 Aromatics	91		76	40-140	18	25
Naphthalene	67		57	40-140	16	25
2-Methylnaphthalene	67		58	40-140	14	25
Acenaphthylene	70		62	40-140	12	25
Acenaphthene	75		66	40-140	13	25
Fluorene	80		71	40-140	12	25
Phenanthrene	78		68	40-140	14	25
Anthracene	79		69	40-140	14	25
Fluoranthene	83		72	40-140	14	25
Pyrene	86		74	40-140	15	25
Benzo(a)anthracene	89		77	40-140	14	25
Chrysene	91		79	40-140	14	25
Benzo(b)fluoranthene	93		80	40-140	15	25
Benzo(k)fluoranthene	93		80	40-140	15	25
Benzo(a)pyrene	87		75	40-140	15	25
Indeno(1,2,3-cd)Pyrene	94		81	40-140	15	25
Dibenzo(a,h)anthracene	90		83	40-140	8	25
Benzo(ghi)perylene	90		77	40-140	16	25
Nonane (C9)	58		60	30-140	3	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253

arameter	LCS %Recovery	Qual	LCSD %Recovery	% Qual	Recovery Limits	RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sampl	e(s): 01 Bato	ch: WG967974	-2 WG967974-3			
Decane (C10)	65		68		40-140	5		25
Dodecane (C12)	66		70		40-140	6		25
Tetradecane (C14)	67		72		40-140	7		25
Hexadecane (C16)	71		76		40-140	7		25
Octadecane (C18)	75		78		40-140	4		25
Nonadecane (C19)	75		78		40-140	4		25
Eicosane (C20)	76		78		40-140	3		25
Docosane (C22)	77		80		40-140	4		25
Tetracosane (C24)	78		80		40-140	3		25
Hexacosane (C26)	78		81		40-140	4		25
Octacosane (C28)	79		81		40-140	3		25
Triacontane (C30)	80		82		40-140	2		25
Hexatriacontane (C36)	82		84		40-140	2		25

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	
70		72		40-140	
85		73		40-140	
84		71		40-140	
87		74		40-140	
0		0			
0		0			
	%Recovery 70 85 84 87 0	%Recovery Qual 70 85 84 87 0	%Recovery Qual %Recovery 70 72 85 73 84 71 87 74 0 0	%Recovery Qual %Recovery Qual 70 72 73 73 74 <td>%Recovery Qual %Recovery Qual Criteria 70 72 40-140 85 73 40-140 84 71 40-140 87 74 40-140 0 0</td>	%Recovery Qual %Recovery Qual Criteria 70 72 40-140 85 73 40-140 84 71 40-140 87 74 40-140 0 0



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253

Parameter	LCS %Recovery	LCSI Qual %Reco		%Recovery Limits	RPD	RPD Qual Limits	
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s): 01-04	Batch: WG9681	30-1 WG968130	-2		
C5-C8 Aliphatics	103	99		70-130	4	25	
C9-C12 Aliphatics	92	84		70-130	9	25	
C9-C10 Aromatics	102	99		70-130	3	25	
Benzene	102	101		70-130	1	25	
Toluene	103	102	2	70-130	1	25	
Ethylbenzene	103	100)	70-130	3	25	
p/m-Xylene	103	100)	70-130	3	25	
o-Xylene	102	99		70-130	3	25	
Methyl tert butyl ether	103	101		70-130	2	25	
Naphthalene	103	99		70-130	4	25	
1,2,4-Trimethylbenzene	102	99		70-130	3	25	
Pentane	102	99		70-130	3	25	
2-Methylpentane	104	101		70-130	3	25	
2,2,4-Trimethylpentane	104	99		70-130	5	25	
n-Nonane	96	88		30-130	8	25	
n-Decane	94	86		70-130	8	25	
n-Butylcyclohexane	99	91		70-130	8	25	



Lab Control Sample Analysis

Batch Quality Control

Lab Number: L1700253

Report Date: 0

01/11/17

Project Number: 140143.0000.4903

WEYMOUTH C/S

Project Name:

LCS LCSD %Recovery RPD
Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG968130-1 WG968130-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	102		96		70-130	
2,5-Dibromotoluene-FID	100		95		70-130	



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253

Parameter	LCS %Recovery	Qual %	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ough Lab Assoc	iated sample(s):	06-14 Batch:	WG968507-1 WG968507-	2	
C5-C8 Aliphatics	93		93	70-130	1	25
C9-C12 Aliphatics	75		73	70-130	3	25
C9-C10 Aromatics	94		93	70-130	1	25
Benzene	99		100	70-130	0	25
Toluene	100		100	70-130	0	25
Ethylbenzene	98		98	70-130	0	25
p/m-Xylene	97		96	70-130	0	25
o-Xylene	96		96	70-130	1	25
Methyl tert butyl ether	99		100	70-130	2	25
Naphthalene	95		96	70-130	1	25
1,2,4-Trimethylbenzene	94		93	70-130	1	25
Pentane	97		97	70-130	1	25
2-Methylpentane	95		96	70-130	1	25
2,2,4-Trimethylpentane	90		90	70-130	0	25
n-Nonane	80		78	30-130	2	25
n-Decane	81		78	70-130	3	25
n-Butylcyclohexane	83		82	70-130	2	25



Lab Control Sample Analysis

Batch Quality Control

Lab Number: L1700253

Report Date: 01/11/17

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

LCS LCSD %Recovery RPD Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 06-14 Batch: WG968507-1 WG968507-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	89		90		70-130	
2,5-Dibromotoluene-FID	86		86		70-130	



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253

Parameter	LCS %Recovery		.CSD ecovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s): 05	Batch:	WG968737-1	I WG968737-2			
C5-C8 Aliphatics	91		97		70-130	6		25
C9-C12 Aliphatics	98		103		70-130	5		25
C9-C10 Aromatics	92		96		70-130	4		25
Benzene	89		93		70-130	5		25
Toluene	90		94		70-130	5		25
Ethylbenzene	90		95		70-130	5		25
p/m-Xylene	90		95		70-130	5		25
o-Xylene	90		94		70-130	5		25
Methyl tert butyl ether	87		88		70-130	2		25
Naphthalene	90		90		70-130	0		25
1,2,4-Trimethylbenzene	92		96		70-130	4		25
Pentane	85		90		70-130	6		25
2-Methylpentane	90		96		70-130	6		25
2,2,4-Trimethylpentane	96		101		70-130	6		25
n-Nonane	97		102		30-130	5		25
n-Decane	98		102		70-130	4		25
n-Butylcyclohexane	99		104		70-130	5		25



Project Name: WEYMOUTH C/S **Project Number:**

Lab Number:

L1700253

140143.0000.4903

Report Date:

01/11/17

	LCS			LCSD %Recove			ery		
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 05 Batch: WG968737-1 WG968737-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	86		85		70-130	
2,5-Dibromotoluene-FID	86		86		70-130	



01/11/17

Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700253

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
/olatile Petroleum Hydrocarbons - Westbo	rough Lab Associa	ated sample(s):	15 Batch:	WG968743-1	WG968743-2			
C5-C8 Aliphatics	98		100		70-130	2		25
C9-C12 Aliphatics	107		108		70-130	1		25
C9-C10 Aromatics	100		102		70-130	2		25
Benzene	94		98		70-130	4		25
Toluene	95		98		70-130	3		25
Ethylbenzene	96		99		70-130	3		25
p/m-Xylene	99		99		70-130	0		25
o-Xylene	98		99		70-130	2		25
Methyl tert butyl ether	87		95		70-130	9		25
Naphthalene	92		94		70-130	3		25
1,2,4-Trimethylbenzene	100		102		70-130	2		25
Pentane	91		91		70-130	0		25
2-Methylpentane	98		100		70-130	2		25
2,2,4-Trimethylpentane	104		105		70-130	1		25
n-Nonane	107		107		30-130	0		25
n-Decane	108		108		70-130	0		25

108

70-130

2

106



25

n-Butylcyclohexane

Lab Control Sample Analysis

Batch Quality Control

Lab Number: L1700253

Report Date: 01/11/17

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

LCS LCSD %Recovery RPD
Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 15 Batch: WG968743-1 WG968743-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	94		95		70-130	
2,5-Dibromotoluene-FID	93		96		70-130	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal Cooler

A Absent
B Absent
C Absent

Container Info			Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1700253-01A	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-01B	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-01C	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-01D	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-01E	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-02A	Vial HCl preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-02B	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-02C	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-02D	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-02E	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-03A	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-03B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-03C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-03D	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-03E	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-04A	Vial HCI preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-04B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-04C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-04D	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-04E	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-05A	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-05B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-05C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-05D	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-05E	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-06A	Vial HCI preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-06B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)



Project Name:WEYMOUTH C/SLab Number: L1700253Project Number:140143.0000.4903Report Date: 01/11/17

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1700253-06C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-06D	Amber 1000ml HCI preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-06E	Amber 1000ml HCI preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-07A	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-07B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-08A	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-08B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-08C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-08D	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-08E	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-09A	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-09B	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-09C	Vial HCl preserved	В	N/A	2.7	Υ	Absent	VPH-DELUX-10(14)
L1700253-09D	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-09E	Amber 1000ml HCl preserved	В	<2	2.7	Υ	Absent	EPH-DELUX-10(14)
L1700253-10A	Vial HCl preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-10B	Vial HCl preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-10C	Vial HCl preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-10D	Amber 1000ml HCI preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-10E	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-11A	Vial HCl preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-11B	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-11C	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-11D	Amber 1000ml HCI preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-11E	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-12A	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-12B	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-12C	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-12D	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-12E	Amber 1000ml HCl preserved	С	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700253-13A	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-13B	Vial HCI preserved	С	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700253-14A	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-14B	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-14C	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-14D	Amber 1000ml HCI preserved	Α	<2	2.3	Υ	Absent	EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Container Information							
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1700253-14E	Amber 1000ml HCl preserved	Α	<2	2.3	Υ	Absent	EPH-DELUX-10(14)
L1700253-15A	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-15B	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-15C	Vial HCI preserved	Α	N/A	2.3	Υ	Absent	VPH-DELUX-10(14)
L1700253-15D	Amber 1000ml HCl preserved	Α	<2	2.3	Υ	Absent	EPH-DELUX-10(14)
L1700253-15E	Amber 1000ml HCl preserved	Α	<2	2.3	Υ	Absent	EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700253

 Project Number:
 140143.0000.4903
 Report Date:
 01/11/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:01111714:43

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

<u>Title: Certificate/Approval Program Summary</u>

ID No.:**17873** Revision 9

Page 1 of 1

Published Date: 1/11/2017 9:11:51 AM

Certification Information

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

Westborough Facility

EPA 624: 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, Azobenzene; Methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Methyl methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Methyl methy

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide **EPA 9050A:** NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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,

 $3-Methyl thiophene,\ 2-Ethyl thiophene,\ 1,2,3-Trimethyl benzene,\ Indan,\ Indene,\ 1,2,4,5-Tetramethyl benzene,\ Benzothiophene,\ 1-Methyl naphthalene.$

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form Pre-Qualtrax Document ID: 08-113

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-03	Mw-400	13	35							5
-04	MW-401	13	50							5
-05	MW -203		520							5
-06	MW-205	15	25 45							5
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-08	M12-204	14/17 0	955							5
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ANALYTICAL REPORT

Lab Number: L1700387

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 01/12/17

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700387 **Report Date:** 01/12/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1700387-01	MW-402	WATER	WEYMOUTH, MA	01/05/17 09:30	01/05/17
L1700387-02	MW-408	WATER	WEYMOUTH, MA	01/05/17 09:50	01/05/17
L1700387-03	MW-412	WATER	WEYMOUTH, MA	01/05/17 11:30	01/05/17
L1700387-04	DUP-1	WATER	WEYMOUTH, MA	01/05/17 00:00	01/05/17
L1700387-05	MW-413	WATER	WEYMOUTH, MA	01/05/17 11:40	01/05/17
L1700387-06	MW-404	WATER	WEYMOUTH, MA	01/05/17 14:05	01/05/17
L1700387-07	MW-415	WATER	WEYMOUTH, MA	01/05/17 14:20	01/05/17
L1700387-08	TRIP BLANK	WATER	WEYMOUTH, MA	01/05/17 14:30	01/05/17



Project Name:WEYMOUTH C/SLab Number:L1700387Project Number:140143.0000.4903Report Date:01/12/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1700387Project Number:140143.0000.4903Report Date:01/12/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Project Name:WEYMOUTH C/SLab Number:L1700387Project Number:140143.0000.4903Report Date:01/12/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1700387-01 through -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG967737-3 LCSD recovery, associated with L1700387-01 through -07, is below the acceptance criteria for naphthalene (39%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this target compound.

The WG967737-2/-3 LCS/LCSD RPDs, associated with L1700387-01 through -07, are above the acceptance criteria for c11-c22 aromatics (42%), naphthalene (42%), 2-methylnaphthalene (43%), acenaphthylene (43%), acenaphthene (42%), fluorene (43%), phenanthrene (43%), anthracene (43%), fluoranthene (43%), pyrene (43%), benzo(a)anthracene (44%), chrysene (45%), benzo(b)fluoranthene (45%), benzo(k)fluoranthene (44%), benzo(a)pyrene (44%), indeno(1,2,3-cd)pyrene (44%), dibenzo(a,h)anthracene (45%), and benzo(ghi)perylene (45%).

VPH

L1700387-01 through -07: The sample has elevated detection limits due to the dilution required by the sample matrix (foam).

In reference to question G:

L1700387-01 through -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

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.

600, Sew on Kelly Stenstrom

Authorized Signature:

Title: Technical Director/Representative

Date: 01/12/17

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-01 Date Collected: 01/05/17 09:30

Client ID: MW-402 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40
Analytical Date: 01/10/17 08:36 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-01 Date Collected: 01/05/17 09:30

Client ID: MW-402 Date Received: 01/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	67		40-140	
o-Terphenyl	61		40-140	
2-Fluorobiphenyl	62		40-140	
2-Bromonaphthalene	65		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-01 D Date Collecte

Client ID: MW-402

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 19:34

Analyst: JM

Date Collected: 01/05/17 09:30

Date Received: 01/05/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	100		2				
C9-C12 Aliphatics	ND		ug/l	100		2				
C9-C10 Aromatics	ND		ug/l	100		2				
C5-C8 Aliphatics, Adjusted	ND		ug/l	100		2				
C9-C12 Aliphatics, Adjusted	ND		ug/l	100		2				
Benzene	ND		ug/l	4.00		2				
Toluene	ND		ug/l	4.00		2				
Ethylbenzene	ND		ug/l	4.00		2				
p/m-Xylene	ND		ug/l	4.00		2				
o-Xylene	ND		ug/l	4.00		2				
Methyl tert butyl ether	ND		ug/l	6.00		2				
Naphthalene	ND		ug/l	8.00		2				

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	99		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-02 Date Collected: 01/05/17 09:50

Client ID: MW-408 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40
Analytical Date: 01/10/17 07:50 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-02 Date Collected: 01/05/17 09:50

Client ID: MW-408 Date Received: 01/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	54		40-140		
o-Terphenyl	75		40-140		
2-Fluorobiphenyl	72		40-140		
2-Bromonaphthalene	75		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-02 D

Client ID: MW-408

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 20:14

Analyst: JM

Date Collected: 01/05/17 09:50

Date Received: 01/05/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	94		70-130		
2,5-Dibromotoluene-FID	97		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-03 Date Collected: 01/05/17 11:30

Client ID: MW-412 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40
Analytical Date: 01/10/17 07:05 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lal	b			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	102	u	g/l 100		1
C11-C22 Aromatics, Adjusted	102	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-03 Date Collected: 01/05/17 11:30

Client ID: MW-412 Date Received: 01/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	52		40-140		
o-Terphenyl	81		40-140		
2-Fluorobiphenyl	79		40-140		
2-Bromonaphthalene	82		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-03 D Date Collected: 01/05/17 11:30

Client ID: MW-412 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/10/17 20:53

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	95		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-04 Date Collected: 01/05/17 00:00

Client ID: DUP-1 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40

 Analytical Date:
 01/10/17 06:19
 Cleanup Method1:
 EPH-04-1

 Analyst:
 NS
 Cleanup Date1:
 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough Lal	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-04

Client ID: DUP-1

Sample Location: WEYMOUTH, MA

Date Collected: 01/05/17 00:00

Date Received: 01/05/17

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	41		40-140	
o-Terphenyl	59		40-140	
2-Fluorobiphenyl	61		40-140	
2-Bromonaphthalene	63		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-04 D

Client ID: DUP-1

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 21:33

Analyst: JM

Date Collected: 01/05/17 00:00

Date Received: 01/05/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-05 Date Collected: 01/05/17 11:40

Client ID: MW-413 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40
Analytical Date: 01/10/17 05:34 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	ND	u	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-05 Date Collected: 01/05/17 11:40

Client ID: MW-413 Date Received: 01/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	59		40-140	
o-Terphenyl	74		40-140	
2-Fluorobiphenyl	76		40-140	
2-Bromonaphthalene	79		40-140	



Project Name: Lab Number: WEYMOUTH C/S L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-05 Date Collected: 01/05/17 11:40 D

Client ID: MW-413

Date Received: 01/05/17 Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water

Analytical Method: 100, VPH-04-1.1 Analytical Date: 01/10/17 22:13

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	96		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-06 Date Collected: 01/05/17 14:05

Client ID: MW-404 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40

Analytical Date: 01/10/17 04:49 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

 Lab ID:
 L1700387-06
 Date Collected:
 01/05/17 14:05

 Client ID:
 MW-404
 Date Received:
 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	60		40-140	
o-Terphenyl	68		40-140	
2-Fluorobiphenyl	71		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-06 D Date Collected: 01/05/17 14:05

Client ID: MW-404 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Quality Control Information

01/10/17 22:53

JM

Analytical Date:

Analyst:

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	100		2			
C9-C12 Aliphatics	ND		ug/l	100		2			
C9-C10 Aromatics	ND		ug/l	100		2			
C5-C8 Aliphatics, Adjusted	ND		ug/l	100		2			
C9-C12 Aliphatics, Adjusted	ND		ug/l	100		2			
Benzene	ND		ug/l	4.00		2			
Toluene	ND		ug/l	4.00		2			
Ethylbenzene	ND		ug/l	4.00		2			
p/m-Xylene	ND		ug/l	4.00		2			
o-Xylene	ND		ug/l	4.00		2			
Methyl tert butyl ether	ND		ug/l	6.00		2			
Naphthalene	ND		ug/l	8.00		2			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	97		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-07 Date Collected: 01/05/17 14:20

Client ID: MW-415 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40

 Analytical Date:
 01/10/17 04:03
 Cleanup Method1:
 EPH-04-1

 Analyst:
 NS
 Cleanup Date1:
 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor					
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND	u	g/l 100		1					
C19-C36 Aliphatics	ND	u	g/l 100		1					
C11-C22 Aromatics	ND	u	g/l 100		1					
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1					
Naphthalene	ND	u	g/l 10.0		1					
2-Methylnaphthalene	ND	u	g/l 10.0		1					
Acenaphthylene	ND	u	g/l 10.0		1					
Acenaphthene	ND	u	g/l 10.0		1					
Fluorene	ND	u	g/l 10.0		1					
Phenanthrene	ND	u	g/l 10.0		1					
Anthracene	ND	u	g/l 10.0		1					
Fluoranthene	ND	u	g/l 10.0		1					
Pyrene	ND	u	g/l 10.0		1					
Benzo(a)anthracene	ND	u	g/l 10.0		1					
Chrysene	ND	u	g/l 10.0		1					
Benzo(b)fluoranthene	ND	u	g/l 10.0		1					
Benzo(k)fluoranthene	ND	u	g/l 10.0		1					
Benzo(a)pyrene	ND	u	g/l 10.0		1					
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1					
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1					
Benzo(ghi)perylene	ND	u	g/l 10.0		1					



Project Name: WEYMOUTH C/S Lab Number: L1700387

SAMPLE RESULTS

Lab ID: L1700387-07 Date Collected: 01/05/17 14:20

Client ID: MW-415 Date Received: 01/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	64		40-140	
o-Terphenyl	52		40-140	
2-Fluorobiphenyl	53		40-140	
2-Bromonaphthalene	56		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-07 D Date Collected: 01/05/17 14:20

Client ID: MW-415 Date Received: 01/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

01/10/17 23:33

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
/olatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	250		5			
C9-C12 Aliphatics	ND		ug/l	250		5			
C9-C10 Aromatics	ND		ug/l	250		5			
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5			
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5			
Benzene	ND		ug/l	10.0		5			
Toluene	ND		ug/l	10.0		5			
Ethylbenzene	ND		ug/l	10.0		5			
p/m-Xylene	ND		ug/l	10.0		5			
o-Xylene	ND		ug/l	10.0		5			
Methyl tert butyl ether	ND		ug/l	15.0		5			
Naphthalene	ND		ug/l	20.0		5			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	93		70-130	
2,5-Dibromotoluene-FID	97		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700387

Project Number: 140143.0000.4903 **Report Date:** 01/12/17

SAMPLE RESULTS

Lab ID: L1700387-08 Date Collected: 01/05/17 14:30

Client ID: TRIP BLANK Date Received: 01/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 18:14

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

		Acceptance					
Surrogate	% Recovery	Qualifier	Criteria				
2,5-Dibromotoluene-PID	94		70-130				
2,5-Dibromotoluene-FID	95		70-130				



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1700387

Report Date: 01/12/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

01/08/17 18:08

SR

Extraction Method: EPA 3510C 01/07/17 03:41 Extraction Date: EPH-04-1 Cleanup Method: Cleanup Date: 01/08/17

Parameter	Result	Qualifier	Units	RL	MDL	
Extractable Petroleum Hydrocarbon	s - Westboi	rough Lab	for sample(s):	01-07	Batch: WG967737	'-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

		1	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	66		40-140	
o-Terphenyl	68		40-140	
2-Fluorobiphenyl	64		40-140	
2-Bromonaphthalene	66		40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700387

 Project Number:
 140143.0000.4903
 Report Date:
 01/12/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/10/17 10:16

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons -	- Westboroug	h Lab for s	sample(s):	01-08	Batch:	WG968737-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	94		70-130	
2,5-Dibromotoluene-FID	95		70-130	



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700387

Report Date: 01/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated samp	ole(s): 01-07 E	Batch: WG	967737-2 WG96	37737-3		
C9-C18 Aliphatics	67		66		40-140	2		25
C19-C36 Aliphatics	77		76		40-140	1		25
C11-C22 Aromatics	80		52		40-140	42	Q	25
Naphthalene	60		39	Q	40-140	42	Q	25
2-Methylnaphthalene	62		40		40-140	43	Q	25
Acenaphthylene	65		42		40-140	43	Q	25
Acenaphthene	69		45		40-140	42	Q	25
Fluorene	73		47		40-140	43	Q	25
Phenanthrene	70		45		40-140	43	Q	25
Anthracene	70		45		40-140	43	Q	25
Fluoranthene	74		48		40-140	43	Q	25
Pyrene	76		49		40-140	43	Q	25
Benzo(a)anthracene	80		51		40-140	44	Q	25
Chrysene	85		54		40-140	45	Q	25
Benzo(b)fluoranthene	82		52		40-140	45	Q	25
Benzo(k)fluoranthene	83		53		40-140	44	Q	25
Benzo(a)pyrene	77		49		40-140	44	Q	25
Indeno(1,2,3-cd)Pyrene	83		53		40-140	44	Q	25
Dibenzo(a,h)anthracene	96		61		40-140	45	Q	25
Benzo(ghi)perylene	79		50		40-140	45	Q	25
Nonane (C9)	51		50		30-140	2		25



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700387

Report Date: 01/12/17

arameter	LCS %Recovery	Qual %	LCSD Recovery	Qua	%Recov Limits		Qual	RPD Limits	
xtractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s): 01-07	Batch: \	WG967737-2	WG967737-3			
Decane (C10)	58		58		40-140	0		25	
Dodecane (C12)	63		63		40-140	0		25	
Tetradecane (C14)	67		66		40-140	2		25	
Hexadecane (C16)	70		69		40-140	1		25	
Octadecane (C18)	73		73		40-140	0		25	
Nonadecane (C19)	73		71		40-140	3		25	
Eicosane (C20)	74		73		40-140	1		25	
Docosane (C22)	74		73		40-140	1		25	
Tetracosane (C24)	75		74		40-140	1		25	
Hexacosane (C26)	75		74		40-140	1		25	
Octacosane (C28)	75		74		40-140	1		25	
Triacontane (C30)	76		74		40-140	3		25	
Hexatriacontane (C36)	77		74		40-140	4		25	

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
Chloro-Octadecane	62		58		40-140	
o-Terphenyl	70		44		40-140	
2-Fluorobiphenyl	63		41		40-140	
2-Bromonaphthalene	66		43		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700387

Report Date: 01/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ugh Lab Assoc	iated sample(s):	01-08 Batch:	WG968737-1 WG968737-	2	
C5-C8 Aliphatics	91		97	70-130	6	25
C9-C12 Aliphatics	98		103	70-130	5	25
C9-C10 Aromatics	92		96	70-130	4	25
Benzene	89		93	70-130	5	25
Toluene	90		94	70-130	5	25
Ethylbenzene	90		95	70-130	5	25
p/m-Xylene	90		95	70-130	5	25
o-Xylene	90		94	70-130	5	25
Methyl tert butyl ether	87		88	70-130	2	25
Naphthalene	90		90	70-130	0	25
1,2,4-Trimethylbenzene	92		96	70-130	4	25
Pentane	85		90	70-130	6	25
2-Methylpentane	90		96	70-130	6	25
2,2,4-Trimethylpentane	96		101	70-130	6	25
n-Nonane	97		102	30-130	5	25
n-Decane	98		102	70-130	4	25
n-Butylcyclohexane	99		104	70-130	5	25



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S

Lab Number:

L1700387

Project Number: 140143.0000.4903

Report Date:

01/12/17

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG968737-1 WG968737-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	86		85		70-130	
2,5-Dibromotoluene-FID	86		86		70-130	



Serial_No:01121713:55

Project Name:WEYMOUTH C/SLab Number:L1700387Project Number:140143.0000.4903Report Date:01/12/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1700387-01A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-01B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-01C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-01D	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-01E	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-02A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-02B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-02C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-02D	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-02E	Amber 1000ml HCI preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-03A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-03B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-03C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-03D	Amber 1000ml HCI preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-03E	Amber 1000ml HCI preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-04A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-04B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-04C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-04D	Amber 1000ml HCI preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-04E	Amber 1000ml HCI preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-05A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-05B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-05C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-05D	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-05E	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-06A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-06B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-06C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-06D	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)



Serial_No:01121713:55

Project Name:WEYMOUTH C/SLab Number:L1700387Project Number:140143.0000.4903Report Date:01/12/17

Container Info	rmation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1700387-06E	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-07A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-07B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-07C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-07D	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-07E	Amber 1000ml HCl preserved	Α	<2	4.0	Υ	Absent	EPH-DELUX-10(14)
L1700387-08A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)
L1700387-08B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700387

 Project Number:
 140143.0000.4903
 Report Date:
 01/12/17

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700387

 Project Number:
 140143.0000.4903
 Report Date:
 01/12/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:01121713:55

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700387

 Project Number:
 140143.0000.4903
 Report Date:
 01/12/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:01121713:55

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 9

Published Date: 1/11/2017 9:11:51 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; Azobenzene; Azobenzene;

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form Pre-Qualtrax Document ID: 08-113

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ANALYTICAL REPORT

Lab Number: L1700574

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 01/13/17

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), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700574 **Report Date:** 01/13/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1700574-01	MW-406	WATER	WEYMOUTH, MA	01/05/17 16:00	01/06/17
L1700574-02	DUP-2	WATER	WEYMOUTH, MA	01/05/17 00:00	01/06/17
L1700574-03	MW-407	WATER	WEYMOUTH, MA	01/05/17 16:10	01/06/17
L1700574-04	MW-201	WATER	WEYMOUTH, MA	01/06/17 10:25	01/06/17
L1700574-05	MW-410	WATER	WEYMOUTH, MA	01/06/17 12:30	01/06/17
L1700574-06	MW-414	WATER	WEYMOUTH, MA	01/06/17 13:20	01/06/17
L1700574-07	TRIP BLANK	WATER	WEYMOUTH, MA	01/06/17 14:30	01/06/17



Project Name: WEYMOUTH C/S Lab Number: L1700574

Project Number: 140143.0000.4903 Report Date: 01/13/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

Case Narrative (continued)

MCP Related Narratives

VPH

In reference to question G:

L1700574-01 through -06: The sample has elevated detection limits due to the dilution required by the sample matrix (foam). One or more of the target analytes did not achieve the requested CAM reporting limits.

EPH

In reference to question G:

L1700574-01 through -06: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG967737-3 LCSD recovery, associated with L1700574-01 through -06, is outside the acceptance criteria for an individual target compound, but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for naphthalene (39%)

The WG967737-2/-3 LCS/LCSD RPDs, associated with L1700574-01 through -06, are above the acceptance criteria for c11-c22 aromatics (42%), naphthalene (42%), 2-methylnaphthalene (43%), acenaphthylene (43%), acenaphthene (42%), fluorene (43%), phenanthrene (43%), anthracene (43%), fluoranthene (43%), pyrene (43%), benzo(a)anthracene (44%), chrysene (45%), benzo(b)fluoranthene (45%), benzo(k)fluoranthene (44%), benzo(a)pyrene (44%), indeno(1,2,3-cd)pyrene (44%), dibenzo(a,h)anthracene (45%) and benzo(ghi)perylene (45%).

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:

Title: Technical Director/Representative Date: 01/13/17

Melissa Cripps Melissa Cripps

ALPHA

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-01 Date Collected: 01/05/17 16:00

Client ID: MW-406 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:40

 Analytical Date:
 01/11/17 19:03
 Cleanup Method1:
 EPH-04-1

 Analyst:
 NS
 Cleanup Date1:
 01/09/17

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Quality Control Information

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: Date Collected: 01/05/17 16:00

Client ID: MW-406 Date Received: 01/06/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	58		40-140	
o-Terphenyl	64		40-140	
2-Fluorobiphenyl	65		40-140	
2-Bromonaphthalene	68		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-01 D

Client ID: MW-406

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 19:57

Analyst: JM

Date Collected: 01/05/17 16:00

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	250		5				
C9-C12 Aliphatics	ND		ug/l	250		5				
C9-C10 Aromatics	ND		ug/l	250		5				
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5				
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5				
Benzene	ND		ug/l	10.0		5				
Toluene	ND		ug/l	10.0		5				
Ethylbenzene	ND		ug/l	10.0		5				
p/m-Xylene	ND		ug/l	10.0		5				
o-Xylene	ND		ug/l	10.0		5				
Methyl tert butyl ether	ND		ug/l	15.0		5				
Naphthalene	ND		ug/l	20.0		5				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	86		70-130	
2,5-Dibromotoluene-FID	88		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-02 Date Collected: 01/05/17 00:00

Client ID: DUP-2 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:41
Analytical Date: 01/11/17 19:48 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-02

Client ID: DUP-2

Sample Location: WEYMOUTH, MA

Date Collected: 01/05/17 00:00

Date Received: 01/06/17

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	57		40-140			
o-Terphenyl	60		40-140			
2-Fluorobiphenyl	57		40-140			
2-Bromonaphthalene	59		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-02 D

Client ID: DUP-2

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 20:37

Analyst: JM

Date Collected: 01/05/17 00:00

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
/olatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	250		5				
C9-C12 Aliphatics	ND		ug/l	250		5				
C9-C10 Aromatics	ND		ug/l	250		5				
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5				
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5				
Benzene	ND		ug/l	10.0		5				
Toluene	ND		ug/l	10.0		5				
Ethylbenzene	ND		ug/l	10.0		5				
p/m-Xylene	ND		ug/l	10.0		5				
o-Xylene	ND		ug/l	10.0		5				
Methyl tert butyl ether	ND		ug/l	15.0		5				
Naphthalene	ND		ug/l	20.0		5				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	87		70-130	
2,5-Dibromotoluene-FID	89		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-03 Date Collected: 01/05/17 16:10

Client ID: MW-407 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:41

Analytical Date: 01/11/17 20:33 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-03 Date Collected: 01/05/17 16:10

Client ID: MW-407 Date Received: 01/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acc				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	42		40-140			
o-Terphenyl	41		40-140			
2-Fluorobiphenyl	62		40-140			
2-Bromonaphthalene	63		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-03 D

Client ID: MW-407

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 21:17

Analyst: JM

Date Collected: 01/05/17 16:10

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative:

Sample Temperature upon receipt:

Satisfactory

Laboratory Provided Preserved

Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	250		5				
C9-C12 Aliphatics	ND		ug/l	250		5				
C9-C10 Aromatics	ND		ug/l	250		5				
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5				
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5				
Benzene	ND		ug/l	10.0		5				
Toluene	ND		ug/l	10.0		5				
Ethylbenzene	ND		ug/l	10.0		5				
p/m-Xylene	ND		ug/l	10.0		5				
o-Xylene	ND		ug/l	10.0		5				
Methyl tert butyl ether	ND		ug/l	15.0		5				
Naphthalene	ND		ug/l	20.0		5				

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	84		70-130			
2,5-Dibromotoluene-FID	85		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-04 Date Collected: 01/06/17 10:25

Client ID: MW-201 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:41

Analytical Date: 01/11/17 21:19 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-04 Date Collected: 01/06/17 10:25

Client ID: MW-201 Date Received: 01/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	63		40-140		
o-Terphenyl	66		40-140		
2-Fluorobiphenyl	70		40-140		
2-Bromonaphthalene	72		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700574

Project Number: 140143.0000.4903 **Report Date:** 01/13/17

SAMPLE RESULTS

Lab ID: L1700574-04 D

Client ID: MW-201

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 21:57

Analyst: JM

Date Collected: 01/06/17 10:25

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	82		70-130	
2,5-Dibromotoluene-FID	85		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-05 Date Collected: 01/06/17 12:30

Client ID: MW-410 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:41

Analytical Date: 01/11/17 22:04 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-05 Date Collected: 01/06/17 12:30

Client ID: MW-410 Date Received: 01/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	55		40-140		
o-Terphenyl	66		40-140		
2-Fluorobiphenyl	67		40-140		
2-Bromonaphthalene	69		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-05 D

Client ID: MW-410

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 22:36

Analyst: JM

Date Collected: 01/06/17 12:30

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	82		70-130	
2,5-Dibromotoluene-FID	85		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-06 Date Collected: 01/06/17 13:20

Client ID: MW-414 Date Received: 01/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 01/07/17 03:41
Analytical Date: 01/11/17 22:50 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 01/09/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	ug	/I 100		1				
C19-C36 Aliphatics	ND	ug	/I 100		1				
C11-C22 Aromatics	188	ug	/I 100		1				
C11-C22 Aromatics, Adjusted	188	ug	/I 100		1				
Naphthalene	ND	ug	/I 10.0		1				
2-Methylnaphthalene	ND	ug	/I 10.0		1				
Acenaphthylene	ND	ug	/I 10.0		1				
Acenaphthene	ND	ug	/I 10.0		1				
Fluorene	ND	ug	/I 10.0		1				
Phenanthrene	ND	ug	/I 10.0		1				
Anthracene	ND	ug	/I 10.0		1				
Fluoranthene	ND	ug	/I 10.0		1				
Pyrene	ND	ug	/I 10.0		1				
Benzo(a)anthracene	ND	ug	/I 10.0		1				
Chrysene	ND	ug	/I 10.0		1				
Benzo(b)fluoranthene	ND	ug	/I 10.0		1				
Benzo(k)fluoranthene	ND	ug	/I 10.0		1				
Benzo(a)pyrene	ND	ug	/I 10.0		1				
Indeno(1,2,3-cd)Pyrene	ND	ug	/I 10.0		1				
Dibenzo(a,h)anthracene	ND	ug	/I 10.0		1				
Benzo(ghi)perylene	ND	ug	/I 10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-06 Date Collected: 01/06/17 13:20

Client ID: MW-414 Date Received: 01/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	46		40-140	
o-Terphenyl	71		40-140	
2-Fluorobiphenyl	70		40-140	
2-Bromonaphthalene	72		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1700574

Project Number: 140143.0000.4903 **Report Date:** 01/13/17

SAMPLE RESULTS

Lab ID: L1700574-06 D

Client ID: MW-414

Sample Location: WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/13/17 02:36

Analyst: JM

Date Collected: 01/06/17 13:20

Date Received: 01/06/17
Field Prep: Not Specified

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	250		5			
C9-C12 Aliphatics	ND		ug/l	250		5			
C9-C10 Aromatics	ND		ug/l	250		5			
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5			
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5			
Benzene	ND		ug/l	10.0		5			
Toluene	ND		ug/l	10.0		5			
Ethylbenzene	ND		ug/l	10.0		5			
p/m-Xylene	ND		ug/l	10.0		5			
o-Xylene	ND		ug/l	10.0		5			
Methyl tert butyl ether	ND		ug/l	15.0		5			
Naphthalene	ND		ug/l	20.0		5			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	85		70-130	
2,5-Dibromotoluene-FID	85		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1700574

SAMPLE RESULTS

Lab ID: L1700574-07 Date Collected: 01/06/17 14:30

Client ID: TRIP BLANK Date Received: 01/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 16:38

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Qualifier Criteria		
2,5-Dibromotoluene-PID	81		70-130		
2,5-Dibromotoluene-FID	85		70-130		



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1700574

Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 01/08/17 18:08

Analyst:

SR

Extraction Method: EPA 3510C

01/07/17 03:41 EPH-04-1

01/13/17

Extraction Date: Cleanup Method: Cleanup Date: 01/08/17

arameter	Result	Qualifier (Jnits	RL	MD	L
xtractable Petroleum Hydrocai	bons - Westbo	rough Lab for	sample(s):	01-06	Batch:	WG967737-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

			Acceptance
Surrogate	%Recovery	Qualifier	Criteria
Chloro-Octadecane	66		40-140
o-Terphenyl	68		40-140
2-Fluorobiphenyl	64		40-140
2-Bromonaphthalene	66		40-140



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 01/12/17 10:32

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	sample(s):	01-07	Batch:	WG969482-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

		-	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	84		70-130	
2,5-Dibromotoluene-FID	86		70-130	



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1700574

Report Date: 01/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westl	borough Lab As	sociated samp	ole(s): 01-06 B	atch: WG	967737-2 WG967	737-3		
C9-C18 Aliphatics	67		66		40-140	2		25
C19-C36 Aliphatics	77		76		40-140	1		25
C11-C22 Aromatics	80		52		40-140	42	Q	25
Naphthalene	60		39	Q	40-140	42	Q	25
2-Methylnaphthalene	62		40		40-140	43	Q	25
Acenaphthylene	65		42		40-140	43	Q	25
Acenaphthene	69		45		40-140	42	Q	25
Fluorene	73		47		40-140	43	Q	25
Phenanthrene	70		45		40-140	43	Q	25
Anthracene	70		45		40-140	43	Q	25
Fluoranthene	74		48		40-140	43	Q	25
Pyrene	76		49		40-140	43	Q	25
Benzo(a)anthracene	80		51		40-140	44	Q	25
Chrysene	85		54		40-140	45	Q	25
Benzo(b)fluoranthene	82		52		40-140	45	Q	25
Benzo(k)fluoranthene	83		53		40-140	44	Q	25
Benzo(a)pyrene	77		49		40-140	44	Q	25
Indeno(1,2,3-cd)Pyrene	83		53		40-140	44	Q	25
Dibenzo(a,h)anthracene	96		61		40-140	45	Q	25
Benzo(ghi)perylene	79		50		40-140	45	Q	25
Nonane (C9)	51		50		30-140	2		25



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700574

Report Date: 01/13/17

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qua	%Recovery Limits	RPD	Qual	RPD Limits
ktractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample	e(s): 01-06	Batch:	WG967737-2 WG9	67737-3		
Decane (C10)	58		58		40-140	0		25
Dodecane (C12)	63		63		40-140	0		25
Tetradecane (C14)	67		66		40-140	2		25
Hexadecane (C16)	70		69		40-140	1		25
Octadecane (C18)	73		73		40-140	0		25
Nonadecane (C19)	73		71		40-140	3		25
Eicosane (C20)	74		73		40-140	1		25
Docosane (C22)	74		73		40-140	1		25
Tetracosane (C24)	75		74		40-140	1		25
Hexacosane (C26)	75		74		40-140	1		25
Octacosane (C28)	75		74		40-140	1		25
Triacontane (C30)	76		74		40-140	3		25
Hexatriacontane (C36)	77		74		40-140	4		25

LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
62		58		40-140	
70		44		40-140	
63		41		40-140	
66		43		40-140	
0		0			
0		0			
	%Recovery 62 70 63 66 0	%Recovery Qual 62 70 63 66 0	%Recovery Qual %Recovery 62 58 70 44 63 41 66 43 0 0	%Recovery Qual %Recovery Qual 62 58 70 44 63 41 66 43 0 0	%Recovery Qual %Recovery Qual Criteria 62 58 40-140 70 44 40-140 63 41 40-140 66 43 40-140 0 0



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1700574

Report Date: 01/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ough Lab Assoc	iated sample(s):	01-07 Batch	n: WG969482-1 WG969482	-2	
C5-C8 Aliphatics	103		99	70-130	4	25
C9-C12 Aliphatics	102		93	70-130	10	25
C9-C10 Aromatics	106		99	70-130	7	25
Benzene	102		100	70-130	2	25
Toluene	103		100	70-130	3	25
Ethylbenzene	104		100	70-130	4	25
p/m-Xylene	105		99	70-130	6	25
o-Xylene	104		98	70-130	6	25
Methyl tert butyl ether	95		93	70-130	2	25
Naphthalene	92		92	70-130	0	25
1,2,4-Trimethylbenzene	106		99	70-130	7	25
Pentane	101		98	70-130	3	25
2-Methylpentane	103		99	70-130	4	25
2,2,4-Trimethylpentane	104		100	70-130	4	25
n-Nonane	104		94	30-130	10	25
n-Decane	93		86	70-130	7	25
n-Butylcyclohexane	106		97	70-130	9	25



Lab Control Sample Analysis

Batch Quality Control

Lab Number: L1700574

Report Date: 01/13/17

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

LCS LCSD %Recovery RPD Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-07 Batch: WG969482-1 WG969482-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	97		93		70-130	
2,5-Dibromotoluene-FID	97		94		70-130	



Serial_No:01131714:59

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1700574-01A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-01B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-01C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-01D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-01E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-02A	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-02B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-02C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-02D	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-02E	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-03A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-03B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-03C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-03D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-03E	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-04A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-04B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-04C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-04D	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-04E	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-05A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-05B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-05C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-05D	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-05E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-06A	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-06B	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-06C	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1700574-06D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)



Serial_No:01131714:59

Project Name:WEYMOUTH C/SLab Number:L1700574Project Number:140143.0000.4903Report Date:01/13/17

Container Information				Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1700574-06E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1700574-07A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
I 1700574-07B	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DFI UX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

GLOSSARY

Acronyms

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).

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.

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.

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

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:01131714:59

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1700574

 Project Number:
 140143.0000.4903
 Report Date:
 01/13/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:01131714:59

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 9

Published Date: 1/11/2017 9:11:51 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

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ANALYTICAL REPORT

Lab Number: L1708332

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 03/27/17

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

 Lab Number:
 L1708332

 Report Date:
 03/27/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1708332-01	MW-401	WATER	WEYMOUTH, MA	03/20/17 11:20	03/20/17
L1708332-02	MW-205	WATER	WEYMOUTH, MA	03/20/17 12:40	03/20/17
L1708332-03	MW-203	WATER	WEYMOUTH, MA	03/20/17 12:33	03/20/17
L1708332-04	MW-204	WATER	WEYMOUTH, MA	03/20/17 12:45	03/20/17
L1708332-05	MW-402	WATER	WEYMOUTH, MA	03/20/17 13:45	03/20/17
L1708332-06	MW-400	WATER	WEYMOUTH, MA	03/20/17 14:15	03/20/17
L1708332-07	MW-202	WATER	WEYMOUTH, MA	03/20/17 14:06	03/20/17
L1708332-08	TB032017	WATER	WEYMOUTH, MA	03/20/17 14:00	03/20/17



Project Name:WEYMOUTH C/SLab Number:L1708332Project Number:140143.0000.4903Report Date:03/27/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	A response to questions G, H and I is required for "Presumptive Certainty" status						
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO					
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES					
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES					

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1708332-01 through -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

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.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 03/27/17

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-01 Date Collected: 03/20/17 11:20

Client ID: MW-401 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/22/17 16:32

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	102		70-130			
2,5-Dibromotoluene-FID	103		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-01 Date Collected: 03/20/17 11:20

Client ID: MW-401 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/22/17 20:43 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbon	s - Westborough La	ab				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-01 Date Collected: 03/20/17 11:20

Client ID: MW-401 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	88		40-140			
o-Terphenyl	108		40-140			
2-Fluorobiphenyl	112		40-140			
2-Bromonaphthalene	114		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708332

Project Number: 140143.0000.4903 **Report Date:** 03/27/17

SAMPLE RESULTS

Lab ID: L1708332-02 Date Collected: 03/20/17 12:40

Client ID: MW-205 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/22/17 17:12

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	99		70-130	
2,5-Dibromotoluene-FID	101		70-130	



03/21/17

Cleanup Date1:

Project Name: Lab Number: WEYMOUTH C/S L1708332

Project Number: 140143.0000.4903 **Report Date:** 03/27/17

SAMPLE RESULTS

Date Collected: Lab ID: L1708332-02 03/20/17 12:40

Client ID: MW-205 Date Received: 03/20/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: **Extraction Method:** EPA 3510C Water Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 03/21/17 09:02

Analytical Date: 03/22/17 21:25 Cleanup Method1: EPH-04-1 Analyst: ΕK

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-02 Date Collected: 03/20/17 12:40

Client ID: MW-205 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	95		40-140			
o-Terphenyl	103		40-140			
2-Fluorobiphenyl	119		40-140			
2-Bromonaphthalene	121		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-03 Date Collected: 03/20/17 12:33

Client ID: MW-203 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 03/22/17 17:52

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	97		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-03 Date Collected: 03/20/17 12:33

Client ID: MW-203 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/22/17 22:07 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	I	ug/l	100		1			
C19-C36 Aliphatics	ND	ı	ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND	ı	ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND	1	ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND	1	ug/l	10.0		1			
Pyrene	ND	1	ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND	1	ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND	1	ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-03 Date Collected: 03/20/17 12:33

Client ID: MW-203 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	66		40-140	
o-Terphenyl	76		40-140	
2-Fluorobiphenyl	82		40-140	
2-Bromonaphthalene	84		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-04 Date Collected: 03/20/17 12:45

Client ID: MW-204 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/22/17 18:32

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-04 Date Collected: 03/20/17 12:45

Client ID: MW-204 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/22/17 22:48 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-04 Date Collected: 03/20/17 12:45

Client ID: MW-204 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	86		40-140	
o-Terphenyl	103		40-140	
2-Fluorobiphenyl	112		40-140	
2-Bromonaphthalene	114		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-05 Date Collected: 03/20/17 13:45

Client ID: MW-402 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 03/22/17 19:12

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	100		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-05 Date Collected: 03/20/17 13:45

Client ID: MW-402 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/22/17 23:30 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

 Lab ID:
 L1708332-05
 Date Collected:
 03/20/17 13:45

 Client ID:
 MW-402
 Date Received:
 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	95		40-140	
o-Terphenyl	102		40-140	
2-Fluorobiphenyl	112		40-140	
2-Bromonaphthalene	115		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-06 Date Collected: 03/20/17 14:15

Client ID: MW-400 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 03/22/17 19:51

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	96		70-130			
2,5-Dibromotoluene-FID	97		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-06 Date Collected: 03/20/17 14:15

Client ID: MW-400 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/23/17 00:12 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: Date Collected: 03/20/17 14:15

Client ID: MW-400 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	76		40-140			
o-Terphenyl	94		40-140			
2-Fluorobiphenyl	105		40-140			
2-Bromonaphthalene	107		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708332

Project Number: 140143.0000.4903 **Report Date:** 03/27/17

SAMPLE RESULTS

Lab ID: L1708332-07 Date Collected: 03/20/17 14:06

Client ID: MW-202 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/22/17 20:31

JM

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Quality Control Information

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Petroleum Hydrocarbons - Westborough Lab								
C5-C8 Aliphatics	ND		ug/l	50.0		1		
C9-C12 Aliphatics	ND		ug/l	50.0		1		
C9-C10 Aromatics	ND		ug/l	50.0		1		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1		
Benzene	ND		ug/l	2.00		1		
Toluene	ND		ug/l	2.00		1		
Ethylbenzene	ND		ug/l	2.00		1		
p/m-Xylene	ND		ug/l	2.00		1		
o-Xylene	ND		ug/l	2.00		1		
Methyl tert butyl ether	ND		ug/l	3.00		1		
Naphthalene	ND		ug/l	4.00		1		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	92		70-130	
2,5-Dibromotoluene-FID	93		70-130	



Analyst:

Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-07 Date Collected: 03/20/17 14:06

Client ID: MW-202 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/21/17 09:02

Analytical Date: 03/23/17 00:54 Cleanup Method1: EPH-04-1
Analyst: EK Cleanup Date1: 03/21/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	u	g/l 100		1			
C19-C36 Aliphatics	ND	u	g/l 100		1			
C11-C22 Aromatics	ND	u	g/l 100		1			
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1			
Naphthalene	ND	u	g/l 10.0		1			
2-Methylnaphthalene	ND	u	g/l 10.0		1			
Acenaphthylene	ND	u	g/l 10.0		1			
Acenaphthene	ND	u	g/l 10.0		1			
Fluorene	ND	u	g/l 10.0		1			
Phenanthrene	ND	u	g/l 10.0		1			
Anthracene	ND	u	g/l 10.0		1			
Fluoranthene	ND	u	g/l 10.0		1			
Pyrene	ND	u	g/l 10.0		1			
Benzo(a)anthracene	ND	u	g/l 10.0		1			
Chrysene	ND	u	g/l 10.0		1			
Benzo(b)fluoranthene	ND	u	g/l 10.0		1			
Benzo(k)fluoranthene	ND	u	g/l 10.0		1			
Benzo(a)pyrene	ND	u	g/l 10.0		1			
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1			
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1			
Benzo(ghi)perylene	ND	u	g/l 10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708332

SAMPLE RESULTS

Lab ID: L1708332-07 Date Collected: 03/20/17 14:06

Client ID: MW-202 Date Received: 03/20/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	89		40-140			
o-Terphenyl	82		40-140			
2-Fluorobiphenyl	88		40-140			
2-Bromonaphthalene	90		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708332

Project Number: 140143.0000.4903 **Report Date:** 03/27/17

SAMPLE RESULTS

Lab ID: L1708332-08 Date Collected: 03/20/17 14:00

Client ID: TB032017 Date Received: 03/20/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/22/17 15:12

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	96		70-130			
2,5-Dibromotoluene-FID	98		70-130			



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1708332

Report Date: 03/27/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 03/22/17 18:38

Analyst: ΕK Extraction Method: EPA 3510C Extraction Date: 03/21/17 09:02 Cleanup Method: EPH-04-1

Cleanup Date: 03/21/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbon	s - Westbo	rough Lab	for sample(s):	01-07	Batch: WG986870-1
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	

Surrogata	9/ Bassyany		Acceptance Criteria
Surrogate	%Recovery	Qualifier	Criteria
Chloro-Octadecane	79		40-140
o-Terphenyl	88		40-140
2-Fluorobiphenyl	94		40-140
2-Bromonaphthalene	97		40-140
2-Bromonaphthalene	97		40-140



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/22/17 08:49

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons - V	Westborough	Lab for	sample(s):	01-08	Batch:	WG987519-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

		Acceptance				
Surrogate	%Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	91		70-130			
2,5-Dibromotoluene-FID	93		70-130			



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708332

Report Date: 03/27/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	le(s): 01-07 Ba	atch: WG986870-2 WG98	6870-3	
C9-C18 Aliphatics	68		69	40-140	1	25
C19-C36 Aliphatics	102		98	40-140	4	25
C11-C22 Aromatics	114		103	40-140	10	25
Naphthalene	86		83	40-140	4	25
2-Methylnaphthalene	90		86	40-140	5	25
Acenaphthylene	91		87	40-140	4	25
Acenaphthene	94		88	40-140	7	25
Fluorene	105		96	40-140	9	25
Phenanthrene	112		101	40-140	10	25
Anthracene	107		96	40-140	11	25
Fluoranthene	114		102	40-140	11	25
Pyrene	112		102	40-140	9	25
Benzo(a)anthracene	106		96	40-140	10	25
Chrysene	112		100	40-140	11	25
Benzo(b)fluoranthene	120		107	40-140	11	25
Benzo(k)fluoranthene	111		100	40-140	10	25
Benzo(a)pyrene	101		91	40-140	10	25
Indeno(1,2,3-cd)Pyrene	104		95	40-140	9	25
Dibenzo(a,h)anthracene	106		96	40-140	10	25
Benzo(ghi)perylene	101		92	40-140	9	25
Nonane (C9)	53		51	30-140	4	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708332

Report Date: 03/27/17

arameter	LCS %Recovery	Qual %	LCSD 6Recovery	Qual	%Recove Limits	ry RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbons - Westb	oorough Lab As	sociated sample(s	s): 01-07	Batch: W	G986870-2 V	VG986870-3		
Decane (C10)	64		63		40-140	2		25
Dodecane (C12)	74		76		40-140	3		25
Tetradecane (C14)	79		82		40-140	4		25
Hexadecane (C16)	87		88		40-140	1		25
Octadecane (C18)	93		91		40-140	2		25
Nonadecane (C19)	92		92		40-140	0		25
Eicosane (C20)	92		91		40-140	1		25
Docosane (C22)	91		90		40-140	1		25
Tetracosane (C24)	93		91		40-140	2		25
Hexacosane (C26)	91		90		40-140	1		25
Octacosane (C28)	91		91		40-140	0		25
Triacontane (C30)	92		93		40-140	1		25
Hexatriacontane (C36)	91		93		40-140	2		25

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
Chloro-Octadecane	83		86		40-140	
o-Terphenyl	111		99		40-140	
2-Fluorobiphenyl	108		103		40-140	
2-Bromonaphthalene	112		107		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708332

Report Date: 03/27/17

Parameter	LCS %Recovery	LCSI Qual %Recov		%Recovery Limits	RPD	RPD Qual Limits	
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s): 01-08	Batch: WG9875	519-1 WG987519	-2		
C5-C8 Aliphatics	98	101		70-130	4	25	
C9-C12 Aliphatics	101	104		70-130	3	25	
C9-C10 Aromatics	98	103		70-130	5	25	
Benzene	97	103		70-130	7	25	
Toluene	98	104		70-130	6	25	
Ethylbenzene	99	104		70-130	5	25	
p/m-Xylene	99	103		70-130	4	25	
o-Xylene	98	103		70-130	5	25	
Methyl tert butyl ether	90	102		70-130	13	25	
Naphthalene	89	97		70-130	9	25	
1,2,4-Trimethylbenzene	98	103		70-130	5	25	
Pentane	95	98		70-130	3	25	
2-Methylpentane	98	102		70-130	4	25	
2,2,4-Trimethylpentane	100	103		70-130	3	25	
n-Nonane	102	104		30-130	2	25	
n-Decane	102	105		70-130	3	25	
n-Butylcyclohexane	99	104		70-130	5	25	



Project Name: WEYMOUTH C/S

Lab Number:

L1708332

Project Number: 140143.0000.4903

Report Date:

03/27/17

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG987519-1 WG987519-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	93		97		70-130	
2,5-Dibromotoluene-FID	92		98		70-130	



Project Name:WEYMOUTH C/SLab Number: L1708332Project Number:140143.0000.4903Report Date: 03/27/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent B Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1708332-01A	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-01B	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-01C	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-01D	Amber 1000ml HCI preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-01E	Amber 1000ml HCI preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-02A	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-02B	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-02C	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-02D	Amber 1000ml HCl preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-02E	Amber 1000ml HCl preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-03A	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-03B	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-03C	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-03D	Amber 1000ml HCl preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-03E	Amber 1000ml HCI preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-04A	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-04B	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-04C	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-04D	Amber 1000ml HCl preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-04E	Amber 1000ml HCI preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-05A	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-05B	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-05C	Vial HCl preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-05D	Amber 1000ml HCI preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-05E	Amber 1000ml HCl preserved	В	<2	5.9	Υ	Absent	EPH-DELUX-10(14)
L1708332-06A	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)
L1708332-06B	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)
L1708332-06C	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1708332-06D	Amber 1000ml HCl preserved	Α	<2	4.2	Υ	Absent	EPH-DELUX-10(14)
L1708332-06E	Amber 1000ml HCI preserved	Α	<2	4.2	Υ	Absent	EPH-DELUX-10(14)
L1708332-07A	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)
L1708332-07B	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)
L1708332-07C	Vial HCI preserved	Α	N/A	4.2	Υ	Absent	VPH-DELUX-10(14)
L1708332-07D	Amber 1000ml HCI preserved	Α	<2	4.2	Υ	Absent	EPH-DELUX-10(14)
L1708332-07E	Amber 1000ml HCI preserved	Α	<2	4.2	Υ	Absent	EPH-DELUX-10(14)
L1708332-08A	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)
L1708332-08B	Vial HCI preserved	В	N/A	5.9	Υ	Absent	VPH-DELUX-10(14)



Project Name: Lab Number: WEYMOUTH C/S L1708332 **Project Number:** 140143.0000.4903 **Report Date:** 03/27/17

GLOSSARY

Acronyms

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).

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.

- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of LFB

analytes or a material containing known and verified amounts of analytes.

MDI. - 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.

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.

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound TIC

list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

В - 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708332

 Project Number:
 140143.0000.4903
 Report Date:
 03/27/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873**

Pre-Qualtrax Document ID: 08-113

Revision 10

Page 1 of 1

Published Date: 1/16/2017 11:00:05 AM

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide **EPA 9050A:** NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

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ANALYTICAL REPORT

Lab Number: L1708464

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 03/28/17

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), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

 Lab Number:
 L1708464

 Report Date:
 03/28/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1708464-01	MW-406	WATER	WEYMOUTH, MA	03/21/17 11:00	03/21/17
L1708464-02	DUP-1	WATER	WEYMOUTH, MA	03/21/17 00:00	03/21/17
L1708464-03	MW-410	WATER	WEYMOUTH, MA	03/21/17 11:36	03/21/17
L1708464-04	MW-201	WATER	WEYMOUTH, MA	03/21/17 11:55	03/21/17
L1708464-05	MW-407	WATER	WEYMOUTH, MA	03/21/17 13:30	03/21/17
L1708464-06	TRIP BLANK	WATER	WEYMOUTH, MA	03/21/17 14:15	03/21/17
L1708464-07	MW-414	WATER	WEYMOUTH, MA	03/21/17 14:25	03/21/17
L1708464-08	MW-408	WATER	WEYMOUTH, MA	03/21/17 14:48	03/21/17



Project Name:WEYMOUTH C/SLab Number:L1708464Project Number:140143.0000.4903Report Date:03/28/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status									
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO								
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES								
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES								

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1708464Project Number:140143.0000.4903Report Date:03/28/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1708464-01 through -05, -07 and -08: One or more of the target analytes did not achieve the requested CAM reporting limits.

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.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 03/28/17

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 **Report Date:** 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-01 Date Collected: 03/21/17 11:00

Client ID: MW-406 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/24/17 14:40

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	3.22		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	6.66		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	100		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-01 Date Collected: 03/21/17 11:00

Client ID: MW-406 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48
Analytical Date: 03/24/17 20:37 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lal	b			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	102	u	g/l 100		1
C11-C22 Aromatics, Adjusted	102	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: Date Collected: 03/21/17 11:00

Client ID: MW-406 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	64		40-140		
o-Terphenyl	70		40-140		
2-Fluorobiphenyl	69		40-140		
2-Bromonaphthalene	69		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 **Report Date:** 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-02 Date Collected: 03/21/17 00:00

Client ID: DuP-1 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/24/17 15:19

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	3.11		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	6.72		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	99		70-130	
2,5-Dibromotoluene-FID	102		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-02 Date Collected: 03/21/17 00:00

Client ID: DuP-1 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48

Analytical Date: 03/24/17 21:08 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b			
C9-C18 Aliphatics	ND	uç	g/l 100		1
C19-C36 Aliphatics	ND	uç	g/l 100		1
C11-C22 Aromatics	ND	uç	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	uç	g/l 100		1
Naphthalene	ND	uç	g/l 10.0		1
2-Methylnaphthalene	ND	uç	g/l 10.0		1
Acenaphthylene	ND	uç	g/l 10.0		1
Acenaphthene	ND	uç	g/l 10.0		1
Fluorene	ND	uç	g/l 10.0		1
Phenanthrene	ND	uç	g/l 10.0		1
Anthracene	ND	uç	g/l 10.0		1
Fluoranthene	ND	uç	g/l 10.0		1
Pyrene	ND	uç	g/l 10.0		1
Benzo(a)anthracene	ND	uç	g/l 10.0		1
Chrysene	ND	uç	g/l 10.0		1
Benzo(b)fluoranthene	ND	uç	g/l 10.0		1
Benzo(k)fluoranthene	ND	uç	g/l 10.0		1
Benzo(a)pyrene	ND	uç	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	uç	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	uç	g/l 10.0		1
Benzo(ghi)perylene	ND	uç	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: Report Date: 140143.0000.4903 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-02

Date Collected: 03/21/17 00:00 Client ID: DUP-1 Date Received: 03/21/17

WEYMOUTH, MA Field Prep: Sample Location: Not Specified

Qualifier RL **Dilution Factor Parameter** Result Units MDL

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	65		40-140		
o-Terphenyl	69		40-140		
2-Fluorobiphenyl	73		40-140		
2-Bromonaphthalene	73		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-03 Date Collected: 03/21/17 11:36

Client ID: MW-410 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/24/17 15:58

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westb	orough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	99		70-130		
2,5-Dibromotoluene-FID	105		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-03 Date Collected: 03/21/17 11:36

Client ID: MW-410 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48

Analytical Date: 03/24/17 21:40 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	125	u	g/l 100		1
C11-C22 Aromatics, Adjusted	125	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-03 Date Collected: 03/21/17 11:36

Client ID: MW-410 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	Acceptance					
	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	72		40-140			
o-Terphenyl	74		40-140			
2-Fluorobiphenyl	74		40-140			
2-Bromonaphthalene	74		40-140			



Project Name: Lab Number: WEYMOUTH C/S L1708464

Project Number: 140143.0000.4903 **Report Date:** 03/28/17

SAMPLE RESULTS

Lab ID: Date Collected: 03/21/17 11:55 L1708464-04

Date Received: Client ID: MW-201 03/21/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water Analytical Method: 100, VPH-04-1.1 03/24/17 16:37

Analyst: JM

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

	Acceptance					
Surrogate	% Recovery	Qualifier	Qualifier Criteria			
2,5-Dibromotoluene-PID	98		70-130			
2,5-Dibromotoluene-FID	103		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-04 Date Collected: 03/21/17 11:55

Client ID: MW-201 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48

Analytical Date: 03/24/17 22:11 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Uni	ts RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	ug/	100		1			
C19-C36 Aliphatics	ND	ug/	100		1			
C11-C22 Aromatics	ND	ug/	100		1			
C11-C22 Aromatics, Adjusted	ND	ug/	100		1			
Naphthalene	ND	ug/	I 10.0		1			
2-Methylnaphthalene	ND	ug/	I 10.0		1			
Acenaphthylene	ND	ug/	I 10.0		1			
Acenaphthene	ND	ug/	I 10.0		1			
Fluorene	ND	ug/	10.0		1			
Phenanthrene	ND	ug/	I 10.0		1			
Anthracene	ND	ug/	I 10.0		1			
Fluoranthene	ND	ug/	10.0		1			
Pyrene	ND	ug/	I 10.0		1			
Benzo(a)anthracene	ND	ug/	I 10.0		1			
Chrysene	ND	ug/	I 10.0		1			
Benzo(b)fluoranthene	ND	ug/	I 10.0		1			
Benzo(k)fluoranthene	ND	ug/	I 10.0		1			
Benzo(a)pyrene	ND	ug/	I 10.0		1			
Indeno(1,2,3-cd)Pyrene	ND	ug/	10.0		1			
Dibenzo(a,h)anthracene	ND	ug/	10.0		1			
Benzo(ghi)perylene	ND	ug/	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-04 Date Collected: 03/21/17 11:55

Client ID: MW-201 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	69		40-140		
o-Terphenyl	70		40-140		
2-Fluorobiphenyl	74		40-140		
2-Bromonaphthalene	74		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 **Report Date:** 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-05 Date Collected: 03/21/17 13:30

Client ID: MW-407 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/24/17 17:16

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	104		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 Report Date: 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-05 Date Collected: 03/21/17 13:30

Client ID: MW-407 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48
Analytical Date: 03/24/17 22:43 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-05 Date Collected: 03/21/17 13:30

Client ID: MW-407 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	70		40-140	
2-Fluorobiphenyl	75		40-140	
2-Bromonaphthalene	74		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 **Report Date:** 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-06 Date Collected: 03/21/17 14:15

Client ID: TRIP BLANK Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/24/17 13:22

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	96		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-07 Date Collected: 03/21/17 14:25

Client ID: MW-414 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Quality Control Information

03/24/17 17:55

JM

Analytical Date:

Analyst:

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	102		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-07 Date Collected: 03/21/17 14:25

Client ID: MW-414 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48

Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/22/17 07:48

Analytical Date: 03/24/17 23:14 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Uni	ts RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	ug/	l 100		1			
C19-C36 Aliphatics	ND	ug/	T 100		1			
C11-C22 Aromatics	105	ug/	l 100		1			
C11-C22 Aromatics, Adjusted	105	ug/	l 100		1			
Naphthalene	ND	ug/	10.6		1			
2-Methylnaphthalene	ND	ug/	10.6		1			
Acenaphthylene	ND	ug/	10.6		1			
Acenaphthene	ND	ug/	10.6		1			
Fluorene	ND	ug/	10.6		1			
Phenanthrene	ND	ug/	10.6		1			
Anthracene	ND	ug/	10.6		1			
Fluoranthene	ND	ug/	10.6		1			
Pyrene	ND	ug/	10.6		1			
Benzo(a)anthracene	ND	ug/	10.6		1			
Chrysene	ND	ug/	10.6		1			
Benzo(b)fluoranthene	ND	ug/	10.6		1			
Benzo(k)fluoranthene	ND	ug/	10.6		1			
Benzo(a)pyrene	ND	ug/	10.6		1			
Indeno(1,2,3-cd)Pyrene	ND	ug/	10.6		1			
Dibenzo(a,h)anthracene	ND	ug/	10.6		1			
Benzo(ghi)perylene	ND	ug/	10.6		1			



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: Date Collected: 03/21/17 14:25

Client ID: MW-414 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	66		40-140		
o-Terphenyl	72		40-140		
2-Fluorobiphenyl	69		40-140		
2-Bromonaphthalene	69		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-08 Date Collected: 03/21/17 14:48

Client ID: MW-408 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 03/24/17 18:34

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708464

Project Number: 140143.0000.4903 Report Date: 03/28/17

SAMPLE RESULTS

Lab ID: L1708464-08 Date Collected: 03/21/17 14:48

Client ID: MW-408 Date Received: 03/21/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 03/22/17 07:48

 Analytical Date:
 03/24/17 23:46
 Cleanup Method1:
 EPH-04-1

Analyst: SR Cleanup Date1: 03/22/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1708464

SAMPLE RESULTS

Lab ID: L1708464-08 Date Collected: 03/21/17 14:48

Client ID: MW-408 Date Received: 03/21/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	73		40-140	
o-Terphenyl	77		40-140	
2-Fluorobiphenyl	77		40-140	
2-Bromonaphthalene	77		40-140	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1708464 Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

03/24/17 16:26

SR

Extraction Method: EPA 3510C Extraction Date: 03/22/17 07:48 Cleanup Method: EPH-04-1

03/28/17

Cleanup Date: 03/22/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbor WG987189-1	s - Westbo	rough Lab	for sample(s):	01-05,07-08	Batch:
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	



L1708464

Project Name: WEYMOUTH C/S Lab Number:

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 03/24/17 16:26

Analyst: SR

Extraction Method: EPA 3510C Extraction Date: 03/22/17 07:48

Cleanup Method: EPH-04-1 Cleanup Date: 03/22/17

Parameter Result Qualifier Units RL MDL

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-05,07-08 Batch: WG987189-1

		1	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	73		40-140	
2-Fluorobiphenyl	72		40-140	
2-Bromonaphthalene	72		40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/24/17 09:57

Analyst: JM

Result	Qualifier	Units	RL		MDL
- Westboroug	h Lab for s	sample(s):	01-08	Batch:	WG988282-3
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	50.0		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	2.00		
ND		ug/l	3.00		
ND		ug/l	4.00		
	ND N	ND N	ND ug/l	ND ug/l 50.0 ND ug/l 2.00 ND ug/l 3.00	ND ug/l 50.0 ND ug/l 2.00 ND ug/l 3.00

	Acceptance					
Surrogate	%Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	94		70-130			
2,5-Dibromotoluene-FID	97		70-130			



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708464

Report Date: 03/28/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	ole(s): 01-05,07-08	Batch:	WG987189-2	WG987189-3	
C9-C18 Aliphatics	73		66		40-140	10	25
C19-C36 Aliphatics	85		75		40-140	13	25
C11-C22 Aromatics	82		82		40-140	0	25
Naphthalene	71		72		40-140	1	25
2-Methylnaphthalene	71		72		40-140	1	25
Acenaphthylene	75		76		40-140	1	25
Acenaphthene	74		75		40-140	1	25
Fluorene	76		76		40-140	0	25
Phenanthrene	80		79		40-140	1	25
Anthracene	81		80		40-140	1	25
Fluoranthene	82		81		40-140	1	25
Pyrene	84		82		40-140	2	25
Benzo(a)anthracene	81		80		40-140	1	25
Chrysene	83		83		40-140	0	25
Benzo(b)fluoranthene	82		81		40-140	1	25
Benzo(k)fluoranthene	81		82		40-140	1	25
Benzo(a)pyrene	77		76		40-140	1	25
Indeno(1,2,3-cd)Pyrene	78		78		40-140	0	25
Dibenzo(a,h)anthracene	80		79		40-140	1	25
Benzo(ghi)perylene	75		75		40-140	0	25
Nonane (C9)	55		53		30-140	4	25



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708464

Report Date: 03/28/17

Parameter	LCS %Recovery		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westh	oorough Lab As	sociated sample(s):	01-05,07-	08 Batch:	WG987189-2	WG987189-3		
Decane (C10)	63		60		40-140	5		25
Dodecane (C12)	65		62		40-140	5		25
Tetradecane (C14)	68		64		40-140	6		25
Hexadecane (C16)	72		66		40-140	9		25
Octadecane (C18)	79		71		40-140	11		25
Nonadecane (C19)	79		71		40-140	11		25
Eicosane (C20)	80		72		40-140	11		25
Docosane (C22)	81		72		40-140	12		25
Tetracosane (C24)	81		72		40-140	12		25
Hexacosane (C26)	80		72		40-140	11		25
Octacosane (C28)	81		72		40-140	12		25
Triacontane (C30)	81		72		40-140	12		25
Hexatriacontane (C36)	84		76		40-140	10		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	71		64		40-140	
o-Terphenyl	78		76		40-140	
2-Fluorobiphenyl	77		71		40-140	
2-Bromonaphthalene	80		73		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708464

Report Date: 03/28/17

Parameter	LCS %Recovery	LCSI Qual %Reco		%Recovery Limits	RPD	RPD Qual Limits	
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s): 01-08	Batch: WG9882	282-1 WG988282	-2		
C5-C8 Aliphatics	87	88		70-130	1	25	
C9-C12 Aliphatics	98	99		70-130	1	25	
C9-C10 Aromatics	94	95		70-130	2	25	
Benzene	88	89		70-130	1	25	
Toluene	90	92		70-130	2	25	
Ethylbenzene	92	93		70-130	1	25	
p/m-Xylene	93	94		70-130	1	25	
o-Xylene	90	92		70-130	2	25	
Methyl tert butyl ether	91	92		70-130	1	25	
Naphthalene	95	99		70-130	4	25	
1,2,4-Trimethylbenzene	94	95		70-130	2	25	
Pentane	78	79		70-130	2	25	
2-Methylpentane	87	88		70-130	1	25	
2,2,4-Trimethylpentane	93	95		70-130	1	25	
n-Nonane	98	99		30-130	1	25	
n-Decane	100	101		70-130	1	25	
n-Butylcyclohexane	99	99		70-130	1	25	



Project Name: WEYMOUTH C/S **Project Number:**

Lab Number:

L1708464

140143.0000.4903

Report Date:

03/28/17

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-08 Batch: WG988282-1 WG988282-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	96		98		70-130	
2,5-Dibromotoluene-FID	98		100		70-130	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1708464-01A	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-01B	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-01C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-01D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-01E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-02A	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-02B	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-02C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-02D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-02E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-03A	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-03B	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-03C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-03D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-03E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-04A	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-04B	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-04C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-04D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-04E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-05A	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-05B	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-05C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-05D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-05E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-06A	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-06B	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-07A	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-07B	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)



Project Name:WEYMOUTH C/SLab Number:L1708464Project Number:140143.0000.4903Report Date:03/28/17

Container Info	ormation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1708464-07C	Vial HCl preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-07D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-07E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-08A	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-08B	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-08C	Vial HCI preserved	Α	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708464-08D	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708464-08E	Amber 1000ml HCl preserved	Α	<2	2.1	Υ	Absent	EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

GLOSSARY

Acronyms

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

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

Data Qualifiers

- 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.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708464

 Project Number:
 140143.0000.4903
 Report Date:
 03/28/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 10

Page 1 of 1

Published Date: 1/16/2017 11:00:05 AM

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form



ANALYTICAL REPORT

Lab Number: L1708593

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 03/29/17

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), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708593 **Report Date:** 03/29/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1708593-01	MW-411	WATER	WEYMOUTH, MA	03/22/17 09:30	03/22/17
L1708593-02	MW-409	WATER	WEYMOUTH, MA	03/22/17 09:35	03/22/17
L1708593-03	MW-413	WATER	WEYMOUTH, MA	03/22/17 10:15	03/22/17
L1708593-04	MW-412	WATER	WEYMOUTH, MA	03/22/17 11:20	03/22/17
L1708593-05	TRIP BLANK	WATER	WEYMOUTH, MA	03/22/17 11:15	03/22/17
L1708593-06	MW-206	WATER	WEYMOUTH, MA	03/22/17 11:23	03/22/17
L1708593-07	MW-403	WATER	WEYMOUTH, MA	03/22/17 12:15	03/22/17



Project Name:WEYMOUTH C/SLab Number:L1708593Project Number:140143.0000.4903Report Date:03/29/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status								
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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.

Ρ	lease	conta	act C	lient	Services	at	800-624	-9220	with	any	quest	ions.	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1708593-01, -02, -03, -04, -06, and -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG987561-2/-3 LCS/LCSD RPDs, associated with L1708593-01, -02, -03, -04, -06, and -07, are above the acceptance criteria for naphthalene (31%), 2-methylnaphthalene (27%), acenaphthylene (27%), acenaphthene (27%), anthracene (28%), pyrene (28%), benzo(a)anthracene (28%), chrysene (27%), benzo(b)fluoranthene (27%), benzo(k)fluoranthene (29%), benzo(a)pyrene (28%), indeno(1,2,3-cd)pyrene (27%), dibenzo(a,h)anthracene (27%) and benzo(ghi)perylene (28%).

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:

Title: Technical Director/Representative Date: 03/29/17

Melissa Cripps Melissa Cripps

ORGANICS



PETROLEUM HYDROCARBONS



Serial_No:03291712:32

Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-01 Date Collected: 03/22/17 09:30

Client ID: MW-411 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/25/17 15:43

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	107		70-130	



Serial_No:03291712:32

Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-01 Date Collected: 03/22/17 09:30

Client ID: MW-411 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/23/17 15:48

Analytical Date: 03/25/17 02:06 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND	I	ug/l	100		1				
C19-C36 Aliphatics	ND	ı	ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND	ı	ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND	1	ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND	1	ug/l	10.0		1				
Pyrene	ND	1	ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND	1	ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND	1	ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Serial_No:03291712:32

Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-01 Date Collected: 03/22/17 09:30

Client ID: MW-411 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	61		40-140			
o-Terphenyl	65		40-140			
2-Fluorobiphenyl	76		40-140			
2-Bromonaphthalene	79		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-02 Date Collected: 03/22/17 09:35

Client ID: MW-409 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 03/25/17 16:22

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	99		70-130			
2,5-Dibromotoluene-FID	105		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-02 Date Collected: 03/22/17 09:35

Client ID: MW-409 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 03/23/17 15:48

 Analytical Date:
 03/25/17 02:44
 Cleanup Method1:
 EPH-04-1

Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND	uç	g/l 100		1				
C19-C36 Aliphatics	ND	uç	g/l 100		1				
C11-C22 Aromatics	ND	uç	g/l 100		1				
C11-C22 Aromatics, Adjusted	ND	uç	g/l 100		1				
Naphthalene	ND	uç	g/l 10.0		1				
2-Methylnaphthalene	ND	uç	g/l 10.0		1				
Acenaphthylene	ND	uç	g/l 10.0		1				
Acenaphthene	ND	uç	g/l 10.0		1				
Fluorene	ND	uç	g/l 10.0		1				
Phenanthrene	ND	uç	g/l 10.0		1				
Anthracene	ND	uç	g/l 10.0		1				
Fluoranthene	ND	uç	g/l 10.0		1				
Pyrene	ND	uç	g/l 10.0		1				
Benzo(a)anthracene	ND	uç	g/l 10.0		1				
Chrysene	ND	uç	g/l 10.0		1				
Benzo(b)fluoranthene	ND	uç	g/l 10.0		1				
Benzo(k)fluoranthene	ND	uç	g/l 10.0		1				
Benzo(a)pyrene	ND	uç	g/l 10.0		1				
Indeno(1,2,3-cd)Pyrene	ND	uç	g/l 10.0		1				
Dibenzo(a,h)anthracene	ND	uç	g/l 10.0		1				
Benzo(ghi)perylene	ND	uç	g/l 10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-02 Date Collected: 03/22/17 09:35

Client ID: MW-409 Date Received: 03/22/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specif

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	53		40-140	
o-Terphenyl	74		40-140	
2-Fluorobiphenyl	81		40-140	
2-Bromonaphthalene	83		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-03 Date Collected: 03/22/17 10:15

Client ID: MW-413 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/25/17 17:01

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	102		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-03 Date Collected: 03/22/17 10:15

Client ID: MW-413 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

 Analytical Method:
 98,EPH-04-1.1
 Extraction Date:
 03/23/17 15:48

 Analytical Date:
 03/25/17 03:22
 Cleanup Method1:
 EPH-04-1

Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-03 Date Collected: 03/22/17 10:15

Client ID: MW-413 Date Received: 03/22/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	60		40-140	
o-Terphenyl	65		40-140	
2-Fluorobiphenyl	71		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-04 Date Collected: 03/22/17 11:20

Client ID: MW-412 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/25/17 17:40
Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	98		70-130		
2,5-Dibromotoluene-FID	106		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-04 Date Collected: 03/22/17 11:20

Client ID: MW-412 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/23/17 15:48

Analytical Date: 03/25/17 04:00 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-04 Date Collected: 03/22/17 11:20

Client ID: MW-412 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	56		40-140		
o-Terphenyl	65		40-140		
2-Fluorobiphenyl	68		40-140		
2-Bromonaphthalene	71		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-05 Date Collected: 03/22/17 11:15

Client ID: TRIP BLANK Date Received: 03/22/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/25/17 15:04

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	93		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-06 Date Collected: 03/22/17 11:23

Client ID: MW-206 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

Analytical Date:

03/25/17 18:19

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	102		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-06 Date Collected: 03/22/17 11:23

Client ID: MW-206 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/23/17 15:48

Analytical Date: 03/25/17 04:38 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-06 Date Collected: 03/22/17 11:23

Client ID: MW-206 Date Received: 03/22/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specific

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance				
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	66		40-140			
o-Terphenyl	77		40-140			
2-Fluorobiphenyl	84		40-140			
2-Bromonaphthalene	87		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1708593

Project Number: 140143.0000.4903 **Report Date:** 03/29/17

SAMPLE RESULTS

Lab ID: L1708593-07 Date Collected: 03/22/17 12:15

Client ID: MW-403 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Date: 03/25/17 18:58
Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	99		70-130	
2,5-Dibromotoluene-FID	106		70-130	



Analytical Method:

100, VPH-04-1.1

Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-07 Date Collected: 03/22/17 12:15

Client ID: MW-403 Date Received: 03/22/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/23/17 15:48

Analytical Date: 03/25/17 05:16 Cleanup Method1: EPH-04-1
Analyst: DV Cleanup Date1: 03/24/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1708593

SAMPLE RESULTS

Lab ID: L1708593-07 Date Collected: 03/22/17 12:15

Client ID: MW-403 Date Received: 03/22/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	60		40-140	
o-Terphenyl	64		40-140	
2-Fluorobiphenyl	70		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number:

L1708593

Report Date: 03/29/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

03/25/17 00:13

DV

Extraction Method: EPA 3510C Extraction Date: 03/23/17 15:48 Cleanup Method: EPH-04-1

Cleanup Date: 03/24/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbor WG987561-1	ns - Westbor	ough Lab	for sample(s):	01-04,06-07	Batch:
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	



Project Name: Lab Number: WEYMOUTH C/S L1708593

Project Number: 140143.0000.4903 Report Date: 03/29/17

> **Method Blank Analysis Batch Quality Control**

Analytical Method: 98,EPH-04-1.1 Extraction Method: EPA 3510C Analytical Date: 03/25/17 00:13 Extraction Date:

03/23/17 15:48 Analyst: DV EPH-04-1 Cleanup Method:

Cleanup Date: 03/24/17

Result Qualifier Units RLMDL **Parameter**

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-04,06-07 Batch: WG987561-1

		1	Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	66		40-140	
o-Terphenyl	91		40-140	
2-Fluorobiphenyl	95		40-140	
2-Bromonaphthalene	98		40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/25/17 10:02

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons -	Westboroug	h Lab for s	sample(s):	01-07	Batch:	WG988287-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	94		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708593

Report Date: 03/29/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample	e(s): 01-04,06-07	Batch:	WG987561-2	WG987561-3		
C9-C18 Aliphatics	67		65		40-140	3		25
C19-C36 Aliphatics	84		92		40-140	9		25
C11-C22 Aromatics	75		95		40-140	24		25
Naphthalene	59		81		40-140	31	Q	25
2-Methylnaphthalene	63		83		40-140	27	Q	25
Acenaphthylene	63		83		40-140	27	Q	25
Acenaphthene	68		89		40-140	27	Q	25
Fluorene	75		95		40-140	24		25
Phenanthrene	77		98		40-140	24		25
Anthracene	70		93		40-140	28	Q	25
Fluoranthene	78		99		40-140	24		25
Pyrene	74		98		40-140	28	Q	25
Benzo(a)anthracene	72		95		40-140	28	Q	25
Chrysene	76		100		40-140	27	Q	25
Benzo(b)fluoranthene	73		96		40-140	27	Q	25
Benzo(k)fluoranthene	72		96		40-140	29	Q	25
Benzo(a)pyrene	65		86		40-140	28	Q	25
Indeno(1,2,3-cd)Pyrene	66		87		40-140	27	Q	25
Dibenzo(a,h)anthracene	65		85		40-140	27	Q	25
Benzo(ghi)perylene	65		86		40-140	28	Q	25
Nonane (C9)	51		58		30-140	13		25



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708593

Report Date: 03/29/17

Parameter	LCS %Recovery	Qual %	LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Wo	estborough Lab As	sociated sample(s): 01-04,06-0)7 Batch:	WG987561-2	WG987561-3		
Decane (C10)	60		68		40-140	13		25
Dodecane (C12)	67		74		40-140	10		25
Tetradecane (C14)	72		78		40-140	8		25
Hexadecane (C16)	76		82		40-140	8		25
Octadecane (C18)	78		84		40-140	7		25
Nonadecane (C19)	77		84		40-140	9		25
Eicosane (C20)	77		85		40-140	10		25
Docosane (C22)	78		85		40-140	9		25
Tetracosane (C24)	76		84		40-140	10		25
Hexacosane (C26)	76		84		40-140	10		25
Octacosane (C28)	76		84		40-140	10		25
Triacontane (C30)	76		84		40-140	10		25
Hexatriacontane (C36)	74		82		40-140	10		25

LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
64		79		40-140	
65		85		40-140	
70		88		40-140	
74		92		40-140	
0		0			
0		0			
	%Recovery 64 65 70 74 0	%Recovery Qual 64 65 70 74 0	%Recovery Qual %Recovery 64 79 65 85 70 88 74 92 0 0	%Recovery Qual %Recovery Qual 64 79 65 85 70 88 74 92 0 0 0	%Recovery Qual %Recovery Qual Criteria 64 79 40-140 65 85 40-140 70 88 40-140 74 92 40-140 0 0



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708593

Report Date: 03/29/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westboro	ugh Lab Assoc	iated sample(s)	: 01-07 Batc	h: WG988287-1 WG988287	-2	
C5-C8 Aliphatics	92		100	70-130	9	25
C9-C12 Aliphatics	98		104	70-130	6	25
C9-C10 Aromatics	92		97	70-130	6	25
Benzene	87		93	70-130	6	25
Toluene	89		95	70-130	6	25
Ethylbenzene	89		96	70-130	7	25
p/m-Xylene	92		97	70-130	5	25
o-Xylene	89		94	70-130	6	25
Methyl tert butyl ether	86		93	70-130	8	25
Naphthalene	90		98	70-130	9	25
1,2,4-Trimethylbenzene	92		97	70-130	6	25
Pentane	91		99	70-130	8	25
2-Methylpentane	92		99	70-130	8	25
2,2,4-Trimethylpentane	92		101	70-130	10	25
n-Nonane	97		104	30-130	7	25
n-Decane	100		106	70-130	6	25
n-Butylcyclohexane	97		104	70-130	7	25



Project Name: WEYMOUTH C/S

Lab Number:

L1708593

Project Number: 140143.0000.4903

Report Date:

03/29/17

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-07 Batch: WG988287-1 WG988287-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	92		100		70-130	
2,5-Dibromotoluene-FID	95		105		70-130	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1708593-01A	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-01B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-01C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-01D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-01E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-02A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-02B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-02C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-02D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-02E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-03A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-03B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-03C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-03D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-03E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-04A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-04B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-04C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-04D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-04E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-05A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-05B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-06A	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-06B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-06C	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-06D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-06E	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-07A	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-07B	Vial HCl preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

Container Info			Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1708593-07C	Vial HCI preserved	Α	N/A	2.2	Υ	Absent	VPH-DELUX-10(14)
L1708593-07D	Amber 1000ml HCl preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)
L1708593-07E	Amber 1000ml HCI preserved	Α	<2	2.2	Υ	Absent	EPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- 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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708593

 Project Number:
 140143.0000.4903
 Report Date:
 03/29/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc.
Facility: Company-wide
Department: Quality Assurance

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873** Revision 10

Published Date: 1/16/2017 11:00:05 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form



ANALYTICAL REPORT

Lab Number: L1708787

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 03/30/17

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

 Lab Number:
 L1708787

 Report Date:
 03/30/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1708787-01	MW-417	WATER	WEYMOUTH, MA	03/23/17 10:40	03/23/17
L1708787-02	DUP-2	WATER	WEYMOUTH, MA	03/23/17 00:00	03/23/17
L1708787-03	MW-404	WATER	WEYMOUTH, MA	03/23/17 11:00	03/23/17
L1708787-04	TRIP BLANK	WATER	WEYMOUTH, MA	03/23/17 11:25	03/23/17
L1708787-05	MW-405	WATER	WEYMOUTH, MA	03/23/17 12:05	03/23/17
L1708787-06	MW-416	WATER	WEYMOUTH, MA	03/23/17 12:20	03/23/17
L1708787-07	MW-415	WATER	WEYMOUTH, MA	03/23/17 12:40	03/23/17



Project Name: WEYMOUTH C/S Lab Number: L1708787

Project Number: 140143.0000.4903 Report Date: 03/30/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1708787Project Number:140143.0000.4903Report Date:03/30/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.	



Serial_No:03301712:33

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708787

 Project Number:
 140143.0000.4903
 Report Date:
 03/30/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1708787-01, -02, -03, -05, -06 and -07: One or more of the target analytes did not achieve the requested CAM reporting limits.

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:

Title: Technical Director/Representative Date: 03/30/17

Melissa Cripps Melissa Cripps

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1708787

Project Number: 140143.0000.4903 **Report Date:** 03/30/17

SAMPLE RESULTS

Lab ID: L1708787-01 Date Collected: 03/23/17 10:40

Client ID: MW-417 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/28/17 19:07

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	78		70-130	
2,5-Dibromotoluene-FID	79		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-01 Date Collected: 03/23/17 10:40

Client ID: MW-417 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

Analytical Date: 03/26/17 11:15 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: Date Collected: 03/23/17 10:40

Client ID: MW-417 Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	74		40-140	
o-Terphenyl	97		40-140	
2-Fluorobiphenyl	93		40-140	
2-Bromonaphthalene	93		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708787

Project Number: 140143.0000.4903 **Report Date:** 03/30/17

SAMPLE RESULTS

Lab ID: L1708787-02 Date Collected: 03/23/17 00:00

Client ID: DUP-2 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/28/17 19:47

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1
C9-C10 Aromatics	ND	ı	ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
Benzene	ND	ı	ug/l	2.00		1
Toluene	ND	ı	ug/l	2.00		1
Ethylbenzene	ND	ı	ug/l	2.00		1
p/m-Xylene	ND	ı	ug/l	2.00		1
o-Xylene	ND	ı	ug/l	2.00		1
Methyl tert butyl ether	ND	ı	ug/l	3.00		1
Naphthalene	ND	ı	ug/l	4.00		1

9	0/	0	Acceptance Criteria	
Surrogate	% Recovery	Qualifier	Orneria	
2,5-Dibromotoluene-PID	76		70-130	
2,5-Dibromotoluene-FID	78		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-02 Date Collected: 03/23/17 00:00

Client ID: DUP-2 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

Analytical Date: 03/26/17 11:46 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: Date Collected: 03/23/17 00:00

Client ID: DUP-2 Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	81		40-140	
o-Terphenyl	77		40-140	
2-Fluorobiphenyl	73		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-03 Date Collected: 03/23/17 11:00

Client ID: MW-404 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

03/28/17 20:27

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND		ug/l	50.0		1				
C9-C10 Aromatics	ND		ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1				
Benzene	ND		ug/l	2.00		1				
Toluene	ND		ug/l	2.00		1				
Ethylbenzene	ND		ug/l	2.00		1				
p/m-Xylene	ND		ug/l	2.00		1				
o-Xylene	ND		ug/l	2.00		1				
Methyl tert butyl ether	ND		ug/l	3.00		1				
Naphthalene	ND		ug/l	4.00		1				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	71		70-130	
2,5-Dibromotoluene-FID	73		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-03 Date Collected: 03/23/17 11:00

Client ID: MW-404 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

Analytical Date: 03/26/17 12:18 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbor	ns - Westborough La	ab				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	223		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-03 Date Collected: 03/23/17 11:00

Client ID: MW-404 Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	80		40-140	
o-Terphenyl	86		40-140	
2-Fluorobiphenyl	85		40-140	
2-Bromonaphthalene	85		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1708787

Project Number: 140143.0000.4903 **Report Date:** 03/30/17

SAMPLE RESULTS

Lab ID: L1708787-04 Date Collected: 03/23/17 11:25

Client ID: TRIP BLANK Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/28/17 14:28

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	88		70-130	
2,5-Dibromotoluene-FID	90		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-05 Date Collected: 03/23/17 12:05

Client ID: MW-405 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Quality Control Information

03/28/17 21:07

JM

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND		ug/l	50.0		1				
C9-C10 Aromatics	ND		ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1				
Benzene	ND		ug/l	2.00		1				
Toluene	ND		ug/l	2.00		1				
Ethylbenzene	ND		ug/l	2.00		1				
p/m-Xylene	ND		ug/l	2.00		1				
o-Xylene	ND		ug/l	2.00		1				
Methyl tert butyl ether	ND		ug/l	3.00		1				
Naphthalene	ND		ug/l	4.00		1				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	73		70-130	
2,5-Dibromotoluene-FID	76		70-130	



Analytical Date:

Analyst:

Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-05 Date Collected: 03/23/17 12:05

Client ID: MW-405 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

 Analytical Date:
 03/26/17 12:49
 Cleanup Method1:
 EPH-04-1

 Analyst:
 SR
 Cleanup Date1:
 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: Date Collected: 03/23/17 12:05

Client ID: MW-405 Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Tional Top. The office of the common state of

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance					
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	81		40-140				
o-Terphenyl	90		40-140				
2-Fluorobiphenyl	83		40-140				
2-Bromonaphthalene	84		40-140				



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-06 Date Collected: 03/23/17 12:20

Client ID: MW-416 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 03/28/17 21:46

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	71		70-130	
2,5-Dibromotoluene-FID	74		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-06 Date Collected: 03/23/17 12:20

Client ID: MW-416 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

Analytical Date: 03/26/17 13:21 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-06 Date Collected: 03/23/17 12:20

Client ID: MW-416 Date Received: 03/23/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	82		40-140	
2-Fluorobiphenyl	76		40-140	
2-Bromonaphthalene	79		40-140	



Project Name: Lab Number: WEYMOUTH C/S L1708787

Project Number: 140143.0000.4903 **Report Date:** 03/30/17

SAMPLE RESULTS

Lab ID: Date Collected: 03/23/17 12:40 L1708787-07

Client ID: Date Received: MW-415 03/23/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water Analytical Method: 100, VPH-04-1.1

03/29/17 14:34 Analyst: KD

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	100		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-07 Date Collected: 03/23/17 12:40

Client ID: MW-415 Date Received: 03/23/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 03/24/17 16:37

 Analytical Date:
 03/26/17 13:52
 Cleanup Method1:
 EPH-04-1

 Analyst:
 SR
 Cleanup Date1:
 03/25/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	ND	u	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1708787

SAMPLE RESULTS

Lab ID: L1708787-07 Date Collected: 03/23/17 12:40

Client ID: MW-415 Date Received: 03/23/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	70		40-140	
o-Terphenyl	86		40-140	
2-Fluorobiphenyl	79		40-140	
2-Bromonaphthalene	79		40-140	



L1708787

Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Report Date: 03/30/17

Lab Number:

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 03/26/17 09:41

Analyst: SR Extraction Method: EPA 3510C Extraction Date: 03/24/17 16:37 EPH-04-1 Cleanup Method:

Cleanup Date: 03/25/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocar WG988112-1	bons - Westbo	rough Lab f	or sample(s):	01-03,05-07	Batch:
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	



Project Name: WEYMOUTH C/S Lab Number: L1708787

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Extraction Method: EPA 3510C
Analytical Date: 03/26/17 09:41 Extraction Date: 03/24/17 16:37

Analyst: SR Cleanup Method: EPH-04-1 Cleanup Date: 03/25/17

Parameter Result Qualifier Units RL MDL

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03,05-07 Batch: WG988112-1

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
Chloro-Octadecane	78		40-140	
o-Terphenyl	71		40-140	
2-Fluorobiphenyl	71		40-140	
2-Bromonaphthalene	72		40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708787

 Project Number:
 140143.0000.4903
 Report Date:
 03/30/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/28/17 09:45

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	sample(s):	01-06	Batch:	WG989170-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	88		70-130	
2,5-Dibromotoluene-FID	90		70-130	



L1708787

Project Name: Lab Number: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Report Date: 03/30/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 03/29/17 11:30

Analyst: JM

Parameter	Result	Qualifier	Units		RL	MDL	
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	sample(s):	07	Batch:	WG989543-3	
C5-C8 Aliphatics	ND		ug/l	5	50.0		
C9-C12 Aliphatics	ND		ug/l	5	50.0		
C9-C10 Aromatics	ND		ug/l	5	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	5	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	5	50.0		
Benzene	ND		ug/l	2	2.00		
Toluene	ND		ug/l	2	2.00		
Ethylbenzene	ND		ug/l	2	2.00		
p/m-Xylene	ND		ug/l	2	2.00		
o-Xylene	ND		ug/l	2	2.00		
Methyl tert butyl ether	ND		ug/l	3	3.00		
Naphthalene	ND		ug/l	4	1.00		

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	90		70-130	
2,5-Dibromotoluene-FID	89		70-130	



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708787

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westl	oorough Lab As	sociated sampl	e(s): 01-03,05-07	Batch:	WG988112-2	WG988112-3	
C9-C18 Aliphatics	84		85		40-140	1	25
C19-C36 Aliphatics	106		106		40-140	0	25
C11-C22 Aromatics	89		99		40-140	11	25
Naphthalene	67		79		40-140	16	25
2-Methylnaphthalene	71		83		40-140	16	25
Acenaphthylene	76		88		40-140	15	25
Acenaphthene	79		90		40-140	13	25
Fluorene	82		94		40-140	14	25
Phenanthrene	86		98		40-140	13	25
Anthracene	86		98		40-140	13	25
Fluoranthene	89		101		40-140	13	25
Pyrene	89		104		40-140	16	25
Benzo(a)anthracene	87		100		40-140	14	25
Chrysene	92		105		40-140	13	25
Benzo(b)fluoranthene	89		100		40-140	12	25
Benzo(k)fluoranthene	90		102		40-140	13	25
Benzo(a)pyrene	81		93		40-140	14	25
Indeno(1,2,3-cd)Pyrene	83		93		40-140	11	25
Dibenzo(a,h)anthracene	89		101		40-140	13	25
Benzo(ghi)perylene	80		90		40-140	12	25
Nonane (C9)	59		63		30-140	7	25



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1708787

'arameter	LCS %Recovery	Qual %I	LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s)	: 01-03,05-07	Batch:	WG988112-2	WG988112-3		
Decane (C10)	71		74		40-140	4		25
Dodecane (C12)	80		83		40-140	4		25
Tetradecane (C14)	88		90		40-140	2		25
Hexadecane (C16)	92		95		40-140	3		25
Octadecane (C18)	98		101		40-140	3		25
Nonadecane (C19)	98		101		40-140	3		25
Eicosane (C20)	99		103		40-140	4		25
Docosane (C22)	100		104		40-140	4		25
Tetracosane (C24)	99		104		40-140	5		25
Hexacosane (C26)	99		103		40-140	4		25
Octacosane (C28)	99		104		40-140	5		25
Triacontane (C30)	99		104		40-140	5		25
Hexatriacontane (C36)	98		106		40-140	8		25

LCS		LCSD		Acceptance	
%Recovery	Qual	%Recovery	Qual	Criteria	
85		89		40-140	
83		91		40-140	
75		83		40-140	
78		86		40-140	
0		0			
0		0			
	%Recovery 85 83 75 78 0	%Recovery Qual 85 83 75 78 0	%Recovery Qual %Recovery 85 89 83 91 75 83 78 86 0 0	%Recovery Qual %Recovery Qual 85 89 83 91 75 83 78 86 0 0	%Recovery Qual %Recovery Qual Criteria 85 89 40-140 83 91 40-140 75 83 40-140 78 86 40-140 0 0



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708787

arameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
olatile Petroleum Hydrocarbons - Westbo	rough Lab Assoc	iated sample(s):	01-06 Batch	n: WG989170-1 WG989170	-2	
C5-C8 Aliphatics	108		107	70-130	1	25
C9-C12 Aliphatics	104		103	70-130	1	25
C9-C10 Aromatics	101		101	70-130	0	25
Benzene	102		103	70-130	1	25
Toluene	103		103	70-130	0	25
Ethylbenzene	103		103	70-130	0	25
p/m-Xylene	101		101	70-130	0	25
o-Xylene	101		101	70-130	0	25
Methyl tert butyl ether	102		103	70-130	1	25
Naphthalene	97		97	70-130	1	25
1,2,4-Trimethylbenzene	101		101	70-130	0	25
Pentane	111		110	70-130	1	25
2-Methylpentane	109		108	70-130	1	25
2,2,4-Trimethylpentane	105		105	70-130	0	25
n-Nonane	105		104	30-130	1	25
n-Decane	105		103	70-130	2	25
n-Butylcyclohexane	104		102	70-130	2	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708787

Report Date:

03/30/17

	LCS		LCSD	%Recovery			RPD		
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-06 Batch: WG989170-1 WG989170-2

Surrogate	LCS %Recovery			Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	96		95		70-130	
2,5-Dibromotoluene-FID	98		97		70-130	



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1708787

Parameter	LCS %Recovery		SD overy Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	ated sample(s): 07	Batch: WG989543-	1 WG989543-2			
C5-C8 Aliphatics	105	1	05	70-130	0		25
C9-C12 Aliphatics	99	1	01	70-130	2		25
C9-C10 Aromatics	100	1	00	70-130	0		25
Benzene	103	1	02	70-130	1		25
Toluene	103	1	02	70-130	1		25
Ethylbenzene	102	1	00	70-130	2		25
p/m-Xylene	102	1	00	70-130	2		25
o-Xylene	100		99	70-130	2		25
Methyl tert butyl ether	91		92	70-130	0		25
Naphthalene	81		83	70-130	3		25
1,2,4-Trimethylbenzene	100	1	00	70-130	0		25
Pentane	101	1	01	70-130	0		25
2-Methylpentane	105	1	06	70-130	1		25
2,2,4-Trimethylpentane	107	1	08	70-130	1		25
n-Nonane	103	1	04	30-130	1		25
n-Decane	92		94	70-130	2		25
n-Butylcyclohexane	103	1	03	70-130	0		25



Project Name: WEYMOUTH C/S

Lab Number:

L1708787

Project Number: 140143.0000.4903

Report Date:

03/30/17

	LCS		LCSD	%Recovery			RPD		
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 07 Batch: WG989543-1 WG989543-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	82		86		70-130	
2,5-Dibromotoluene-FID	81		86		70-130	



Project Name:WEYMOUTH C/SLab Number: L1708787Project Number:140143.0000.4903Report Date: 03/30/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent B Absent

Container Information				Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1708787-01A	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-01B	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-01C	Vial HCl preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-01D	Amber 1000ml HCl preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-01E	Amber 1000ml HCI preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-02A	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-02B	Vial HCl preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-02C	Vial HCl preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-02D	Amber 1000ml HCI preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-02E	Amber 1000ml HCI preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-03A	Vial HCl preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-03B	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-03C	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-03D	Amber 1000ml HCl preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-03E	Amber 1000ml HCl preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-04A	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-04B	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-05A	Vial HCI preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)
L1708787-05B	Vial HCI preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)
L1708787-05C	Vial HCI preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)
L1708787-05D	Amber 1000ml HCl preserved	Α	<2	2.0	Υ	Absent	EPH-DELUX-10(14)
L1708787-05E	Amber 1000ml HCl preserved	Α	<2	2.0	Υ	Absent	EPH-DELUX-10(14)
L1708787-06A	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-06B	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-06C	Vial HCI preserved	В	N/A	2.1	Υ	Absent	VPH-DELUX-10(14)
L1708787-06D	Amber 1000ml HCl preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-06E	Amber 1000ml HCl preserved	В	<2	2.1	Υ	Absent	EPH-DELUX-10(14)
L1708787-07A	Vial HCI preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)



Project Name:WEYMOUTH C/SLab Number:L1708787Project Number:140143.0000.4903Report Date:03/30/17

Container Information							
Container ID	Container Type	Cooler pH		deg C Pres		Seal	Analysis(*)
L1708787-07B	Vial HCl preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)
L1708787-07C	Vial HCl preserved	Α	N/A	2.0	Υ	Absent	VPH-DELUX-10(14)
L1708787-07D	Amber 1000ml HCl preserved	Α	<2	2.0	Υ	Absent	EPH-DELUX-10(14)
I 1708787-07F	Amber 1000ml HCl preserved	Α	<2	2.0	Υ	Absent	FPH-DFI UX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708787

 Project Number:
 140143.0000.4903
 Report Date:
 03/30/17

GLOSSARY

Acronyms

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

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).

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.

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.

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

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.

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

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

Terms

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.

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708787

 Project Number:
 140143.0000.4903
 Report Date:
 03/30/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1708787

 Project Number:
 140143.0000.4903
 Report Date:
 03/30/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 10

Page 1 of 1

Published Date: 1/16/2017 11:00:05 AM

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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MA MCP or CT RCP? Samples submitted are subject to Alpha's Terms and Conditions. See reverse side.																					
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ANALYTICAL REPORT

Lab Number: L1718423

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 06/12/17

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), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718423 **Report Date:** 06/12/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1718423-01	MW-202	WATER	WEYMOUTH, MA	06/05/17 09:15	06/05/17
L1718423-02	MW-203	WATER	WEYMOUTH, MA	06/05/17 09:55	06/05/17
L1718423-03	MW-204	WATER	WEYMOUTH, MA	06/05/17 10:50	06/05/17
L1718423-04	MW-205	WATER	WEYMOUTH, MA	06/05/17 11:10	06/05/17
L1718423-05	MW-400	WATER	WEYMOUTH, MA	06/05/17 10:15	06/05/17
L1718423-06	MW-401	WATER	WEYMOUTH, MA	06/05/17 12:30	06/05/17
L1718423-07	MW-402	WATER	WEYMOUTH, MA	06/05/17 14:15	06/05/17
L1718423-08	MW-403	WATER	WEYMOUTH, MA	06/05/17 13:00	06/05/17
L1718423-09	DUP-1	WATER	WEYMOUTH, MA	06/05/17 00:00	06/05/17
L1718423-10	FIELD BLANK	WATER	WEYMOUTH, MA	06/05/17 13:30	06/05/17
L1718423-11	TRIP BLANK	WATER	WEYMOUTH, MA	06/05/17 00:00	06/05/17



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 Report Date: 06/12/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status									
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO							
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO							
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES							

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1718423Project Number:140143.0000.4903Report Date:06/12/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718423

 Project Number:
 140143.0000.4903
 Report Date:
 06/12/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1718423-01 through -09: One or more of the target analytes did not achieve the requested CAM reporting limits.

VPH

In reference to question H:

L1718423-01: The surrogate recoveries are above the acceptance criteria for 2,5-dibromotoluene-pid (144%) and 2,5-dibromotoluene-fid (142%). Since the sample was non-detect for all target analytes, re-analysis was not required.

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:

Title: Technical Director/Representative Date: 06/12/17

Melissa Cripps Melissa Cripps

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-01 Date Collected: 06/05/17 09:15

Client ID: MW-202 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 17:41

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	144	Q	70-130
2,5-Dibromotoluene-FID	142	Q	70-130



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-01 Date Collected: 06/05/17 09:15

Client ID: MW-202 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 19:19

Analytical Date: 06/10/17 18:13 Cleanup Method1: EPH-04-1

Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-01 Date Collected: 06/05/17 09:15

Client ID: MW-202 Date Received: 06/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	58		40-140				
o-Terphenyl	101		40-140				
2-Fluorobiphenyl	102		40-140				
2-Bromonaphthalene	104		40-140				



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-02 Date Collected: 06/05/17 09:55

Client ID: MW-203 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 18:20

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	123		70-130	
2,5-Dibromotoluene-FID	123		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-02 Date Collected: 06/05/17 09:55

Client ID: MW-203 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 19:19

Analytical Date: 06/10/17 18:55 Cleanup Method1: EPH-04-1

Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/05/17 09:55

Client ID: MW-203 Date Received: 06/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	69		40-140		
o-Terphenyl	114		40-140		
2-Fluorobiphenyl	113		40-140		
2-Bromonaphthalene	116		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-03 Date Collected: 06/05/17 10:50

Client ID: MW-204 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 06/08/17 18:59

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	126		70-130		
2,5-Dibromotoluene-FID	126		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-03 Date Collected: 06/05/17 10:50

Client ID: MW-204 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

Analytical Date: 06/10/17 19:37 Cleanup Method1: EPH-04-1

Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-03 Date Collected: 06/05/17 10:50

Client ID: MW-204 Date Received: 06/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	71		40-140	
o-Terphenyl	106		40-140	
2-Fluorobiphenyl	109		40-140	
2-Bromonaphthalene	111		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-04 Date Collected: 06/05/17 11:10

Client ID: MW-205 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 19:38

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1
C9-C10 Aromatics	ND	ı	ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
Benzene	ND	ı	ug/l	2.00		1
Toluene	ND	ı	ug/l	2.00		1
Ethylbenzene	ND	ı	ug/l	2.00		1
p/m-Xylene	ND	ı	ug/l	2.00		1
o-Xylene	ND	ı	ug/l	2.00		1
Methyl tert butyl ether	ND	ı	ug/l	3.00		1
Naphthalene	ND	ı	ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	108		70-130		
2,5-Dibromotoluene-FID	106		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-04 Date Collected: 06/05/17 11:10

Client ID: MW-205 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

 Analytical Date:
 06/12/17 12:59
 Cleanup Method1:
 EPH-04-1

 Analyst:
 DG
 Cleanup Date1:
 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	ND	u	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-04 Date Collected: 06/05/17 11:10

Client ID: MW-205 Date Received: 06/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	49		40-140	
o-Terphenyl	63		40-140	
2-Fluorobiphenyl	69		40-140	
2-Bromonaphthalene	70		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-05 Date Collected: 06/05/17 10:15

Client ID: MW-400 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 06/08/17 20:17

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	113		70-130	
2,5-Dibromotoluene-FID	111		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-05 Date Collected: 06/05/17 10:15

Client ID: MW-400 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46
Analytical Date: 06/10/17 21:01 Cleanup Method1: EPH-04-1

Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-05 Date Collected: 06/05/17 10:15

Client ID: MW-400 Date Received: 06/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	73		40-140		
o-Terphenyl	105		40-140		
2-Fluorobiphenyl	109		40-140		
2-Bromonaphthalene	112		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-06 Date Collected: 06/05/17 12:30

Client ID: MW-401 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 20:55

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	111		70-130			
2,5-Dibromotoluene-FID	110		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-06 Date Collected: 06/05/17 12:30

Client ID: MW-401 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

Analytical Date: 06/10/17 21:43 Cleanup Method1: EPH-04-1

Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough La	ab			
C9-C18 Aliphatics	ND	u	g/l 100		1
C19-C36 Aliphatics	ND	u	g/l 100		1
C11-C22 Aromatics	ND	u	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1
Naphthalene	ND	u	g/l 10.0		1
2-Methylnaphthalene	ND	u	g/l 10.0		1
Acenaphthylene	ND	u	g/l 10.0		1
Acenaphthene	ND	u	g/l 10.0		1
Fluorene	ND	u	g/l 10.0		1
Phenanthrene	ND	u	g/l 10.0		1
Anthracene	ND	u	g/l 10.0		1
Fluoranthene	ND	u	g/l 10.0		1
Pyrene	ND	u	g/l 10.0		1
Benzo(a)anthracene	ND	u	g/l 10.0		1
Chrysene	ND	u	g/l 10.0		1
Benzo(b)fluoranthene	ND	u	g/l 10.0		1
Benzo(k)fluoranthene	ND	u	g/l 10.0		1
Benzo(a)pyrene	ND	u	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1
Benzo(ghi)perylene	ND	u	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-06 Date Collected: 06/05/17 12:30

Client ID: MW-401 Date Received: 06/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	71		40-140		
o-Terphenyl	118		40-140		
2-Fluorobiphenyl	119		40-140		
2-Bromonaphthalene	120		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-07 Date Collected: 06/05/17 14:15

Client ID: MW-402 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 21:34

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1
C9-C10 Aromatics	ND	ı	ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1
Benzene	ND	ı	ug/l	2.00		1
Toluene	ND	ı	ug/l	2.00		1
Ethylbenzene	ND	ı	ug/l	2.00		1
p/m-Xylene	ND	ı	ug/l	2.00		1
o-Xylene	ND	ı	ug/l	2.00		1
Methyl tert butyl ether	ND	ı	ug/l	3.00		1
Naphthalene	ND	ı	ug/l	4.00		1

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
2,5-Dibromotoluene-PID	112		70-130			
2,5-Dibromotoluene-FID	111		70-130			



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-07 Date Collected: 06/05/17 14:15

Client ID: MW-402 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

Analytical Date: 06/10/17 22:25 Cleanup Method1: EPH-04-1
Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-07 Date Collected: 06/05/17 14:15

Client ID: MW-402 Date Received: 06/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	73		40-140		
o-Terphenyl	108		40-140		
2-Fluorobiphenyl	108		40-140		
2-Bromonaphthalene	110		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-08 Date Collected: 06/05/17 13:00

Client ID: MW-403 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 22:13

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	111		70-130	
2,5-Dibromotoluene-FID	109		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-08 Date Collected: 06/05/17 13:00

Client ID: MW-403 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54
Analytical Date: 06/09/17 23:11 Cleanup Method1: EPH-04-1

Analyst: EK Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-08 Date Collected: 06/05/17 13:00

Client ID: MW-403 Date Received: 06/05/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
Chloro-Octadecane	59		40-140			
o-Terphenyl	93		40-140			
2-Fluorobiphenyl	86		40-140			
2-Bromonaphthalene	85		40-140			



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-09 Date Collected: 06/05/17 00:00

Client ID: DuP-1 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/08/17 22:52

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Petroleum Hydrocarbons - Westborough Lab							
C5-C8 Aliphatics	ND		ug/l	50.0		1	
C9-C12 Aliphatics	ND		ug/l	50.0		1	
C9-C10 Aromatics	ND		ug/l	50.0		1	
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1	
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1	
Benzene	ND		ug/l	2.00		1	
Toluene	ND		ug/l	2.00		1	
Ethylbenzene	ND		ug/l	2.00		1	
p/m-Xylene	ND		ug/l	2.00		1	
o-Xylene	ND		ug/l	2.00		1	
Methyl tert butyl ether	ND		ug/l	3.00		1	
Naphthalene	ND		ug/l	4.00		1	

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	99		70-130		
2,5-Dibromotoluene-FID	98		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-09 Date Collected: 06/05/17 00:00

Client ID: DuP-1 Date Received: 06/05/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/06/17 20:46

Analytical Date: 06/10/17 23:07 Cleanup Method1: EPH-04-1
Analyst: DG Cleanup Date1: 06/07/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab							
C9-C18 Aliphatics	ND	ug/l	100		1		
C19-C36 Aliphatics	ND	ug/l	100		1		
C11-C22 Aromatics	ND	ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND	ug/l	100		1		
Naphthalene	ND	ug/l	10.0		1		
2-Methylnaphthalene	ND	ug/l	10.0		1		
Acenaphthylene	ND	ug/l	10.0		1		
Acenaphthene	ND	ug/l	10.0		1		
Fluorene	ND	ug/l	10.0		1		
Phenanthrene	ND	ug/l	10.0		1		
Anthracene	ND	ug/l	10.0		1		
Fluoranthene	ND	ug/l	10.0		1		
Pyrene	ND	ug/l	10.0		1		
Benzo(a)anthracene	ND	ug/l	10.0		1		
Chrysene	ND	ug/l	10.0		1		
Benzo(b)fluoranthene	ND	ug/l	10.0		1		
Benzo(k)fluoranthene	ND	ug/l	10.0		1		
Benzo(a)pyrene	ND	ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND	ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND	ug/l	10.0		1		
Benzo(ghi)perylene	ND	ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-09

Client ID: DUP-1

Sample Location: WEYMOUTH, MA

Date Collected: 06/05/17 00:00

Date Received: 06/05/17

Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	88		40-140		
o-Terphenyl	128		40-140		
2-Fluorobiphenyl	125		40-140		
2-Bromonaphthalene	127		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718423

Project Number: 140143.0000.4903 **Report Date:** 06/12/17

SAMPLE RESULTS

Lab ID: L1718423-11 Date Collected: 06/05/17 00:00

Client ID: TRIP BLANK Date Received: 06/05/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/08/17 15:05

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Petroleum Hydrocarbons - Westborough Lab							
C5-C8 Aliphatics	ND		ug/l	50.0		1	
C9-C12 Aliphatics	ND		ug/l	50.0		1	
C9-C10 Aromatics	ND		ug/l	50.0		1	
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1	
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1	
Benzene	ND		ug/l	2.00		1	
Toluene	ND		ug/l	2.00		1	
Ethylbenzene	ND		ug/l	2.00		1	
p/m-Xylene	ND		ug/l	2.00		1	
o-Xylene	ND		ug/l	2.00		1	
Methyl tert butyl ether	ND		ug/l	3.00		1	
Naphthalene	ND		ug/l	4.00		1	

Surrogate	% Recovery	Qualifier		
2,5-Dibromotoluene-PID	99		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1718423

Report Date: 06/12/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

06/09/17 05:32

SR

Indeno(1,2,3-cd)Pyrene

Dibenzo(a,h)anthracene

Benzo(ghi)perylene

Extraction Method: EPA 3510C 06/06/17 19:19 **Extraction Date:** Cleanup Method: EPH-04-1 06/07/17 Cleanup Date:

Qualifier RL MDL Result **Units Parameter** Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-07,09 Batch: WG1010462-1 C9-C18 Aliphatics ND 100 ug/l --C19-C36 Aliphatics ND ug/l 100 C11-C22 Aromatics ND 100 ug/l --C11-C22 Aromatics, Adjusted ND ug/l 100 --Naphthalene ND ug/l 10.0 --ND 2-Methylnaphthalene ug/l 10.0 --Acenaphthylene ND ug/l 10.0 --Acenaphthene ND ug/l 10.0 --Fluorene ND ug/l 10.0 Phenanthrene ND ug/l 10.0 --Anthracene ND 10.0 ug/l --Fluoranthene ND 10.0 ug/l Pyrene ND 10.0 ug/l --Benzo(a)anthracene ND ug/l 10.0 Chrysene ND ug/l 10.0 --Benzo(b)fluoranthene ND ug/l 10.0 Benzo(k)fluoranthene ND ug/l 10.0 --Benzo(a)pyrene ND 10.0 ug/l

ug/l

ug/l

ug/l

10.0

10.0

10.0

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ND

ND

ND



Project Name: WEYMOUTH C/S Lab Number: L1718423

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Analytical Date: 06/09/17 05:32

Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 06/06/17 19:19
Cleanup Method: EPH-04-1

Cleanup Method: EPH-04-1 Cleanup Date: 06/07/17

ParameterResultQualifierUnitsRLMDLExtractable Petroleum Hydrocarbons - Westborough Lab for sample(s):01-07,09Batch:WG1010462-1

Acceptance %Recovery Qualifier Criteria **Surrogate** Chloro-Octadecane 40-140 50 o-Terphenyl 95 40-140 2-Fluorobiphenyl 101 40-140 40-140 2-Bromonaphthalene 105



L1718423

Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903 Report Date:

06/12/17

Lab Number:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

06/09/17 00:17

SR

Extraction Method: EPA 3510C 06/07/17 23:54 Extraction Date: EPH-04-1 Cleanup Method: Cleanup Date: 06/08/17

arameter	Result	Qualifier	Units	RL		MDL
xtractable Petroleum Hydroca	rbons - Westbor	ough Lab t	for sample(s):	80	Batch:	WG1010927-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

	Acceptan				
Surrogate	%Recovery Qualifi	er Criteria			
Chloro-Octadecane	58	40-140			
o-Terphenyl	85	40-140			
2-Fluorobiphenyl	81	40-140			
2-Bromonaphthalene	81	40-140			



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718423

 Project Number:
 140143.0000.4903
 Report Date:
 06/12/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/08/17 09:58

Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	sample(s):	01-09,11	Batch: WG1011156-3
C5-C8 Aliphatics	ND		ug/l	50.0	
C9-C12 Aliphatics	ND		ug/l	50.0	
C9-C10 Aromatics	ND		ug/l	50.0	
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	
Benzene	ND		ug/l	2.00	
Toluene	ND		ug/l	2.00	
Ethylbenzene	ND		ug/l	2.00	
p/m-Xylene	ND		ug/l	2.00	
o-Xylene	ND		ug/l	2.00	
Methyl tert butyl ether	ND		ug/l	3.00	
Naphthalene	ND		ug/l	4.00	
Naphthalene	ND		ug/l	4.00	

	Acceptance					
Surrogate	%Recovery Qualifie	r Criteria	_			
			_			
2,5-Dibromotoluene-PID	102	70-130				
2,5-Dibromotoluene-FID	100	70-130				



Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1718423

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Recove Qual Limits	ry RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated samp	le(s): 01-07,09	Batch: WG1010462-2	2 WG1010462-3	
C9-C18 Aliphatics	61		63	40-140	3	25
C19-C36 Aliphatics	84		85	40-140	1	25
C11-C22 Aromatics	88		107	40-140	19	25
Naphthalene	72		91	40-140	23	25
2-Methylnaphthalene	76		93	40-140	20	25
Acenaphthylene	80		97	40-140	19	25
Acenaphthene	81		98	40-140	19	25
Fluorene	90		109	40-140	19	25
Phenanthrene	91		110	40-140	19	25
Anthracene	84		100	40-140	17	25
Fluoranthene	84		101	40-140	18	25
Pyrene	86		103	40-140	18	25
Benzo(a)anthracene	84		101	40-140	18	25
Chrysene	86		103	40-140	18	25
Benzo(b)fluoranthene	84		102	40-140	19	25
Benzo(k)fluoranthene	83		100	40-140	19	25
Benzo(a)pyrene	80		96	40-140	18	25
Indeno(1,2,3-cd)Pyrene	77		93	40-140	19	25
Dibenzo(a,h)anthracene	82		99	40-140	19	25
Benzo(ghi)perylene	76		93	40-140	20	25
Nonane (C9)	53		55	30-140	4	25
Decane (C10)	62		64	40-140	3	25
Dodecane (C12)	68		71	40-140	4	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718423

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sampl	e(s): 01-07,09	Batch:	WG1010462-2	WG1010462-3		
Tetradecane (C14)	74		77		40-140	4		25
Hexadecane (C16)	78		81		40-140	4		25
Octadecane (C18)	80		82		40-140	2		25
Nonadecane (C19)	80		83		40-140	4		25
Eicosane (C20)	81		83		40-140	2		25
Docosane (C22)	81		83		40-140	2		25
Tetracosane (C24)	81		82		40-140	1		25
Hexacosane (C26)	81		82		40-140	1		25
Octacosane (C28)	80		82		40-140	2		25
Triacontane (C30)	79		81		40-140	3		25
Hexatriacontane (C36)	78		80		40-140	3		25

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
- Carrogate		70Necovery Quar	
Chloro-Octadecane	45	43	40-140
o-Terphenyl	80	95	40-140
2-Fluorobiphenyl	85	101	40-140
2-Bromonaphthalene	88	104	40-140
% Naphthalene Breakthrough	0	0	
% 2-Methylnaphthalene Breakthrough	0	0	

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1718423

Parameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westb	oorough Lab As	sociated sample(s): 08 Batch	: WG1010927-2 WG10109	927-3	
C9-C18 Aliphatics	52	57	40-140	9	25
C19-C36 Aliphatics	80	82	40-140	2	25
C11-C22 Aromatics	82	84	40-140	2	25
Naphthalene	53	58	40-140	9	25
2-Methylnaphthalene	57	62	40-140	8	25
Acenaphthylene	65	69	40-140	6	25
Acenaphthene	64	68	40-140	6	25
Fluorene	70	75	40-140	7	25
Phenanthrene	77	82	40-140	6	25
Anthracene	79	84	40-140	6	25
Fluoranthene	85	89	40-140	5	25
Pyrene	86	91	40-140	6	25
Benzo(a)anthracene	88	93	40-140	6	25
Chrysene	89	94	40-140	5	25
Benzo(b)fluoranthene	89	94	40-140	5	25
Benzo(k)fluoranthene	87	93	40-140	7	25
Benzo(a)pyrene	85	90	40-140	6	25
Indeno(1,2,3-cd)Pyrene	87	92	40-140	6	25
Dibenzo(a,h)anthracene	87	92	40-140	6	25
Benzo(ghi)perylene	85	90	40-140	6	25
Nonane (C9)	32	39	30-140	20	25
Decane (C10)	40	47	40-140	16	25
Dodecane (C12)	48	53	40-140	10	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718423

arameter	LCS %Recovery G	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
xtractable Petroleum Hydrocarbor	ns - Westborough Lab Associa	ated sample(s): 08 Ba	tch: WG1010927-2 WG1010	927-3		
Tetradecane (C14)	53	57	40-140	7		25
Hexadecane (C16)	61	65	40-140	6		25
Octadecane (C18)	70	74	40-140	6		25
Nonadecane (C19)	73	76	40-140	4		25
Eicosane (C20)	76	79	40-140	4		25
Docosane (C22)	77	81	40-140	5		25
Tetracosane (C24)	77	81	40-140	5		25
Hexacosane (C26)	77	81	40-140	5		25
Octacosane (C28)	77	81	40-140	5		25
Triacontane (C30)	77	80	40-140	4		25
Hexatriacontane (C36)	77	80	40-140	4		25

	LCS	LCSD	Acceptance Criteria
Surrogate	%Recovery Qual	%Recovery Qι	ial Criteria
Chloro-Octadecane	62	63	40-140
o-Terphenyl	89	93	40-140
2-Fluorobiphenyl	81	80	40-140
2-Bromonaphthalene	82	81	40-140
% Naphthalene Breakthrough	0	0	
% 2-Methylnaphthalene Breakthrough	0	0	

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1718423

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Rec Qual Lim		RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westbord	ough Lab Associ	ated sample(s)	: 01-09,11 B	atch: WG1011156-	1 WG1011	156-2		
C5-C8 Aliphatics	98		100	70-1	30	2		25
C9-C12 Aliphatics	105		108	70-1	30	3		25
C9-C10 Aromatics	107		111	70-1	30	4		25
Benzene	100		102	70-1	30	2		25
Toluene	101		104	70-1	30	3		25
Ethylbenzene	104		107	70-1	30	3		25
p/m-Xylene	105		107	70-1	30	2		25
o-Xylene	103		105	70-1	30	2		25
Methyl tert butyl ether	97		102	70-1	30	5		25
Naphthalene	105		111	70-1	30	6		25
1,2,4-Trimethylbenzene	107		110	70-1	30	3		25
Pentane	96		98	70-1	30	2		25
2-Methylpentane	99		100	70-1	30	1		25
2,2,4-Trimethylpentane	101		103	70-1	30	2		25
n-Nonane	105		107	30-1	30	2		25
n-Decane	106		108	70-1	30	2		25
n-Butylcyclohexane	105		108	70-1	30	3		25

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103	106	70-130
2,5-Dibromotoluene-FID	104	104	70-130



Serial_No:06121717:43

Lab Number: L1718423

Report Date: 06/12/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

WEYMOUTH C/S

Cooler Information

Project Name:

Cooler Custody Seal

Project Number: 140143.0000.4903

A Absent
B Absent

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1718423-01A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-01B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-01C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-01D	Amber 1000ml HCI preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-01E	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-02A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-02B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-02C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-02D	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-02E	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-03A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-03B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-03C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-03D	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-03E	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-04A	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-04B	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-04C	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-04D	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-04E	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-05A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-05B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)



Serial_No:06121717:43

Lab Number: L1718423

Report Date: 06/12/17

Project Name:WEYMOUTH C/SProject Number:140143.0000.4903

Container Info	rmation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	•	Pres	Seal	Date/Time	Analysis(*)
L1718423-05C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-05D	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-05E	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-06A	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-06B	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-06C	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-06D	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-06E	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-07A	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-07B	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-07C	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-07D	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-07E	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-08A	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-08B	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-08C	Vial HCl preserved	Α	N/A	N/A	3.3	Υ	Absent		VPH-DELUX-10(14)
L1718423-08D	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-08E	Amber 1000ml HCl preserved	Α	<2	<2	3.3	Υ	Absent		EPH-DELUX-10(14)
L1718423-09A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-09B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-09C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)
L1718423-09D	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-09E	Amber 1000ml HCl preserved	В	<2	<2	4.7	Υ	Absent		EPH-DELUX-10(14)
L1718423-10A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		HOLD-VPH(14)
L1718423-10B	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		HOLD-VPH(14)
L1718423-10C	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		HOLD-VPH(14)
L1718423-11A	Vial HCl preserved	В	N/A	N/A	4.7	Υ	Absent		VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718423

 Project Number:
 140143.0000.4903
 Report Date:
 06/12/17

GLOSSARY

Acronyms

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).

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.

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.

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

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.

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

- 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.

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.

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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718423

 Project Number:
 140143.0000.4903
 Report Date:
 06/12/17

Data Qualifiers

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).

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:06121717:43

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718423

 Project Number:
 140143.0000.4903
 Report Date:
 06/12/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:06121717:43

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 10

Published Date: 1/16/2017 11:00:05 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility SM 2540D: TSS

EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

Pre-Qualtrax Document ID: 08-113

	CHAIN OF	CUSTO	DY	PAGE \	OF	Date	e Rec'd	in Lab	6	15/1	7			ALI	PHA .	Job#	: 1.	1718423	
ALPH	A	Project Info	rmation		To Be with	Re	port li	nforn		n Data		ivera	bles				ation		
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							ADEx				Add'l D	elivera	bles					L103294	
	Mansfield, MA TEL: 508-822-9300	Project Name:	Weymouth (C/S		Re	gulato	ory R	equir	ement	s/Re	port	Limits	3					
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_Address: 2 Liberty	Square, 6th Floor	Project Manage	er: Rick Paqı	uette					⊠ No				77.7					ols) Required?	
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_Email: RNiles@TR	CSolutions.com																	Not Needed □ Lab to do	#
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-04	MW-205		1110	aw	AHC	X	K												
705	MW-400		1015	ğW	AHC	Y	Y												
-06	MW-401		1230	aw	AAC	X	X												
-07	MW-402		1415	aw	BA	X	X												
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18423-01	MW-ZOZ	G15	915	gW	AHC	X	×.											
-02	MW-203		755	ğW	BA	×	K											
-03	MW-204		1050	aM	BA	X	X											
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	or CT RCP?	Br	100/0	W.	A	6/6/	(1/2)	149	7	2 to	4	61		1-4	6/1	1/4	17/	start until any ambiguities are resolved. All samples subject to plants are subject to plants.



ANALYTICAL REPORT

Lab Number: L1718636

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 06/13/17

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), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636 **Report Date:** 06/13/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1718636-01	MW-206	WATER	WEYMOUTH, MA	06/06/17 09:55	06/06/17
L1718636-02	MW-404	WATER	WEYMOUTH, MA	06/06/17 09:55	06/06/17
L1718636-03	MW-405	WATER	WEYMOUTH, MA	06/06/17 10:50	06/06/17
L1718636-04	MW-408	WATER	WEYMOUTH, MA	06/06/17 12:45	06/06/17
L1718636-05	MW-409	WATER	WEYMOUTH, MA	06/06/17 11:20	06/06/17
L1718636-06	MW-412	WATER	WEYMOUTH, MA	06/06/17 13:55	06/06/17
L1718636-07	MW-413	WATER	WEYMOUTH, MA	06/06/17 13:15	06/06/17
L1718636-08	MW-415	WATER	WEYMOUTH, MA	06/06/17 12:10	06/06/17
L1718636-09	FIELD BLANK	WATER	WEYMOUTH, MA	06/06/17 13:40	06/06/17
L1718636-10	TRIP BLANK	WATER	WEYMOUTH, MA	06/06/17 00:00	06/06/17



Project Name:WEYMOUTH C/SLab Number:L1718636Project Number:140143.0000.4903Report Date:06/13/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A re	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718636

 Project Number:
 140143.0000.4903
 Report Date:
 06/13/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any guestions.



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718636

 Project Number:
 140143.0000.4903
 Report Date:
 06/13/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

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:

Title: Technical Director/Representative Date: 06/13/17

600, Shawow Kelly Stenstrom

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: Lab Number: WEYMOUTH C/S L1718636

Project Number: Report Date: 140143.0000.4903 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 09:55 L1718636-01

Client ID: Date Received: MW-206 06/06/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water Analytical Method: 100, VPH-04-1.1

Analytical Date: Analyst: JM

06/09/17 19:37

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-01 Date Collected: 06/06/17 09:55

Client ID: MW-206 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54
Analytical Date: 06/09/17 20:00 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 09:55

Client ID: MW-206 Date Received: 06/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specific

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	55		40-140	
o-Terphenyl	94		40-140	
2-Fluorobiphenyl	86		40-140	
2-Bromonaphthalene	87		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-02 Date Collected: 06/06/17 09:55

Client ID: MW-404 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/09/17 20:17

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-02 Date Collected: 06/06/17 09:55

Client ID: MW-404 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54

Analytical Date: 06/09/17 19:29 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 06/08/17

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Quality Control Information

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

 Lab ID:
 L1718636-02
 Date Collected:
 06/06/17 09:55

 Client ID:
 MW-404
 Date Received:
 06/06/17

Client ID: MW-404 Date Received: 06/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	51		40-140	
o-Terphenyl	86		40-140	
2-Fluorobiphenyl	75		40-140	
2-Bromonaphthalene	76		40-140	



Project Name: Lab Number: WEYMOUTH C/S L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 10:50 L1718636-03

Date Received: Client ID: MW-405 06/06/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water Analytical Method: 100, VPH-04-1.1

Analytical Date: Analyst: JM

06/09/17 20:57

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	97		70-130	
2,5-Dibromotoluene-FID	105		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-03 Date Collected: 06/06/17 10:50

Client ID: MW-405 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54
Analytical Date: 06/09/17 18:57 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	nits RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	u	g/l 100		1			
C19-C36 Aliphatics	ND	u	g/l 100		1			
C11-C22 Aromatics	ND	u	g/l 100		1			
C11-C22 Aromatics, Adjusted	ND	u	g/l 100		1			
Naphthalene	ND	u	g/l 10.0		1			
2-Methylnaphthalene	ND	u	g/l 10.0		1			
Acenaphthylene	ND	u	g/l 10.0		1			
Acenaphthene	ND	u	g/l 10.0		1			
Fluorene	ND	u	g/l 10.0		1			
Phenanthrene	ND	u	g/l 10.0		1			
Anthracene	ND	u	g/l 10.0		1			
Fluoranthene	ND	u	g/l 10.0		1			
Pyrene	ND	u	g/l 10.0		1			
Benzo(a)anthracene	ND	u	g/l 10.0		1			
Chrysene	ND	u	g/l 10.0		1			
Benzo(b)fluoranthene	ND	u	g/l 10.0		1			
Benzo(k)fluoranthene	ND	u	g/l 10.0		1			
Benzo(a)pyrene	ND	u	g/l 10.0		1			
Indeno(1,2,3-cd)Pyrene	ND	u	g/l 10.0		1			
Dibenzo(a,h)anthracene	ND	u	g/l 10.0		1			
Benzo(ghi)perylene	ND	u	g/l 10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-03 Date Collected: 06/06/17 10:50

Client ID: MW-405 Date Received: 06/06/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	56		40-140	
o-Terphenyl	82		40-140	
2-Fluorobiphenyl	75		40-140	
2-Bromonaphthalene	75		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-04 Date Collected: 06/06/17 12:45

Client ID: MW-408 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/09/17 21:38

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	95		70-130		
2,5-Dibromotoluene-FID	102		70-130		



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-04 Date Collected: 06/06/17 12:45

Client ID: MW-408 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/12/17 17:04

Analytical Date: 06/13/17 14:25 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 06/13/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 12:45

Client ID: MW-408 Date Received: 06/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	51		40-140	
o-Terphenyl	74		40-140	
2-Fluorobiphenyl	73		40-140	
2-Bromonaphthalene	73		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-05 Date Collected: 06/06/17 11:20

Client ID: MW-409 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1
Analytical Date: 06/09/17 22:18

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1				
C9-C10 Aromatics	ND	ı	ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1				
Benzene	ND	ı	ug/l	2.00		1				
Toluene	ND	ı	ug/l	2.00		1				
Ethylbenzene	ND	ı	ug/l	2.00		1				
p/m-Xylene	ND	ı	ug/l	2.00		1				
o-Xylene	ND	ı	ug/l	2.00		1				
Methyl tert butyl ether	ND	ı	ug/l	3.00		1				
Naphthalene	ND	ı	ug/l	4.00		1				

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	99		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 11:20

Client ID: MW-409 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54

Analytical Date: 06/11/17 18:13 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-05 Date Collected: 06/06/17 11:20

Client ID: MW-409 Date Received: 06/06/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	53		40-140		
o-Terphenyl	85		40-140		
2-Fluorobiphenyl	77		40-140		
2-Bromonaphthalene	81		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-06 Date Collected: 06/06/17 13:55

Client ID: MW-412 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/09/17 22:58

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	50.0		1				
C9-C12 Aliphatics	ND		ug/l	50.0		1				
C9-C10 Aromatics	ND		ug/l	50.0		1				
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1				
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1				
Benzene	ND		ug/l	2.00		1				
Toluene	ND		ug/l	2.00		1				
Ethylbenzene	ND		ug/l	2.00		1				
p/m-Xylene	ND		ug/l	2.00		1				
o-Xylene	ND		ug/l	2.00		1				
Methyl tert butyl ether	ND		ug/l	3.00		1				
Naphthalene	ND		ug/l	4.00		1				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-06 Date Collected: 06/06/17 13:55

Client ID: MW-412 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54

Analytical Date: 06/09/17 17:21 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbo	ons - Westborough Lal	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 13:55

Client ID: MW-412 Date Received: 06/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	41		40-140		
o-Terphenyl	78		40-140		
2-Fluorobiphenyl	76		40-140		
2-Bromonaphthalene	76		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-07 Date Collected: 06/06/17 13:15

Client ID: MW-413 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: JM

06/09/17 23:38

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	93		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

SAMPLE RESULTS

Lab ID: L1718636-07 Date Collected: 06/06/17 13:15

Client ID: MW-413 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54

Analytical Date: 06/09/17 16:49 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 13:15

Client ID: MW-413 Date Received: 06/06/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	45		40-140	
o-Terphenyl	67		40-140	
2-Fluorobiphenyl	67		40-140	
2-Bromonaphthalene	67		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: L1718636-08 Date Collected: 06/06/17 12:10

Client ID: MW-415 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1

Analytical Date: 06/10/17 00:18

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	95		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718636

SAMPLE RESULTS

Lab ID: L1718636-08 Date Collected: 06/06/17 12:10

Client ID: MW-415 Date Received: 06/06/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/07/17 23:54

 Analytical Date:
 06/09/17 16:17
 Cleanup Method1:
 EPH-04-1

 Analyst:
 NS
 Cleanup Date1:
 06/08/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 12:10

Client ID: MW-415 Date Received: 06/06/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

		Acceptance					
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	52		40-140				
o-Terphenyl	85		40-140				
2-Fluorobiphenyl	76		40-140				
2-Bromonaphthalene	75		40-140				



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 **Report Date:** 06/13/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/06/17 00:00

Client ID: TRIP BLANK Date Received: 06/06/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/09/17 16:16

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	98		70-130	
2,5-Dibromotoluene-FID	106		70-130	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903 Report Date:

06/13/17

L1718636

Lab Number:

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

06/09/17 00:17

SR

Extraction Method: EPA 3510C 06/07/17 23:54 Extraction Date: Cleanup Method: EPH-04-1

Cleanup Date: 06/08/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydroca WG1010927-1	rbons - Westbor	ough Lab t	or sample(s):	01-03,05-08	Batch:
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	



Project Name: WEYMOUTH C/S Lab Number: L1718636

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1 Extraction Method: EPA 3510C

Analytical Date: 06/09/17 00:17 Extraction Date: 06/07/17 23:54

Analyst: SR Cleanup Method: EPH-04-1 Cleanup Date: 06/08/17

Parameter Result Qualifier Units RL MDL

Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03,05-08 Batch: WG1010927-1

Acceptance %Recovery Qualifier Criteria **Surrogate** Chloro-Octadecane 40-140 58 85 o-Terphenyl 40-140 2-Fluorobiphenyl 81 40-140 40-140 2-Bromonaphthalene 81



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718636

 Project Number:
 140143.0000.4903
 Report Date:
 06/13/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/09/17 10:21

Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons	- Westboroug	h Lab for s	sample(s):	01-08,10	Batch: WG1011911-3
C5-C8 Aliphatics	ND		ug/l	50.0	
C9-C12 Aliphatics	ND		ug/l	50.0	
C9-C10 Aromatics	ND		ug/l	50.0	
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	
Benzene	ND		ug/l	2.00	
Toluene	ND		ug/l	2.00	
Ethylbenzene	ND		ug/l	2.00	
p/m-Xylene	ND		ug/l	2.00	
o-Xylene	ND		ug/l	2.00	
Methyl tert butyl ether	ND		ug/l	3.00	
Naphthalene	ND		ug/l	4.00	

	Acceptance				
Surrogate	%Recovery Qualifie	er Criteria			
2,5-Dibromotoluene-PID	97	70-130			
2,5-Dibromotoluene-FID	104	70-130			



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903 Lab Number: L1718636 Report Date: 06/13/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

SR

06/13/17 12:48

Extraction Method: EPA 3510C 06/12/17 17:04 Extraction Date: EPH-04-1 Cleanup Method: Cleanup Date: 06/13/17

arameter	Result	Qualifier	Units	RL		MDL
xtractable Petroleum Hydroca	rbons - Westbor	ough Lab t	for sample(s):	04	Batch:	WG1012320-1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

		Acceptance
Surrogate	%Recovery Qua	lifier Criteria
Chloro-Octadecane	53	40-140
o-Terphenyl	67	40-140
2-Fluorobiphenyl	62	40-140
2-Bromonaphthalene	61	40-140



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636

Report Date:

06/13/17

arameter	LCS %Recovery	Qual S	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
xtractable Petroleum Hydrocarbons - Wes	tborough Lab As	sociated sample	(s): 01-03,05-08	Batch:	WG1010927-2	WG1010927-	3
C9-C18 Aliphatics	52		57		40-140	9	25
C19-C36 Aliphatics	80		82		40-140	2	25
C11-C22 Aromatics	82		84		40-140	2	25
Naphthalene	53		58		40-140	9	25
2-Methylnaphthalene	57		62		40-140	8	25
Acenaphthylene	65		69		40-140	6	25
Acenaphthene	64		68		40-140	6	25
Fluorene	70		75		40-140	7	25
Phenanthrene	77		82		40-140	6	25
Anthracene	79		84		40-140	6	25
Fluoranthene	85		89		40-140	5	25
Pyrene	86		91		40-140	6	25
Benzo(a)anthracene	88		93		40-140	6	25
Chrysene	89		94		40-140	5	25
Benzo(b)fluoranthene	89		94		40-140	5	25
Benzo(k)fluoranthene	87		93		40-140	7	25
Benzo(a)pyrene	85		90		40-140	6	25
Indeno(1,2,3-cd)Pyrene	87		92		40-140	6	25
Dibenzo(a,h)anthracene	87		92		40-140	6	25
Benzo(ghi)perylene	85		90		40-140	6	25
Nonane (C9)	32		39		30-140	20	25
Decane (C10)	40		47		40-140	16	25
Dodecane (C12)	48		53		40-140	10	25



06/13/17

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Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636

Report Date:

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limit	
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample	e(s): 01-03,05-	·08 Batch:	WG1010927-2	WG1010927-3		
Tetradecane (C14)	53		57		40-140	7	25	
Hexadecane (C16)	61		65		40-140	6	25	
Octadecane (C18)	70		74		40-140	6	25	
Nonadecane (C19)	73		76		40-140	4	25	

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Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
Chloro-Octadecane	62	63	40-140
o-Terphenyl	89	93	40-140
2-Fluorobiphenyl	81	80	40-140
2-Bromonaphthalene	82	81	40-140
% Naphthalene Breakthrough	0	0	
% 2-Methylnaphthalene Breakthrough	0	0	

40-140

40-140

40-140

40-140

40-140

40-140

40-140

Eicosane (C20)

Docosane (C22)

Tetracosane (C24)

Hexacosane (C26)

Octacosane (C28)

Triacontane (C30)

Hexatriacontane (C36)

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636

Report Date: 06/13/17

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Petroleum Hydrocarbons - Westboro	ough Lab Assoc	ated sample(s)	: 01-08,10 B	Batch: WG1	1011911-1 WG10 ⁻	11911-2		
C5-C8 Aliphatics	102		107		70-130	5		25
C9-C12 Aliphatics	106		110		70-130	4		25
C9-C10 Aromatics	99		102		70-130	3		25
Benzene	97		103		70-130	6		25
Toluene	98		103		70-130	5		25
Ethylbenzene	99		104		70-130	5		25
p/m-Xylene	99		103		70-130	4		25
o-Xylene	98		103		70-130	5		25
Methyl tert butyl ether	92		102		70-130	10		25
Naphthalene	95		104		70-130	10		25
1,2,4-Trimethylbenzene	99		102		70-130	3		25
Pentane	102		108		70-130	6		25
2-Methylpentane	104		108		70-130	4		25
2,2,4-Trimethylpentane	101		105		70-130	4		25
n-Nonane	104		108		30-130	4		25
n-Decane	108		111		70-130	3		25
n-Butylcyclohexane	105		110		70-130	5		25

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Q	Acceptance Jual Criteria
2,5-Dibromotoluene-PID	91	97	70-130
2,5-Dibromotoluene-FID	97	103	70-130



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636

Report Date: 06/13/17

Parameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Extractable Petroleum Hydrocarbons - Westb	orough Lab As	sociated sample(s): 04 Batch	: WG1012320-2 WG10123	320-3	
C9-C18 Aliphatics	63	56	40-140	12	25
C19-C36 Aliphatics	76	73	40-140	4	25
C11-C22 Aromatics	81	80	40-140	1	25
Naphthalene	65	62	40-140	5	25
2-Methylnaphthalene	68	64	40-140	6	25
Acenaphthylene	74	71	40-140	4	25
Acenaphthene	72	70	40-140	3	25
Fluorene	76	74	40-140	3	25
Phenanthrene	78	78	40-140	0	25
Anthracene	80	79	40-140	1	25
Fluoranthene	82	82	40-140	0	25
Pyrene	83	83	40-140	0	25
Benzo(a)anthracene	83	83	40-140	0	25
Chrysene	83	84	40-140	1	25
Benzo(b)fluoranthene	84	84	40-140	0	25
Benzo(k)fluoranthene	82	82	40-140	0	25
Benzo(a)pyrene	81	81	40-140	0	25
Indeno(1,2,3-cd)Pyrene	82	81	40-140	1	25
Dibenzo(a,h)anthracene	78	79	40-140	1	25
Benzo(ghi)perylene	79	79	40-140	0	25
Nonane (C9)	45	39	30-140	14	25
Decane (C10)	53	47	40-140	12	25
Dodecane (C12)	63	56	40-140	12	25



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718636

Report Date: 06/13/17

Parameter	LCS %Recovery Q	LCSD Jual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits	
Extractable Petroleum Hydrocarbons -	Westborough Lab Associa	ated sample(s): 04 Bat	ch: WG1012320-2 WG1012	320-3		
Tetradecane (C14)	67	60	40-140	11	25	
Hexadecane (C16)	69	63	40-140	9	25	
Octadecane (C18)	73	67	40-140	9	25	
Nonadecane (C19)	73	68	40-140	7	25	
Eicosane (C20)	74	70	40-140	6	25	
Docosane (C22)	75	71	40-140	5	25	
Tetracosane (C24)	75	71	40-140	5	25	
Hexacosane (C26)	75	71	40-140	5	25	
Octacosane (C28)	75	71	40-140	5	25	
Triacontane (C30)	74	71	40-140	4	25	
Hexatriacontane (C36)	74	70	40-140	6	25	

Surrogata	LCS %Recoverv Qual	LCSD %Recoverv Qu	Acceptance aı Criteria
Surrogate	%Recovery Qual	%Recovery Qu	ai Oriteria
Chloro-Octadecane	53	50	40-140
o-Terphenyl	82	81	40-140
2-Fluorobiphenyl	77	80	40-140
2-Bromonaphthalene	78	80	40-140
% Naphthalene Breakthrough	0	0	
% 2-Methylnaphthalene Breakthrough	0	0	

 Project Name:
 WEYMOUTH C/S

 Project Number:
 140143.0000.4903

 Report Date:
 06/13/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information

Cooler Custody Seal

A Absent
B Absent

Container Information		rmation		Initial	Final	Temp			Frozen	
	Container ID	Container Type	Cooler	pН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
	L1718636-01A	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-01B	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-01C	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-01D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-01E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-02A	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-02B	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-02C	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-02D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-02E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-03A	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-03B	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-03C	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-03D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-03E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
	L1718636-04A	Vial HCl preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
	L1718636-04B	Vial HCl preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
	L1718636-04C	Vial HCl preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
	L1718636-04D	Amber 1000ml HCl preserved	В	<2	<2	2.6	Υ	Absent		EPH-DELUX-10(14)
	L1718636-04E	Amber 1000ml HCl preserved	В	<2	<2	2.6	Υ	Absent		EPH-DELUX-10(14)
	L1718636-05A	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
	L1718636-05B	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)



Lab Number: L1718636

Report Date: 06/13/17

Project Name:WEYMOUTH C/SProject Number:140143.0000.4903

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1718636-05C	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-05D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-05E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-06A	Vial HCI preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
L1718636-06B	Vial HCI preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
L1718636-06C	Vial HCI preserved	В	N/A	N/A	2.6	Υ	Absent		VPH-DELUX-10(14)
L1718636-06D	Amber 1000ml HCl preserved	В	<2	<2	2.6	Υ	Absent		EPH-DELUX-10(14)
L1718636-06E	Amber 1000ml HCl preserved	В	<2	<2	2.6	Υ	Absent		EPH-DELUX-10(14)
L1718636-07A	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-07B	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-07C	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-07D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-07E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-08A	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-08B	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-08C	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)
L1718636-08D	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-08E	Amber 1000ml HCl preserved	Α	<2	<2	2.4	Υ	Absent		EPH-DELUX-10(14)
L1718636-09A	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		-
L1718636-09B	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		-
L1718636-09C	Vial HCl preserved	Α	N/A	N/A	2.4	Υ	Absent		-
L1718636-10A	Vial HCI preserved	Α	N/A	N/A	2.4	Υ	Absent		VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718636

 Project Number:
 140143.0000.4903
 Report Date:
 06/13/17

GLOSSARY

Acronyms

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).

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.

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.

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

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.

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

- 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.

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.

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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718636

 Project Number:
 140143.0000.4903
 Report Date:
 06/13/17

Data Qualifiers

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).

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name: WEYMOUTH C/S Lab Number: L1718636

Project Number: 140143.0000.4903 Report Date: 06/13/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873** Revision 10

Published Date: 1/16/2017 11:00:05 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

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ANALYTICAL REPORT

Lab Number: L1718827

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Rick Paquette
Phone: (617) 385-6033
Project Name: WEYMOUTH C/S

Project Number: 140143.0000.4903

Report Date: 06/14/17

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), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718827 **Report Date:** 06/14/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1718827-01	MW 201	WATER	WEYMOUTH, MA	06/07/17 09:30	06/07/17
L1718827-02	MW 406	WATER	WEYMOUTH, MA	06/07/17 09:45	06/07/17
L1718827-03	MW 407	WATER	WEYMOUTH, MA	06/07/17 10:50	06/07/17
L1718827-04	MW 410	WATER	WEYMOUTH, MA	06/07/17 09:50	06/07/17
L1718827-05	MW 411	WATER	WEYMOUTH, MA	06/07/17 11:55	06/07/17
L1718827-06	MW 414	WATER	WEYMOUTH, MA	06/07/17 13:00	06/07/17
L1718827-07	MW 416	WATER	WEYMOUTH, MA	06/07/17 11:25	06/07/17
L1718827-08	MW 417	WATER	WEYMOUTH, MA	06/07/17 12:30	06/07/17
L1718827-09	DUP-2	WATER	WEYMOUTH, MA	06/07/17 00:00	06/07/17
L1718827-10	FIELD BLANK	WATER	WEYMOUTH, MA	06/07/17 13:10	06/07/17
L1718827-11	TRIP BLANK	WATER	WEYMOUTH, MA	06/07/17 00:00	06/07/17



Project Name:WEYMOUTH C/SLab Number:L1718827Project Number:140143.0000.4903Report Date:06/14/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
Εb.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status							
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO					
Н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO					
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES					

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name:WEYMOUTH C/SLab Number:L1718827Project Number:140143.0000.4903Report Date:06/14/17

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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	Client	Services	at 80	0-624	-9220	with	any	question	ıs.



Serial_No:06141712:35

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718827

 Project Number:
 140143.0000.4903
 Report Date:
 06/14/17

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1011980-2/-3 LCS/LCSD RPDs, associated with L1718827-01 through -09, are above the acceptance criteria for c19-c36 aliphatics (36%), triacontane (c30) (29%) and hexatriacontane (c36) (48%).

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.

Custen Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

ANALYTICA

Date: 06/14/17

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-01 Date Collected: 06/07/17 09:30

Client ID: MW 201 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analytical Date: 06/10/17 22:16
Analyst: KD

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	94		70-130	
2,5-Dibromotoluene-FID	101		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 09:30

Client ID: MW 201 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 20:31 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	I	ug/l	100		1		
C19-C36 Aliphatics	ND	ı	ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND	ı	ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND	1	ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND	1	ug/l	10.0		1		
Pyrene	ND	1	ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND	1	ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND	1	ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 09:30

Client ID: MW 201 Date Received: 06/07/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	51		40-140	
o-Terphenyl	67		40-140	
2-Fluorobiphenyl	66		40-140	
2-Bromonaphthalene	64		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-02 Date Collected: 06/07/17 09:45

Client ID: MW 406 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

06/10/17 22:56

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	93		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

SAMPLE RESULTS

Lab ID: L1718827-02 Date Collected: 06/07/17 09:45

Client ID: MW 406 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 21:03 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND		ug/l	100		1		
C19-C36 Aliphatics	ND		ug/l	100		1		
C11-C22 Aromatics	ND		ug/l	100		1		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1		
Naphthalene	ND		ug/l	10.0		1		
2-Methylnaphthalene	ND		ug/l	10.0		1		
Acenaphthylene	ND		ug/l	10.0		1		
Acenaphthene	ND		ug/l	10.0		1		
Fluorene	ND		ug/l	10.0		1		
Phenanthrene	ND		ug/l	10.0		1		
Anthracene	ND		ug/l	10.0		1		
Fluoranthene	ND		ug/l	10.0		1		
Pyrene	ND		ug/l	10.0		1		
Benzo(a)anthracene	ND		ug/l	10.0		1		
Chrysene	ND		ug/l	10.0		1		
Benzo(b)fluoranthene	ND		ug/l	10.0		1		
Benzo(k)fluoranthene	ND		ug/l	10.0		1		
Benzo(a)pyrene	ND		ug/l	10.0		1		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1		
Benzo(ghi)perylene	ND		ug/l	10.0		1		



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 09:45

Client ID: MW 406 Date Received: 06/07/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	51		40-140	
o-Terphenyl	70		40-140	
2-Fluorobiphenyl	67		40-140	
2-Bromonaphthalene	64		40-140	



Project Name: Lab Number: WEYMOUTH C/S L1718827

Project Number: Report Date: 140143.0000.4903 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 10:50 L1718827-03

Client ID: Date Received: MW 407 06/07/17

Field Prep: Sample Location: WEYMOUTH, MA Not Specified

Matrix: Water Analytical Method: 100, VPH-04-1.1

Analytical Date: Analyst: KD

06/10/17 23:36

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	79.5		ug/l	50.0		1
C9-C10 Aromatics	68.3		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	7.57		ug/l	4.00		1

	a/ B	. ""	Acceptance Criteria	
Surrogate	% Recovery	Qualifier	Cinteria	
2,5-Dibromotoluene-PID	88		70-130	
2,5-Dibromotoluene-FID	92		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-03 Date Collected: 06/07/17 10:50

Client ID: MW 407 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 21:35 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab								
C9-C18 Aliphatics	ND	ug	/I 100		1			
C19-C36 Aliphatics	ND	ug	/I 100		1			
C11-C22 Aromatics	178	ug	/I 100		1			
C11-C22 Aromatics, Adjusted	178	ug	/I 100		1			
Naphthalene	ND	ug	/I 10.0		1			
2-Methylnaphthalene	ND	ug	/I 10.0		1			
Acenaphthylene	ND	ug	/I 10.0		1			
Acenaphthene	ND	ug	/I 10.0		1			
Fluorene	ND	ug	/I 10.0		1			
Phenanthrene	ND	ug	/I 10.0		1			
Anthracene	ND	ug	/I 10.0		1			
Fluoranthene	ND	ug	/I 10.0		1			
Pyrene	ND	ug	/I 10.0		1			
Benzo(a)anthracene	ND	ug	/I 10.0		1			
Chrysene	ND	ug	/I 10.0		1			
Benzo(b)fluoranthene	ND	ug	/I 10.0		1			
Benzo(k)fluoranthene	ND	ug	/I 10.0		1			
Benzo(a)pyrene	ND	ug	/I 10.0		1			
Indeno(1,2,3-cd)Pyrene	ND	ug	/I 10.0		1			
Dibenzo(a,h)anthracene	ND	ug	/I 10.0		1			
Benzo(ghi)perylene	ND	ug	/I 10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-03 Date Collected: 06/07/17 10:50

Client ID: MW 407 Date Received: 06/07/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	47		40-140	
o-Terphenyl	71		40-140	
2-Fluorobiphenyl	69		40-140	
2-Bromonaphthalene	64		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-04 Date Collected: 06/07/17 09:50

Client ID: MW 410 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

06/11/17 00:16

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	86		70-130	
2,5-Dibromotoluene-FID	93		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

SAMPLE RESULTS

Lab ID: L1718827-04 Date Collected: 06/07/17 09:50

Client ID: MW 410 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 22:07 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-04 Date Collected: 06/07/17 09:50

Client ID: MW 410 Date Received: 06/07/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	43		40-140		
o-Terphenyl	69		40-140		
2-Fluorobiphenyl	72		40-140		
2-Bromonaphthalene	71		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-05 Date Collected: 06/07/17 11:55

Client ID: MW 411 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

06/11/17 00:57

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	90		70-130	
2,5-Dibromotoluene-FID	97		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 11:55

Client ID: MW 411 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 22:39 Cleanup Method1: EPH-04-1
Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-05 Date Collected: 06/07/17 11:55

Client ID: MW 411 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	46		40-140	
o-Terphenyl	71		40-140	
2-Fluorobiphenyl	72		40-140	
2-Bromonaphthalene	70		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-06 Date Collected: 06/07/17 13:00

Client ID: MW 414 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 06/11/17 01:36

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	58.3		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	58.3		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	81		70-130	
2,5-Dibromotoluene-FID	82		70-130	



Analyst:

KD

Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 13:00

Client ID: MW 414 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00
Analytical Date: 06/13/17 23:11 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	131		ug/l	100		1				
C11-C22 Aromatics, Adjusted	131		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 13:00

Client ID: MW 414 Date Received: 06/07/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	40		40-140		
o-Terphenyl	63		40-140		
2-Fluorobiphenyl	63		40-140		
2-Bromonaphthalene	60		40-140		



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-07 Date Collected: 06/07/17 11:25

Client ID: MW 416 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 06/11/17 02:16

KD

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	87		70-130	
2,5-Dibromotoluene-FID	96		70-130	



Analyst:

Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-07 Date Collected: 06/07/17 11:25

Client ID: MW 416 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/13/17 23:43 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b			
C9-C18 Aliphatics	ND	uç	g/l 100		1
C19-C36 Aliphatics	ND	uç	g/l 100		1
C11-C22 Aromatics	ND	uç	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	uç	g/l 100		1
Naphthalene	ND	uç	g/l 10.0		1
2-Methylnaphthalene	ND	uç	g/l 10.0		1
Acenaphthylene	ND	uç	g/l 10.0		1
Acenaphthene	ND	uç	g/l 10.0		1
Fluorene	ND	uç	g/l 10.0		1
Phenanthrene	ND	uç	g/l 10.0		1
Anthracene	ND	uç	g/l 10.0		1
Fluoranthene	ND	uç	g/l 10.0		1
Pyrene	ND	uç	g/l 10.0		1
Benzo(a)anthracene	ND	uç	g/l 10.0		1
Chrysene	ND	uç	g/l 10.0		1
Benzo(b)fluoranthene	ND	uç	g/l 10.0		1
Benzo(k)fluoranthene	ND	uç	g/l 10.0		1
Benzo(a)pyrene	ND	uç	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	uç	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	uç	g/l 10.0		1
Benzo(ghi)perylene	ND	uç	g/l 10.0		1



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-07 Date Collected: 06/07/17 11:25

Client ID: MW 416 Date Received: 06/07/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	43		40-140	
o-Terphenyl	65		40-140	
2-Fluorobiphenyl	68		40-140	
2-Bromonaphthalene	66		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-08 Date Collected: 06/07/17 12:30

Client ID: MW 417 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 100,VPH-04-1.1

Analyst: KD

06/11/17 02:56

Analytical Date:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Petroleum Hydrocarbons - Westborough Lab									
C5-C8 Aliphatics	ND		ug/l	50.0		1			
C9-C12 Aliphatics	ND		ug/l	50.0		1			
C9-C10 Aromatics	ND		ug/l	50.0		1			
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1			
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1			
Benzene	ND		ug/l	2.00		1			
Toluene	ND		ug/l	2.00		1			
Ethylbenzene	ND		ug/l	2.00		1			
p/m-Xylene	ND		ug/l	2.00		1			
o-Xylene	ND		ug/l	2.00		1			
Methyl tert butyl ether	ND		ug/l	3.00		1			
Naphthalene	ND		ug/l	4.00		1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	94		70-130	
2,5-Dibromotoluene-FID	103		70-130	



Project Name: Lab Number: WEYMOUTH C/S L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Date Collected: Lab ID: L1718827-08 06/07/17 12:30

Client ID: MW 417 Date Received: 06/07/17

Field Prep: Not Specified Sample Location: WEYMOUTH, MA

Matrix: **Extraction Method:** EPA 3510C Water Analytical Method: 98,EPH-04-1.1 **Extraction Date:** 06/11/17 03:00

Analytical Date: 06/14/17 00:15 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Container Sample Temperature upon receipt: Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-08 Date Collected: 06/07/17 12:30

Client ID: MW 417 Date Received: 06/07/17 Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

		Acceptance		
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	49		40-140	
o-Terphenyl	69		40-140	
2-Fluorobiphenyl	70		40-140	
2-Bromonaphthalene	67		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-09 Date Collected: 06/07/17 00:00

Client ID: DUP-2 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 06/11/17 03:36

Analyst: KD

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	50.0		1
C9-C12 Aliphatics	ND		ug/l	50.0		1
C9-C10 Aromatics	ND		ug/l	50.0		1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		1
Benzene	ND		ug/l	2.00		1
Toluene	ND		ug/l	2.00		1
Ethylbenzene	ND		ug/l	2.00		1
p/m-Xylene	ND		ug/l	2.00		1
o-Xylene	ND		ug/l	2.00		1
Methyl tert butyl ether	ND		ug/l	3.00		1
Naphthalene	ND		ug/l	4.00		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	82		70-130	
2,5-Dibromotoluene-FID	87		70-130	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-09 Date Collected: 06/07/17 00:00

Client ID: DUP-2 Date Received: 06/07/17

Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 06/11/17 03:00

Analytical Date: 06/14/17 00:47 Cleanup Method1: EPH-04-1

Analyst: NS Cleanup Date1: 06/12/17

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Extractable Petroleum Hydrocarbons - Westborough Lab									
C9-C18 Aliphatics	ND		ug/l	100		1			
C19-C36 Aliphatics	ND		ug/l	100		1			
C11-C22 Aromatics	ND		ug/l	100		1			
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1			
Naphthalene	ND		ug/l	10.0		1			
2-Methylnaphthalene	ND		ug/l	10.0		1			
Acenaphthylene	ND		ug/l	10.0		1			
Acenaphthene	ND		ug/l	10.0		1			
Fluorene	ND		ug/l	10.0		1			
Phenanthrene	ND		ug/l	10.0		1			
Anthracene	ND		ug/l	10.0		1			
Fluoranthene	ND		ug/l	10.0		1			
Pyrene	ND		ug/l	10.0		1			
Benzo(a)anthracene	ND		ug/l	10.0		1			
Chrysene	ND		ug/l	10.0		1			
Benzo(b)fluoranthene	ND		ug/l	10.0		1			
Benzo(k)fluoranthene	ND		ug/l	10.0		1			
Benzo(a)pyrene	ND		ug/l	10.0		1			
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1			
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1			
Benzo(ghi)perylene	ND		ug/l	10.0		1			



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: Date Collected: 06/07/17 00:00

Client ID: DUP-2 Date Received: 06/07/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	55		40-140	
o-Terphenyl	72		40-140	
2-Fluorobiphenyl	68		40-140	
2-Bromonaphthalene	66		40-140	



Project Name: WEYMOUTH C/S Lab Number: L1718827

Project Number: 140143.0000.4903 **Report Date:** 06/14/17

SAMPLE RESULTS

Lab ID: L1718827-11 Date Collected: 06/07/17 00:00

Client ID: TRIP BLANK Date Received: 06/07/17
Sample Location: WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/10/17 15:34

Analyst: KD

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier U	Inits	RL	MDL	Dilution Factor					
/olatile Petroleum Hydrocarbons - Westborough Lab											
C5-C8 Aliphatics	ND		ug/l	50.0		1					
C9-C12 Aliphatics	ND	ı	ug/l	50.0		1					
C9-C10 Aromatics	ND	ı	ug/l	50.0		1					
C5-C8 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1					
C9-C12 Aliphatics, Adjusted	ND	ı	ug/l	50.0		1					
Benzene	ND	ı	ug/l	2.00		1					
Toluene	ND	ı	ug/l	2.00		1					
Ethylbenzene	ND	ı	ug/l	2.00		1					
p/m-Xylene	ND	ı	ug/l	2.00		1					
o-Xylene	ND	ı	ug/l	2.00		1					
Methyl tert butyl ether	ND	ı	ug/l	3.00		1					
Naphthalene	ND	ı	ug/l	4.00		1					

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	91		70-130	
2,5-Dibromotoluene-FID	98		70-130	



Project Name: WEYMOUTH C/S **Project Number:**

140143.0000.4903

Lab Number: L1718827

Report Date: 06/14/17

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1 06/13/17 18:54

Analyst:

NS

Extraction Method: EPA 3510C Extraction Date: 06/11/17 03:00 Cleanup Method: EPH-04-1

Cleanup Date: 06/12/17

arameter	Result	Qualifier	Units	RL	MDL
xtractable Petroleum Hydroca	rbons - Westbo	rough Lab I	or sample(s):	01-09	Batch: WG1011980-1
C9-C18 Aliphatics	ND		ug/l	100	
C19-C36 Aliphatics	ND		ug/l	100	
C11-C22 Aromatics	ND		ug/l	100	
C11-C22 Aromatics, Adjusted	ND		ug/l	100	
Naphthalene	ND		ug/l	10.0	
2-Methylnaphthalene	ND		ug/l	10.0	
Acenaphthylene	ND		ug/l	10.0	
Acenaphthene	ND		ug/l	10.0	
Fluorene	ND		ug/l	10.0	
Phenanthrene	ND		ug/l	10.0	
Anthracene	ND		ug/l	10.0	
Fluoranthene	ND		ug/l	10.0	
Pyrene	ND		ug/l	10.0	
Benzo(a)anthracene	ND		ug/l	10.0	
Chrysene	ND		ug/l	10.0	
Benzo(b)fluoranthene	ND		ug/l	10.0	
Benzo(k)fluoranthene	ND		ug/l	10.0	
Benzo(a)pyrene	ND		ug/l	10.0	
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	
Dibenzo(a,h)anthracene	ND		ug/l	10.0	
Benzo(ghi)perylene	ND		ug/l	10.0	

		Acceptance	
Surrogate	%Recovery Qualifie	er Criteria	
Chloro-Octadecane	55	40-140	
o-Terphenyl	64	40-140	
2-Fluorobiphenyl	63	40-140	
2-Bromonaphthalene	61	40-140	



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718827

 Project Number:
 140143.0000.4903
 Report Date:
 06/14/17

Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 06/10/17 12:25

Analyst: KD

olatile Petroleum Hydrocarbons -	Westborough	n Lab for sa	ample(s):	01-09,11	Batch: WG1012604-3
C5-C8 Aliphatics	ND		ug/l	50.0	
C9-C12 Aliphatics	ND		ug/l	50.0	
C9-C10 Aromatics	ND		ug/l	50.0	
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	
Benzene	ND		ug/l	2.00	
Toluene	ND		ug/l	2.00	
Ethylbenzene	ND		ug/l	2.00	
p/m-Xylene	ND		ug/l	2.00	
o-Xylene	ND		ug/l	2.00	
Methyl tert butyl ether	ND		ug/l	3.00	
Naphthalene	ND		ug/l	4.00	

		Acceptance	
Surrogate	%Recovery Qualifie	er Criteria	
0.5 Dilamatahan DID	00	70.400	
2,5-Dibromotoluene-PID	89	70-130	
2,5-Dibromotoluene-FID	96	70-130	



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1718827

Parameter	LCS %Recovery	Qual	LCSD %Recovery	%Reco Qual Lim	-	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - West	borough Lab As	sociated sample	e(s): 01-09	Batch: WG1011980-	2 WG1011980-3		
C9-C18 Aliphatics	60		53	40-14	10 12		25
C19-C36 Aliphatics	91		63	40-14	36	Q	25
C11-C22 Aromatics	72		70	40-14	40 3		25
Naphthalene	54		54	40-14	40 0		25
2-Methylnaphthalene	56		55	40-14	40 2		25
Acenaphthylene	63		61	40-14	40 3		25
Acenaphthene	62		60	40-14	40 3		25
Fluorene	66		63	40-14	40 5		25
Phenanthrene	68		66	40-14	40 3		25
Anthracene	70		67	40-14	40 4		25
Fluoranthene	73		70	40-14	40 4		25
Pyrene	74		71	40-14	40 4		25
Benzo(a)anthracene	74		73	40-14	10 1		25
Chrysene	75		73	40-14	40 3		25
Benzo(b)fluoranthene	75		73	40-14	40 3		25
Benzo(k)fluoranthene	74		72	40-14	40 3		25
Benzo(a)pyrene	72		70	40-14	40 3		25
Indeno(1,2,3-cd)Pyrene	74		72	40-14	40 3		25
Dibenzo(a,h)anthracene	75		73	40-14	40 3		25
Benzo(ghi)perylene	73		70	40-14	40 4		25
Nonane (C9)	41		36	30-1-	13		25
Decane (C10)	49	Ī	44	40-14	10 11		25
Dodecane (C12)	58		52	40-14	10 11		25



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S **Project Number:** 140143.0000.4903

Lab Number: L1718827

Parameter	LCS %Recovery		.CSD ecovery	Qual	%Recover Limits	y RPD	Qual	RPD Limits	
Extractable Petroleum Hydrocarbo	ns - Westborough Lab Ass	sociated sample(s):	01-09	Batch: W	G1011980-2 V	VG1011980-3			
Tetradecane (C14)	62		55		40-140	12		25	
Hexadecane (C16)	65		58		40-140	11		25	
Octadecane (C18)	70		62		40-140	12		25	
Nonadecane (C19)	70		62		40-140	12		25	
Eicosane (C20)	72		63		40-140	13		25	
Docosane (C22)	72		64		40-140	12		25	
Tetracosane (C24)	74		64		40-140	14		25	
Hexacosane (C26)	77		64		40-140	18		25	
Octacosane (C28)	81		64		40-140	23		25	
Triacontane (C30)	86		64		40-140	29	Q	25	
Hexatriacontane (C36)	106		65		40-140	48	Q	25	

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
Chloro-Octadecane	57	52	40-140
o-Terphenyl	74	73	40-140
2-Fluorobiphenyl	68	68	40-140
2-Bromonaphthalene	67	66	40-140
% Naphthalene Breakthrough	0	0	
% 2-Methylnaphthalene Breakthrough	0	0	



Lab Control Sample Analysis Batch Quality Control

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Lab Number: L1718827

Parameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Associ	ated sample(s): 01-09,11 Bat	tch: WG1012604-1 WG101	2604-2	
C5-C8 Aliphatics	101	101	70-130	0	25
C9-C12 Aliphatics	106	106	70-130	0	25
C9-C10 Aromatics	98	98	70-130	1	25
Benzene	97	99	70-130	2	25
Toluene	97	99	70-130	2	25
Ethylbenzene	99	100	70-130	1	25
p/m-Xylene	99	100	70-130	1	25
o-Xylene	98	99	70-130	1	25
Methyl tert butyl ether	94	97	70-130	3	25
Naphthalene	96	99	70-130	3	25
1,2,4-Trimethylbenzene	98	98	70-130	1	25
Pentane	100	99	70-130	1	25
2-Methylpentane	102	102	70-130	0	25
2,2,4-Trimethylpentane	101	101	70-130	0	25
n-Nonane	104	104	30-130	0	25
n-Decane	107	107	70-130	0	25
n-Butylcyclohexane	107	107	70-130	0	25

Surrogate	LCS %Recovery Qua	LCSD al %Recovery	Acceptance Qual Criteria
2,5-Dibromotoluene-PID	93	95	70-130
2,5-Dibromotoluene-FID	99	102	70-130



Lab Number: L1718827

Report Date: 06/14/17

Project Name: WEYMOUTH C/S
Project Number: 140143.0000.4903

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information

Cooler Custody Seal

A Absent
B Absent
C Absent

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1718827-01A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-01B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-01C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-01D	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-01E	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-02A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-02B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-02C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-02D	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-02E	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-03A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-03B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-03C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-03D	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-03E	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
L1718827-04A	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
L1718827-04B	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
L1718827-04C	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
L1718827-04D	Amber 1000ml HCl preserved	С	<2	<2	5.1	Υ	Absent		EPH-DELUX-10(14)
L1718827-04E	Amber 1000ml HCl preserved	С	<2	<2	5.1	Υ	Absent		EPH-DELUX-10(14)
L1718827-05A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)



Lab Number: L1718827

Project Name:	WEYMOUTH C/S
Project Number:	140143.0000.4903

Container Information				Initial	Final	Temp			Frozen	
	Container ID	Container Type	Cooler		pН	•	Pres	Seal	Date/Time	Analysis(*)
	L1718827-05B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
	L1718827-05C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
	L1718827-05D	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
	L1718827-05E	Amber 1000ml HCl preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
	L1718827-06A	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-06B	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-06C	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-06D	Amber 1000ml HCl preserved	В	<2	<2	5.2	Υ	Absent		EPH-DELUX-10(14)
	L1718827-06E	Amber 1000ml HCl preserved	В	<2	<2	5.2	Υ	Absent		EPH-DELUX-10(14)
	L1718827-07A	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-07B	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-07C	Vial HCl preserved	В	N/A	N/A	5.2	Υ	Absent		VPH-DELUX-10(14)
	L1718827-07D	Amber 1000ml HCl preserved	В	<2	<2	5.2	Υ	Absent		EPH-DELUX-10(14)
	L1718827-07E	Amber 1000ml HCl preserved	В	<2	<2	5.2	Υ	Absent		EPH-DELUX-10(14)
	L1718827-08A	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
	L1718827-08B	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
	L1718827-08C	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
	L1718827-08D	Amber 1000ml HCI preserved	С	<2	<2	5.1	Υ	Absent		EPH-DELUX-10(14)
	L1718827-08E	Amber 1000ml HCI preserved	С	<2	<2	5.1	Υ	Absent		EPH-DELUX-10(14)
	L1718827-09A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
	L1718827-09B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
	L1718827-09C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
	L1718827-09D	Amber 1000ml HCI preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
	L1718827-09E	Amber 1000ml HCI preserved	Α	<2	<2	5.6	Υ	Absent		EPH-DELUX-10(14)
	L1718827-10A	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		HOLD-VPH(14)
	L1718827-10B	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		HOLD-VPH(14)
	L1718827-10C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		HOLD-VPH(14)
	L1718827-11A	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)



Serial_No:06141712:35

Lab Number: L1718827

Report Date: 06/14/17

Project Name:WEYMOUTH C/SProject Number:140143.0000.4903

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1718827-11B	Vial HCl preserved	С	N/A	N/A	5.1	Υ	Absent		VPH-DELUX-10(14)
L1718827-11C	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-11D	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-11E	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)
L1718827-11F	Vial HCl preserved	Α	N/A	N/A	5.6	Υ	Absent		VPH-DELUX-10(14)



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718827

 Project Number:
 140143.0000.4903
 Report Date:
 06/14/17

GLOSSARY

Acronyms

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).

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.

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.

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

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.

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

- 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.

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.

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

Report Format: Data Usability Report



 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718827

 Project Number:
 140143.0000.4903
 Report Date:
 06/14/17

Data Qualifiers

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).

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:06141712:35

 Project Name:
 WEYMOUTH C/S
 Lab Number:
 L1718827

 Project Number:
 140143.0000.4903
 Report Date:
 06/14/17

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:06141712:35

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873** Revision 10

Published Date: 1/16/2017 11:00:05 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

mg 06/09/17 updated COC

CHAIN OF C	CUSTODY PAGE) OF [Date Rec'd in Lab: 6/7/17 ALPHA Job #: 6/7/18827
ALPHA	Project Information	Report Information Data Deliverables Billing Information
ANALY TICAL Wated Class Chemistry		☐ FAX ☐ EMAIL ☐ Same as Client info PO #: 103359 ₽
		□ ADEx □ Add'l Deliverables □ Lio32514
Westborough, MA Mansfield, MA	Project Name: Weymouth C/S	Regulatory Requirements/Report Limits
FAX: 508-898-9193	-	State/Fed Program Criteria
Client Information	Project Location: Weymouth, MA	MCP RCGW-2
Client: TRC Environmental	Project #: 140143.0000.4903	MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS ✓ Yes □ No Are MCP Analytical Methods Required?
Address: 2 Liberty Square, 6th Floor	Project Manager: Rick Paquette	☑ Yes ☐ No Are MCP Analytical Methods Required? ☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?
Boston, MA	ALPHA Quote #: 1907	ANALYSIS
Phone: (617)385-6033	Turn-Around Time	SAMPLE HANDLING I
Fax: (617)350-3443	Standard Rush (ONLY IF PRE-APPROVED)	Filtration C
Email: RNiles@TRCSolutions.com		⊠ Not Needed # □ Lab to do
☐ These samples have been Previously analyzed by Alpha	Due Date: Time:	Preservation 0
Other Project Specific Requirements/Comments/E	Detection Limits:	☐ Lab to do ☐ (Please specify L
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		Deluxe Deluxe
ALPHA Lab ID Sample ID	Collection Sample Sampler's	T T Sample Specific Comments
(Lab Use Only)	Date Time Matrix Initials	> Ш Comments
18827-01 MW 201	6/7/17 0930 GW BA	
-07 MW 406	6/7/17 0945 GW AHC	\bowtie \bowtie \bowtie \bowtie \bowtie \bowtie \bowtie \bowtie \bowtie \bowtie
03 MW 407	0/7/17 1050 GW AHC	
01 MW 410	6/7/17 0950 GW LVH	
-05 mw 411	6/7/17 1155 GW WH	
-a mw 414	6/7/17/1300 GW AHC	
07 MW 416	6/7/17 1125 ETW BA	
08 MW 417	6/7/14/1230 GW BA	
70 Field Blank	6/7/17 GW	
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Address: 2 Liberty S	quare, 6th Floor	Project Manage	r: Rick Paq	uette					No No									ols) Required?	
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Phone: (617)385-60	33	Turn-Around	Time															SAMPLE HANDLING	T
Fax: (617)350-3443			□ Ru	JSh (ONLY IF PR	E-APPROVED)													Filtration □ Done	L
Email: RNiles@TRO	Solutions.com														1			Not Needed □ Lab to do	#
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Other Project Spe	cific Requirements/Comments/	Detection Limit	s:			1												☐ Lab to do (Please specify	İ
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(Lab Use Only)		Date	Time	Matrix	Initials	>	ш				l		1					Comments	0.5
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-07	MW 406	6/7/17	0945	Gw	AHC	区	区												5
703	mw 407	6/7/17	1050	GW	AHC	.X	X												5
a	MW 410	6/7/17	0950	GW	CVH	\boxtimes	M												5
-05	mw 411		1155	GW	WH		区												5
-a	mw 414	6/7/17	1300	GW	AHC	X	X												5
-07	mw 416	6/7/17	1125	Ew	BA	X	X												5
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ANALYTICAL REPORT

Lab Number: L1627219

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Ryan Niles
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7215

Report Date: 09/01/16

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627219 **Report Date:** 09/01/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1627219-01	MW-201	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 14:00	08/30/16
L1627219-02	MW-202	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 11:30	08/30/16
L1627219-03	MW-203	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 14:15	08/30/16
L1627219-04	MW-204	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 15:45	08/30/16
L1627219-05	MW-205	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 10:00	08/30/16
L1627219-06	DUP-1	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 13:00	08/30/16
L1627219-07	TRIP BLANK	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 00:00	08/30/16



MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An af	firmative response to questions A through F is required for "Presumptive Certainty" status	
Α	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	A response to questions G, H and I is required for "Presumptive Certainty" status									
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO								
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO								
ı	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES								

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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	Client	Services	at 8	00-624	-9220	with a	any	questions	.



Case Narrative (continued)

MCP Related Narratives

VPH

In reference to question G:

L1627219-01, -02, -03, -04, -05, and -06: The sample has elevated detection limits due to the dilution required by the sample matrix. One or more of the target analytes did not achieve the requested CAM reporting limits.

EPH

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG927490-2/-3 LCS/LCSD RPD, associated with L1627219-01 through -06, is above the acceptance criteria for c19-c36 aliphatics (51%).

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.

Sma I Iry Lura L Troy

Authorized Signature:

Title: Technical Director/Representative

Date: 09/01/16

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: Date Collected: 08/30/16 14:00

Client ID: MW-201 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 03:24 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: Date Collected: 08/30/16 14:00

Client ID: MW-201 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
Chloro-Octadecane	70		40-140				
o-Terphenyl	56		40-140				
2-Fluorobiphenyl	59		40-140				
2-Bromonaphthalene	61		40-140				



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-01 D Date Collected: 08/30/16 14:00

Client ID: MW-201 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 08/31/16 18:50

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor				
Volatile Petroleum Hydrocarbons - Westborough Lab										
C5-C8 Aliphatics	ND		ug/l	250		5				
C9-C12 Aliphatics	ND		ug/l	250		5				
C9-C10 Aromatics	ND		ug/l	250		5				
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5				
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5				
Benzene	ND		ug/l	10.0		5				
Toluene	ND		ug/l	10.0		5				
Ethylbenzene	ND		ug/l	10.0		5				
p/m-Xylene	ND		ug/l	10.0		5				
o-Xylene	ND		ug/l	10.0		5				
Methyl tert butyl ether	ND		ug/l	15.0		5				
Naphthalene	ND		ug/l	20.0		5				

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
2,5-Dibromotoluene-PID	108		70-130				
2,5-Dibromotoluene-FID	114		70-130				



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-02 Date Collected: 08/29/16 11:30

Client ID: MW-202 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water FYMOUTH, MA Field Prep: Not Specified

Extraction Method: FPA 3510C

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 04:08 Cleanup Method1: EPH-04-1
Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Extractable Petroleum Hydrocarbons - Westborough Lab										
C9-C18 Aliphatics	ND		ug/l	100		1				
C19-C36 Aliphatics	ND		ug/l	100		1				
C11-C22 Aromatics	ND		ug/l	100		1				
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1				
Naphthalene	ND		ug/l	10.0		1				
2-Methylnaphthalene	ND		ug/l	10.0		1				
Acenaphthylene	ND		ug/l	10.0		1				
Acenaphthene	ND		ug/l	10.0		1				
Fluorene	ND		ug/l	10.0		1				
Phenanthrene	ND		ug/l	10.0		1				
Anthracene	ND		ug/l	10.0		1				
Fluoranthene	ND		ug/l	10.0		1				
Pyrene	ND		ug/l	10.0		1				
Benzo(a)anthracene	ND		ug/l	10.0		1				
Chrysene	ND		ug/l	10.0		1				
Benzo(b)fluoranthene	ND		ug/l	10.0		1				
Benzo(k)fluoranthene	ND		ug/l	10.0		1				
Benzo(a)pyrene	ND		ug/l	10.0		1				
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1				
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1				
Benzo(ghi)perylene	ND		ug/l	10.0		1				



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-02 Date Collected: 08/29/16 11:30

Client ID: MW-202 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	75		40-140		
o-Terphenyl	71		40-140		
2-Fluorobiphenyl	77		40-140		
2-Bromonaphthalene	79		40-140		



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-02 D Date Collected: 08/29/16 11:30

Client ID: MW-202 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Analytical Method: 100,VPH-04-1.1

Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 08/31/16 19:30

Analyst: JM

Matrix:

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	105		70-130	
2,5-Dibromotoluene-FID	111		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-03 Date Collected: 08/29/16 14:15

Client ID: MW-203 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 04:53 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-03 Date Collected: 08/29/16 14:15

Client ID: MW-203 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

	Acceptance				
Surrogate	% Recovery	Qualifier	Criteria		
Chloro-Octadecane	72		40-140		
o-Terphenyl	60		40-140		
2-Fluorobiphenyl	64		40-140		
2-Bromonaphthalene	66		40-140		



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-03 D

Client ID: MW-203

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 08/31/16 20:10

Analyst: JM

Date Collected: 08/29/16 14:15

Satisfactory

Date Received: 08/30/16

Field Prep: Not Specified

Quality Control Information

Condition of sample received:

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	104		70-130	
2,5-Dibromotoluene-FID	111		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-04 Date Collected: 08/29/16 15:45

Client ID: MW-204 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 05:38 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt: Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b				
C9-C18 Aliphatics	ND		ug/l	100		1
C19-C36 Aliphatics	ND		ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND		ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND		ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND		ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND		ug/l	10.0		1
Pyrene	ND		ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND		ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND		ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-04 Date Collected: 08/29/16 15:45

Client ID: MW-204 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	73		40-140	
o-Terphenyl	74		40-140	
2-Fluorobiphenyl	79		40-140	
2-Bromonaphthalene	79		40-140	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-04 D Date Collected: 08/29/16 15:45

Client ID: MW-204 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 08/31/16 20:50

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - W	estborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	101		70-130	
2,5-Dibromotoluene-FID	108		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-05 Date Collected: 08/30/16 10:00

Client ID: MW-205 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1 Extraction Method: EPA 3510C Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 06:23 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier U	Jnits	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough Lab)				
C9-C18 Aliphatics	ND	I	ug/l	100		1
C19-C36 Aliphatics	ND	ı	ug/l	100		1
C11-C22 Aromatics	ND		ug/l	100		1
C11-C22 Aromatics, Adjusted	ND	1	ug/l	100		1
Naphthalene	ND		ug/l	10.0		1
2-Methylnaphthalene	ND		ug/l	10.0		1
Acenaphthylene	ND	ı	ug/l	10.0		1
Acenaphthene	ND		ug/l	10.0		1
Fluorene	ND		ug/l	10.0		1
Phenanthrene	ND	1	ug/l	10.0		1
Anthracene	ND		ug/l	10.0		1
Fluoranthene	ND	1	ug/l	10.0		1
Pyrene	ND	1	ug/l	10.0		1
Benzo(a)anthracene	ND		ug/l	10.0		1
Chrysene	ND	1	ug/l	10.0		1
Benzo(b)fluoranthene	ND		ug/l	10.0		1
Benzo(k)fluoranthene	ND		ug/l	10.0		1
Benzo(a)pyrene	ND	1	ug/l	10.0		1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		1
Dibenzo(a,h)anthracene	ND		ug/l	10.0		1
Benzo(ghi)perylene	ND		ug/l	10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-05 Date Collected: 08/30/16 10:00

Client ID: MW-205 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	77		40-140	
o-Terphenyl	55		40-140	
2-Fluorobiphenyl	61		40-140	
2-Bromonaphthalene	60		40-140	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-05 D Date Collected: 08/30/16 10:00

Client ID: MW-205 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1
Analytical Date: 08/31/16 21:30

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved

Sample Temperature upon receipt:

Container
Received on Ice

Parameter	Result	Qualifier (Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
2,5-Dibromotoluene-PID	102		70-130	
2,5-Dibromotoluene-FID	109		70-130	



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-06 Date Collected: 08/30/16 13:00

Client ID: DuP-1 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 98,EPH-04-1.1 Extraction Date: 08/31/16 00:02

Analytical Date: 09/01/16 07:07 Cleanup Method1: EPH-04-1

Analyst: SR Cleanup Date1: 08/31/16

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container
Received on Ice

Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier Un	its RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarb	ons - Westborough La	b			
C9-C18 Aliphatics	ND	uç	g/l 100		1
C19-C36 Aliphatics	ND	uç	g/l 100		1
C11-C22 Aromatics	ND	uç	g/l 100		1
C11-C22 Aromatics, Adjusted	ND	uç	g/l 100		1
Naphthalene	ND	uç	g/l 10.0		1
2-Methylnaphthalene	ND	uç	g/l 10.0		1
Acenaphthylene	ND	uç	g/l 10.0		1
Acenaphthene	ND	uç	g/l 10.0		1
Fluorene	ND	uç	g/l 10.0		1
Phenanthrene	ND	uç	g/l 10.0		1
Anthracene	ND	uç	g/l 10.0		1
Fluoranthene	ND	uç	g/l 10.0		1
Pyrene	ND	uç	g/l 10.0		1
Benzo(a)anthracene	ND	uç	g/l 10.0		1
Chrysene	ND	uç	g/l 10.0		1
Benzo(b)fluoranthene	ND	uç	g/l 10.0		1
Benzo(k)fluoranthene	ND	uç	g/l 10.0		1
Benzo(a)pyrene	ND	uç	g/l 10.0		1
Indeno(1,2,3-cd)Pyrene	ND	uç	g/l 10.0		1
Dibenzo(a,h)anthracene	ND	uç	g/l 10.0		1
Benzo(ghi)perylene	ND	uç	g/l 10.0		1



Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: Date Collected: 08/30/16 13:00

Client ID: DUP-1 Date Received: 08/30/16
Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
Chloro-Octadecane	75		40-140	
o-Terphenyl	72		40-140	
2-Fluorobiphenyl	80		40-140	
2-Bromonaphthalene	81		40-140	



08/30/16 13:00

Project Name: ATLANTIC BRIDGE Lab Number: L1627219

Project Number: 140143.0000.7215 **Report Date:** 09/01/16

SAMPLE RESULTS

Lab ID: L1627219-06 D Date Collected:

Client ID: DuP-1 Date Received: 08/30/16

Sample Location: BRIDGE ST. WEYMOUTH, MA Field Prep: Not Specified

Matrix: Water

Analytical Method: 100,VPH-04-1.1 Analytical Date: 08/31/16 22:10

Analyst: JM

Quality Control Information

Condition of sample received: Satisfactory

Aqueous Preservative: Laboratory Provided Preserved

Sample Temperature upon receipt: Container Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons	- Westborough Lab					
C5-C8 Aliphatics	ND		ug/l	250		5
C9-C12 Aliphatics	ND		ug/l	250		5
C9-C10 Aromatics	ND		ug/l	250		5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250		5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250		5
Benzene	ND		ug/l	10.0		5
Toluene	ND		ug/l	10.0		5
Ethylbenzene	ND		ug/l	10.0		5
p/m-Xylene	ND		ug/l	10.0		5
o-Xylene	ND		ug/l	10.0		5
Methyl tert butyl ether	ND		ug/l	15.0		5
Naphthalene	ND		ug/l	20.0		5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2,5-Dibromotoluene-PID	103		70-130	
2,5-Dibromotoluene-FID	109		70-130	



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627219 Report Date: 09/01/16

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

98,EPH-04-1.1

Analyst:

09/01/16 02:39

SR

Extraction Method: EPA 3510C 08/31/16 00:02 Extraction Date: EPH-04-1 Cleanup Method:

Cleanup Date: 08/31/16

arameter	Result	Qualifier	Units	RL	MDL	
xtractable Petroleum Hydrocar	bons - Westbo	rough Lab fo	or sample(s):	01-06	Batch: WG927490-	1
C9-C18 Aliphatics	ND		ug/l	100		
C19-C36 Aliphatics	ND		ug/l	100		
C11-C22 Aromatics	ND		ug/l	100		
C11-C22 Aromatics, Adjusted	ND		ug/l	100		
Naphthalene	ND		ug/l	10.0		
2-Methylnaphthalene	ND		ug/l	10.0		
Acenaphthylene	ND		ug/l	10.0		
Acenaphthene	ND		ug/l	10.0		
Fluorene	ND		ug/l	10.0		
Phenanthrene	ND		ug/l	10.0		
Anthracene	ND		ug/l	10.0		
Fluoranthene	ND		ug/l	10.0		
Pyrene	ND		ug/l	10.0		
Benzo(a)anthracene	ND		ug/l	10.0		
Chrysene	ND		ug/l	10.0		
Benzo(b)fluoranthene	ND		ug/l	10.0		
Benzo(k)fluoranthene	ND		ug/l	10.0		
Benzo(a)pyrene	ND		ug/l	10.0		
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0		
Dibenzo(a,h)anthracene	ND		ug/l	10.0		
Benzo(ghi)perylene	ND		ug/l	10.0		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	73		40-140
o-Terphenyl	68		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	77		40-140



Method Blank Analysis Batch Quality Control

Analytical Method: 100,VPH-04-1.1 Analytical Date: 08/31/16 09:11

Analyst: JM

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Petroleum Hydrocarbons -	Westboroug	h Lab for s	sample(s):	01-06	Batch:	WG928006-3
C5-C8 Aliphatics	ND		ug/l	50.0		
C9-C12 Aliphatics	ND		ug/l	50.0		
C9-C10 Aromatics	ND		ug/l	50.0		
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0		
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0		
Benzene	ND		ug/l	2.00		
Toluene	ND		ug/l	2.00		
Ethylbenzene	ND		ug/l	2.00		
p/m-Xylene	ND		ug/l	2.00		
o-Xylene	ND		ug/l	2.00		
Methyl tert butyl ether	ND		ug/l	3.00		
Naphthalene	ND		ug/l	4.00		

		Acceptance			
Surrogate	%Recovery	Qualifier	Criteria		
2,5-Dibromotoluene-PID	96		70-130		
2,5-Dibromotoluene-FID	101		70-130		



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627219

Report Date:

09/01/16

ameter	LCS %Recovery Q	LCSD Jual %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
ractable Petroleum Hydrocarbons	s - Westborough Lab Associa	ated sample(s): 01-06 E	Batch: WG927490-2 WG927	490-3	
C9-C18 Aliphatics	86	81	40-140	6	25
C19-C36 Aliphatics	93	55	40-140	51	Q 25
C11-C22 Aromatics	76	65	40-140	16	25
Naphthalene	71	64	40-140	10	25
2-Methylnaphthalene	72	64	40-140	12	25
Acenaphthylene	72	63	40-140	13	25
Acenaphthene	74	64	40-140	14	25
Fluorene	75	63	40-140	17	25
Phenanthrene	76	65	40-140	16	25
Anthracene	76	65	40-140	16	25
Fluoranthene	76	64	40-140	17	25
Pyrene	80	68	40-140	16	25
Benzo(a)anthracene	72	60	40-140	18	25
Chrysene	74	62	40-140	18	25
Benzo(b)fluoranthene	73	61	40-140	18	25
Benzo(k)fluoranthene	74	61	40-140	19	25
Benzo(a)pyrene	68	56	40-140	19	25
Indeno(1,2,3-cd)Pyrene	68	56	40-140	19	25
Dibenzo(a,h)anthracene	70	57	40-140	20	25
Benzo(ghi)perylene	67	56	40-140	18	25
Nonane (C9)	62	60	30-140	3	25



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627219

Report Date: 09/01/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons -	Westborough Lab Asso	ociated sample	e(s): 01-06	Batch: WG	927490-2 WG927	490-3		
Decane (C10)	72		67		40-140	7		25
Dodecane (C12)	78		72		40-140	8		25
Tetradecane (C14)	86		77		40-140	11		25
Hexadecane (C16)	89		78		40-140	13		25
Octadecane (C18)	91		79		40-140	14		25
Nonadecane (C19)	91		79		40-140	14		25
Eicosane (C20)	91		78		40-140	15		25
Docosane (C22)	88		76		40-140	15		25
Tetracosane (C24)	87		75		40-140	15		25
Hexacosane (C26)	87		75		40-140	15		25
Octacosane (C28)	87		75		40-140	15		25
Triacontane (C30)	86		74		40-140	15		25
Hexatriacontane (C36)	87		75		40-140	15		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
Chloro-Octadecane	85		74		40-140	
o-Terphenyl	73		61		40-140	
2-Fluorobiphenyl	77		68		40-140	
2-Bromonaphthalene	78		71		40-140	
% Naphthalene Breakthrough	0		0			
% 2-Methylnaphthalene Breakthrough	0		0			



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627219

Report Date: 09/01/16

Parameter	LCS %Recovery	LCS Qual %Reco		%Reco Qual Lim		Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborou	ıgh Lab Assoc	iated sample(s): 01-06	Batch:	WG928006-1 W	G928006-2		
C5-C8 Aliphatics	95	9	1	70-1:	30 5		25
C9-C12 Aliphatics	96	9:	2	70-1:	30 4		25
C9-C10 Aromatics	92	9.	2	70-1:	30 1		25
Benzene	89	8	3	70-1:	30 2		25
Toluene	92	91)	70-1:	30 2		25
Ethylbenzene	92	91)	70-1:	30 2		25
p/m-Xylene	93	9	1	70-1:	30 2		25
o-Xylene	90	91)	70-1:	30 1		25
Methyl tert butyl ether	82	8.	2	70-1:	30 1		25
Naphthalene	83	8.	2	70-1:	30 1		25
1,2,4-Trimethylbenzene	92	9:	2	70-1:	30 1		25
Pentane	93	9)	70-1:	30 3		25
2-Methylpentane	96	9:	3	70-1:	30 3		25
2,2,4-Trimethylpentane	97	9:	2	70-1:	30 5		25
n-Nonane	100	9:	5	30-1:	30 5		25
n-Decane	96	9:	2	70-1:	30 4		25
n-Butylcyclohexane	100	9	6	70-1:	30 4		25



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE

Lab Number:

L1627219

Project Number: 140143.0000.7215

Report Date:

09/01/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-06 Batch: WG928006-1 WG928006-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	
2,5-Dibromotoluene-PID	86		83		70-130	
2,5-Dibromotoluene-FID	90		86		70-130	



Serial_No:09011612:49

Project Name:ATLANTIC BRIDGELab Number: L1627219Project Number:140143.0000.7215Report Date: 09/01/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent B Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1627219-01A	Vial HCl preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)
L1627219-01B	Vial HCI preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)
L1627219-01C	Vial HCI preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)
L1627219-01D	Amber 1000ml HCl preserved	Α	<2	4.3	Υ	Absent	EPH-DELUX-10(14)
L1627219-01E	Amber 1000ml HCl preserved	Α	<2	4.3	Υ	Absent	EPH-DELUX-10(14)
L1627219-02A	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-02B	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-02C	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-02D	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-02E	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-03A	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-03B	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-03C	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-03D	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-03E	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-04A	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-04B	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-04C	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-04D	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-04E	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-05A	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-05B	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-05C	Vial HCI preserved	В	N/A	5.1	Υ	Absent	VPH-DELUX-10(14)
L1627219-05D	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-05E	Amber 1000ml HCl preserved	В	<2	5.1	Υ	Absent	EPH-DELUX-10(14)
L1627219-06A	Vial HCl preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)
L1627219-06B	Vial HCl preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)
L1627219-06C	Vial HCl preserved	Α	N/A	4.3	Υ	Absent	VPH-DELUX-10(14)



Serial_No:09011612:49

Project Name:ATLANTIC BRIDGELab Number:L1627219Project Number:140143.0000.7215Report Date:09/01/16

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1627219-06D	Amber 1000ml HCl preserved	Α	<2	4.3	Υ	Absent	EPH-DELUX-10(14)
L1627219-06E	Amber 1000ml HCI preserved	Α	<2	4.3	Υ	Absent	EPH-DELUX-10(14)
L1627219-07A	Vial HCI preserved	Α	N/A	4.3	Υ	Absent	HOLD-VPH(14)
L1627219-07B	Vial HCI preserved	Α	N/A	4.3	Υ	Absent	HOLD-VPH(14)



GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Serial_No:09011612:49

Project Name:ATLANTIC BRIDGELab Number:L1627219Project Number:140143.0000.7215Report Date:09/01/16

REFERENCES

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

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.



Serial_No:09011612:49

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:**17873**

Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

Revision 7

Certification Information

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

Westborough Facility

EPA 624: 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, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene;

Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS **EPA 3005A** NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

Pre-Qualtrax Document ID: 08-113

	CHAIN OF	CUSTO	DY	PAGE 1 OF	1	Dat	e Rec'd	in Lab	: 4	130	110	-		ALI	PHA.	Job #	: []	127219	
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	Mansfield, MA TEL: 508-822-9300	Project Name:	Atlantic Bridg	e		Re	gulate	ory R	eguir	emen	ts/Re	port	Limits	S					
	FAX: 508-822-3288					Star	te/Fed F							Crite					
Client Information	on	Project Location	n: Bridge St,	Weymouth, I	MA	MC		FOLI	RCGW-2										
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Address: 2 Liberty	Sq	Project Manager: Rick Paquette								ls) Required?									
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Phone: 617-385-60	33	Turn-Around	Time															Filtration	T A
Fax: 617-350-3444		☐ Standard	⊠ Rus	sh (ONLY IF PR	E-APPROVED)		1											☐ Done	L #
Email: rniles@trcso	lutions.com	·																☐ Not Needed☐ Lab to do	В.
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.05	MW-203	8/29/16	1 1 11	GW	LH			片	片	H		片	님		片		片		4
600	MW-204	8/29/16	1545	GW	LH			H					님	片	H		H		4
(0)	MW-205	8/30/10	1300	GW	LH			H	H		H	 	H	H	H	H	片		4
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PLEASE ANSWER C	QUESTIONS ABOVE!			Coi	ntainer Type	V	А		-	-	-	-	-	-	-	-	-		
				Preservative	Н	н	-	-	-	-	-	-	-	-		-	Please print clearly, legibly and completely. Samples c	can	
IS YOUR	PROJECT		Relinq	uished By:		Da	ate/Time	me Received By:				Date/Time			ne "	not be logged in and turnaround time clock will no	not		
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ANALYTICAL REPORT

Lab Number: L1627225

Client: TRC Environmental Consultants

Two Liberty Square

Sixth Floor

Boston, MA 02109

ATTN: Ryan Niles
Phone: (617) 385-6033

Project Name: ATLANTIC BRIDGE

Project Number: 140143.0000.7215

Report Date: 09/07/16

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: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627225 **Report Date:** 09/07/16

Alpha Sample ID	Ol's and ID	Madela	Sample Location	Collection Date/Time	Receive Date
Sample ID	Client ID	Matrix	Location	Date/ Hille	recourse Date
L1627225-01	MW-201	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 14:00	08/30/16
L1627225-02	MW-202	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 11:30	08/30/16
L1627225-03	MW-203	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 14:15	08/30/16
L1627225-04	MW-204	WATER	BRIDGE ST. WEYMOUTH, MA	08/29/16 15:45	08/30/16
L1627225-05	MW-205	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 10:00	08/30/16
L1627225-06	DUP-1	WATER	BRIDGE ST. WEYMOUTH, MA	08/30/16 13:00	08/30/16



MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
В	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
С	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A res	sponse to questions G, H and I is required for "Presumptive Certainty" status	
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
н	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.



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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.



Serial_No:09071612:06

Project Name:ATLANTIC BRIDGELab Number:L1627225Project Number:140143.0000.7215Report Date:09/07/16

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

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:

Title: Technical Director/Representative Date: 09/07/16

Melissa Cripps Melissa Cripps

METALS



SAMPLE RESULTS

Lab ID: L1627225-01 Client ID: MW-201

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/30/16 14:00

Date Received: 08/30/16
Field Prep: Field Filtered

(Dissolved Metals)

Dilution Date Analytical Date Prep Method Factor **Prepared** Method Qualifier RL MDL Analyzed **Parameter** Result Units Analyst MCP Total Metals - Mansfield Lab Antimony, Total ND mg/l 0.050 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C FB 97,6010C Arsenic, Total 0.006 0.005 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A FΒ mg/l 0.074 1 97,6010C FΒ Barium, Total mg/l 0.010 08/31/16 11:50 09/01/16 03:48 EPA 3005A Beryllium, Total ND 0.005 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C FΒ mg/l 97,6010C Cadmium, Total ND mg/l 0.004 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A FΒ 0.01 97,6010C FΒ Chromium, Total ND 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A mg/l Lead, Total ND 0.010 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C FΒ mg/l Mercury, Total ND 0.0002 1 08/31/16 13:32 09/06/16 17:37 EPA 7470A 97,7470A EΑ mg/l 1 97,6010C FΒ Nickel, Total ND 0.025 08/31/16 11:50 09/01/16 03:48 EPA 3005A mg/l Selenium, Total ND 0.010 --1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C FΒ mg/l ND 0.007 97,6010C FΒ Silver, Total mg/l 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A --Thallium, Total ND 0.020 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C FB mg/l --Vanadium, Total ND 0.010 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97,6010C mg/l FB Zinc, Total 0.333 0.050 1 08/31/16 11:50 09/01/16 03:48 EPA 3005A 97.6010C FB mg/l MCP Dissolved Metals - Mansfield Lab ND 0.050 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C Antimony, Dissolved mg/l FB Arsenic, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C FΒ FΒ 0.071 1 97,6010C Barium, Dissolved mg/l 0.010 08/31/16 11:50 09/01/16 02:50 EPA 3005A Beryllium, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C FΒ 97,6010C ND 0.004 --1 08/31/16 11:50 09/01/16 02:50 EPA 3005A FΒ Cadmium, Dissolved mg/l Chromium, Dissolved ND mg/l 0.01 --1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C FB ND 97,6010C FΒ Lead. Dissolved mg/l 0.010 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,7470A Mercury, Dissolved ND 0.0002 1 08/31/16 13:32 09/06/16 17:12 EPA 7470A EΑ mg/l 97,6010C Nickel, Dissolved ND mg/l 0.025 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A FΒ 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C Selenium, Dissolved ND mg/l 0.010 1 FΒ 97,6010C Silver, Dissolved ND mg/l 0.007 --1 08/31/16 11:50 09/01/16 02:50 EPA 3005A FR 97,6010C Thallium, Dissolved ND mg/l 0.020 --1 08/31/16 11:50 09/01/16 02:50 EPA 3005A FΒ mg/l 97,6010C Vanadium, Dissolved ND 0.010 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A FΒ 0.071 0.050 1 08/31/16 11:50 09/01/16 02:50 EPA 3005A 97,6010C FB Zinc, Dissolved mg/l



SAMPLE RESULTS

Lab ID: L1627225-02 Client ID: MW-202

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/29/16 11:30

Date Received: 08/30/16 Field Prep: Field Filtered

(Dissolved Metals)

Dilution Date Analytical Date Prep Method Factor **Prepared** Method Qualifier RL MDL Analyzed **Parameter** Result Units Analyst MCP Total Metals - Mansfield Lab Antimony, Total ND mg/l 0.050 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C FB 97,6010C Arsenic, Total 0.006 0.005 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A FΒ mg/l 0.088 1 97,6010C FΒ Barium, Total mg/l 0.010 08/31/16 11:50 09/01/16 03:52 EPA 3005A Beryllium, Total ND 0.005 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C FΒ mg/l 97,6010C Cadmium, Total ND mg/l 0.004 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A FΒ 0.01 97,6010C FΒ Chromium, Total ND 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A mg/l Lead, Total ND 0.010 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C FΒ mg/l Mercury, Total ND 0.0002 1 08/31/16 13:32 09/06/16 17:38 EPA 7470A 97,7470A EΑ mg/l 1 97,6010C FΒ Nickel, Total ND 0.025 08/31/16 11:50 09/01/16 03:52 EPA 3005A mg/l Selenium, Total ND 0.010 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C FΒ mg/l 08/31/16 11:50 09/01/16 03:52 EPA 3005A ND 0.007 97,6010C FΒ Silver, Total mg/l 1 --Thallium, Total ND 0.020 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C FB mg/l --Vanadium, Total ND 0.010 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97,6010C mg/l FB Zinc, Total 0.577 0.050 1 08/31/16 11:50 09/01/16 03:52 EPA 3005A 97.6010C FB mg/l MCP Dissolved Metals - Mansfield Lab ND 0.050 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C Antimony, Dissolved mg/l FB Arsenic, Dissolved 0.007 mg/l 0.005 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C FΒ FΒ 1 97,6010C Barium, Dissolved 0.085 mg/l 0.010 08/31/16 11:50 09/01/16 05:14 EPA 3005A Beryllium, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C FΒ 97,6010C ND 0.004 --1 08/31/16 11:50 09/01/16 05:14 EPA 3005A FΒ Cadmium, Dissolved mg/l Chromium, Dissolved ND mg/l 0.01 --1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C FB ND 97,6010C FΒ Lead. Dissolved mg/l 0.010 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,7470A Mercury, Dissolved ND 0.0002 1 08/31/16 13:32 09/06/16 17:14 EPA 7470A EΑ mg/l 97,6010C Nickel, Dissolved ND mg/l 0.025 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A FΒ 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C Selenium, Dissolved ND mg/l 0.010 1 FΒ 97,6010C Silver, Dissolved ND mg/l 0.007 --1 08/31/16 11:50 09/01/16 05:14 EPA 3005A FR 97,6010C Thallium, Dissolved ND mg/l 0.020 --1 08/31/16 11:50 09/01/16 05:14 EPA 3005A FΒ mg/l 97,6010C Vanadium, Dissolved ND 0.010 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A FΒ 0.060 0.050 1 08/31/16 11:50 09/01/16 05:14 EPA 3005A 97,6010C FB Zinc, Dissolved mg/l



SAMPLE RESULTS

Lab ID: L1627225-03 Client ID: MW-203

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/29/16 14:15

Date Received: 08/30/16
Field Prep: Field Filtered

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals -	Mansfiel	d Lab									
Antimony, Total	ND		mg/l	0.050		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Arsenic, Total	ND		mg/l	0.0050		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Barium, Total	0.042		mg/l	0.010		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Beryllium, Total	ND		mg/l	0.005		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Cadmium, Total	ND		mg/l	0.004		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Chromium, Total	ND		mg/l	0.01		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Lead, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Mercury, Total	ND		mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:40	EPA 7470A	97,7470A	EA
Nickel, Total	ND		mg/l	0.025		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Selenium, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Silver, Total	ND		mg/l	0.007		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Thallium, Total	ND		mg/l	0.020		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Vanadium, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
Zinc, Total	0.050		mg/l	0.050		1	08/31/16 11:50	09/01/16 03:56	EPA 3005A	97,6010C	FB
MCP Dissolved Me	tals - Maı	nsfield Lab									
Antimony, Dissolved	ND		mg/l	0.050		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Arsenic, Dissolved	0.007		mg/l	0.005		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Barium, Dissolved	0.042		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Beryllium, Dissolved	ND		mg/l	0.005		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Cadmium, Dissolved	ND		mg/l	0.004		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Chromium, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Lead, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Mercury, Dissolved	ND		mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:16	EPA 7470A	97,7470A	EA
Nickel, Dissolved	ND		mg/l	0.025		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Selenium, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Silver, Dissolved	ND		mg/l	0.007		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Thallium, Dissolved	ND		mg/l	0.020		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Vanadium, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB
Zinc, Dissolved	0.553		mg/l	0.050		1	08/31/16 11:50	09/01/16 05:19	EPA 3005A	97,6010C	FB



SAMPLE RESULTS

Lab ID: L1627225-04 Client ID: MW-204

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/29/16 15:45

Date Received: 08/30/16
Field Prep: Field Filtered

(Dissolved

Metals)

						Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
MCP Total Metals	- Mansfiel	ld Lab									
Antimony, Total	ND		mg/l	0.050		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Arsenic, Total	0.005		mg/l	0.005		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Barium, Total	0.045		mg/l	0.010		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Beryllium, Total	ND		mg/l	0.005		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Cadmium, Total	ND		mg/l	0.004		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Chromium, Total	ND		mg/l	0.01		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Lead, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Mercury, Total	ND		mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:42	EPA 7470A	97,7470A	EA
Nickel, Total	ND		mg/l	0.025		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Selenium, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Silver, Total	ND		mg/l	0.007		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Thallium, Total	ND		mg/l	0.020		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Vanadium, Total	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
Zinc, Total	0.058		mg/l	0.050		1	08/31/16 11:50	09/01/16 04:01	EPA 3005A	97,6010C	FB
MCP Dissolved Me	tals - Ma	nsfield Lab									
Antimony, Dissolved	ND		mg/l	0.050		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Arsenic, Dissolved	ND		mg/l	0.005		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Barium, Dissolved	0.047		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Beryllium, Dissolved	ND		mg/l	0.005		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Cadmium, Dissolved	ND		mg/l	0.004		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Chromium, Dissolved	ND		mg/l	0.01		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Lead, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Mercury, Dissolved	ND		mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:18	EPA 7470A	97,7470A	EA
Nickel, Dissolved	ND		mg/l	0.025		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Selenium, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Silver, Dissolved	ND		mg/l	0.007		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Thallium, Dissolved	ND		mg/l	0.020		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Vanadium, Dissolved	ND		mg/l	0.010		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB
Zinc, Dissolved	0.608		mg/l	0.050		1	08/31/16 11:50	09/01/16 05:23	EPA 3005A	97,6010C	FB



SAMPLE RESULTS

Lab ID: L1627225-05 Client ID: MW-205

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/30/16 10:00

Date Received: 08/30/16 Field Prep: Field Filtered

(Dissolved Metals)

Dilution Date Analytical Date Prep Method Factor **Prepared** Method Qualifier RL MDL Analyzed Result Units **Parameter** Analyst MCP Total Metals - Mansfield Lab Antimony, Total ND mg/l 0.050 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97,6010C FB 97,6010C Arsenic, Total 0.007 0.005 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A FΒ mg/l 1 97,6010C FΒ Barium, Total 0.104 mg/l 0.010 08/31/16 11:50 09/01/16 04:05 EPA 3005A Beryllium, Total ND 0.005 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97,6010C FΒ mg/l 97,6010C Cadmium, Total ND 0.004 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A FΒ mg/l 97,6010C FΒ Chromium, Total ND 0.01 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A mg/l Lead, Total ND 0.010 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97,6010C FΒ mg/l Mercury, Total ND 0.0002 1 08/31/16 13:32 09/06/16 17:44 EPA 7470A 97,7470A EΑ mg/l 1 97,6010C ND 0.025 08/31/16 11:50 09/01/16 04:05 EPA 3005A FB Nickel, Total mg/l Selenium, Total ND 0.010 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97,6010C FΒ mg/l ND 0.007 97,6010C FΒ Silver, Total 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A mg/l --Thallium, Total ND 0.020 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97,6010C FB mg/l --Vanadium, Total ND 0.010 1 97,6010C mg/l 08/31/16 11:50 09/01/16 04:05 EPA 3005A FB Zinc, Total 0.053 0.050 1 08/31/16 11:50 09/01/16 04:05 EPA 3005A 97.6010C FB mg/l MCP Dissolved Metals - Mansfield Lab ND 0.050 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C Antimony, Dissolved mg/l FΒ Arsenic, Dissolved 0.007 0.005 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C FΒ mg/l 1 97,6010C Barium, Dissolved 0.106 mg/l 0.010 08/31/16 11:50 09/01/16 05:27 EPA 3005A FΒ Beryllium, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C FΒ 97,6010C ND 0.004 --1 08/31/16 11:50 09/01/16 05:27 EPA 3005A FΒ Cadmium, Dissolved mg/l Chromium, Dissolved ND mg/l 0.01 --1 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C FB ND 97,6010C FΒ Lead. Dissolved mg/l 0.010 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A Mercury, Dissolved ND 0.0002 1 08/31/16 13:32 09/06/16 17:20 EPA 7470A 97,7470A EΑ mg/l 97,6010C Nickel, Dissolved ND mg/l 0.025 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A FΒ 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C Selenium, Dissolved ND mg/l 0.010 1 FΒ 97,6010C Silver, Dissolved ND mg/l 0.007 --1 08/31/16 11:50 09/01/16 05:27 EPA 3005A FR 97,6010C Thallium, Dissolved ND mg/l 0.020 --1 08/31/16 11:50 09/01/16 05:27 EPA 3005A FΒ mg/l 97,6010C Vanadium, Dissolved ND 0.010 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A FΒ 0.596 0.050 1 08/31/16 11:50 09/01/16 05:27 EPA 3005A 97,6010C FB Zinc, Dissolved mg/l



SAMPLE RESULTS

Lab ID: L1627225-06

Client ID: DUP-1

Sample Location: BRIDGE ST. WEYMOUTH, MA

Matrix: Water

Date Collected: 08/30/16 13:00

Date Received: 08/30/16 Field Prep: Field Filtered

(Dissolved

Metals) Dilution Date Analytical Date Prep Method Factor **Prepared** Method Qualifier RL MDL Analyzed **Parameter** Result Units Analyst MCP Total Metals - Mansfield Lab Antimony, Total ND mg/l 0.050 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97,6010C FB 97,6010C Arsenic, Total ND 0.0050 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A FΒ mg/l 0.073 1 97,6010C FΒ Barium, Total mg/l 0.010 08/31/16 11:50 09/01/16 04:09 EPA 3005A Beryllium, Total ND 0.005 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97,6010C FΒ mg/l 97,6010C Cadmium, Total ND 0.004 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A FΒ mg/l 0.01 97,6010C FΒ Chromium, Total ND 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A mg/l Lead, Total ND 0.010 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97,6010C FΒ mg/l Mercury, Total ND 0.0002 1 08/31/16 13:32 09/06/16 17:46 EPA 7470A 97,7470A EΑ mg/l 1 97,6010C FΒ Nickel, Total ND 0.025 08/31/16 11:50 09/01/16 04:09 EPA 3005A mg/l Selenium, Total ND 0.010 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97,6010C FΒ mg/l ND 0.007 97,6010C FΒ Silver, Total mg/l 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A --Thallium, Total ND 0.020 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97,6010C FB mg/l --Vanadium, Total ND 0.010 1 97,6010C mg/l 08/31/16 11:50 09/01/16 04:09 EPA 3005A FB Zinc, Total 0.591 0.050 1 08/31/16 11:50 09/01/16 04:09 EPA 3005A 97.6010C FB mg/l MCP Dissolved Metals - Mansfield Lab ND 0.050 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C Antimony, Dissolved mg/l FΒ Arsenic, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C FΒ 0.071 1 97,6010C Barium, Dissolved mg/l 0.010 08/31/16 11:50 09/01/16 06:12 EPA 3005A FΒ Beryllium, Dissolved ND mg/l 0.005 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C FΒ 97,6010C ND 0.004 --1 08/31/16 11:50 09/01/16 06:12 EPA 3005A FΒ Cadmium, Dissolved mg/l Chromium, Dissolved ND mg/l 0.01 --1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C FB ND 97,6010C FΒ Lead. Dissolved mg/l 0.010 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,7470A Mercury, Dissolved 0.0002 0.0002 1 08/31/16 13:32 09/06/16 17:22 EPA 7470A EΑ mg/l 97,6010C Nickel, Dissolved ND mg/l 0.025 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A FΒ 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C Selenium, Dissolved ND mg/l 0.010 1 FΒ 97,6010C Silver, Dissolved ND mg/l 0.007 --1 08/31/16 11:50 09/01/16 06:12 EPA 3005A FR 97,6010C Thallium, Dissolved ND mg/l 0.020 --1 08/31/16 11:50 09/01/16 06:12 EPA 3005A FΒ mg/l 97,6010C Vanadium, Dissolved ND 0.010 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A FΒ 0.383 0.050 1 08/31/16 11:50 09/01/16 06:12 EPA 3005A 97,6010C FB Zinc, Dissolved mg/l



Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627225 **Report Date:** 09/07/16

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals -	Mansfield Lab for	sample(s):	01-06	Batch:	WG927692	-1			
Antimony, Dissolved	ND	mg/l	0.050		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Arsenic, Dissolved	ND	mg/l	0.005		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Barium, Dissolved	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Beryllium, Dissolved	ND	mg/l	0.005		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Cadmium, Dissolved	ND	mg/l	0.004		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Chromium, Dissolved	ND	mg/l	0.01		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Lead, Dissolved	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Nickel, Dissolved	ND	mg/l	0.025		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Selenium, Dissolved	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Silver, Dissolved	ND	mg/l	0.007		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Thallium, Dissolved	ND	mg/l	0.020		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Vanadium, Dissolved	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB
Zinc, Dissolved	ND	mg/l	0.050		1	08/31/16 11:50	09/01/16 03:03	97,6010C	FB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals -	Mansfield Lab for samp	le(s): 01-	06 Bato	h: WG	927696-1				
Antimony, Total	ND	mg/l	0.050		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Arsenic, Total	ND	mg/l	0.005		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Barium, Total	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Beryllium, Total	ND	mg/l	0.005		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Cadmium, Total	ND	mg/l	0.004		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Chromium, Total	ND	mg/l	0.01		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Lead, Total	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Nickel, Total	ND	mg/l	0.025		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Selenium, Total	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Silver, Total	ND	mg/l	0.007		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Thallium, Total	ND	mg/l	0.020		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Vanadium, Total	ND	mg/l	0.010		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB
Zinc, Total	ND	mg/l	0.050		1	08/31/16 11:50	09/01/16 00:11	97,6010C	FB



Serial_No:09071612:06

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number:

L1627225

Report Date: 09/07/16

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Quali	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Dissolved Metals	- Mansfield Lab	for sample(s):	01-06	Batch:	WG927747-	1			
Mercury, Dissolved	ND	mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:07	97,7470A	EA
			Prep Inf	ormatio	on				

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
MCP Total Metals - Ma	nsfield Lab for sampl	e(s): 01-0	06 Batc	h: WG	927748-1				
Mercury, Total	ND	mg/l	0.0002		1	08/31/16 13:32	09/06/16 17:31	97,7470A	EA

Prep Information

Digestion Method: EPA 7470A



Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627225

Report Date: 09/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Mansfield Lab Associat	ed sample(s): 01	-06 Batch	n: WG927692-2	WG927692-3	3			
Antimony, Dissolved	95		98		80-120	3		20
Arsenic, Dissolved	106		103		80-120	3		20
Barium, Dissolved	98		98		80-120	0		20
Beryllium, Dissolved	100		99		80-120	1		20
Cadmium, Dissolved	109		109		80-120	0		20
Chromium, Dissolved	95		95		80-120	0		20
Lead, Dissolved	102		100		80-120	2		20
Nickel, Dissolved	99		99		80-120	0		20
Selenium, Dissolved	107		107		80-120	0		20
Silver, Dissolved	101		100		80-120	1		20
Thallium, Dissolved	103		102		80-120	1		20
Vanadium, Dissolved	101		101		80-120	0		20
Zinc, Dissolved	99		100		80-120	1		20

Lab Control Sample Analysis Batch Quality Control

Project Name: ATLANTIC BRIDGE
Project Number: 140143.0000.7215

Lab Number: L1627225

Report Date: 09/07/16

arameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Total Metals - Mansfield Lab Associate	d sample(s): 01-06 Batc	h: WG927696-2 WG92769	6-3		
Antimony, Total	95	97	80-120	2	20
Arsenic, Total	107	104	80-120	3	20
Barium, Total	98	99	80-120	1	20
Beryllium, Total	109	109	80-120	0	20
Cadmium, Total	109	109	80-120	0	20
Chromium, Total	95	95	80-120	0	20
Lead, Total	103	100	80-120	3	20
Nickel, Total	99	99	80-120	0	20
Selenium, Total	109	105	80-120	4	20
Silver, Total	100	101	80-120	1	20
Thallium, Total	105	102	80-120	3	20
Vanadium, Total	100	101	80-120	1	20
Zinc, Total	100	100	80-120	0	20
CP Dissolved Metals - Mansfield Lab Asso	ciated sample(s): 01-06	Batch: WG927747-2 WG9	27747-3		
Mercury, Dissolved	106	102	80-120	4	20
CP Total Metals - Mansfield Lab Associate	d sample(s): 01-06 Batc	h: WG927748-2 WG92774	8-3		
Mercury, Total	102	113	80-120	10	20



Serial_No:09071612:06

Project Name:ATLANTIC BRIDGELab Number: L1627225Project Number:140143.0000.7215Report Date: 09/07/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent B Absent

Container Info	ormation		Temp				
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1627225-01A	Plastic 500ml HNO3 preserved	A	<2	4.3	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-XR-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-BB-6010S-10(180),MCP-PB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1627225-01B	Plastic 500ml HNO3 preserved	A	<2	4.3	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-PB-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1627225-02A	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627225 **Report Date:** 09/07/16

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1627225-02B	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1627225-03A	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-AS-6010S-10(180),MCP-AS-6010S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-BB-6010S-10(180),MCP-PB-6010S-10(180),MCP-PB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1627225-03B	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1627225-04A	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-AS-6010S-10(180),MCP-AS-6010S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)



Project Name: ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Lab Number: L1627225 **Report Date:** 09/07/16

Container Info			Temp				
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1627225-04B	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1627225-05A	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-PB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1627225-05B	Plastic 500ml HNO3 preserved	В	<2	5.1	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-SE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)
L1627225-06A	Plastic 500ml HNO3 preserved	A	<2	4.3	Y	Absent	MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-AS-6010S-10(180),MCP-AS-6010S-10(180),MCP-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-BE-6010S-10(180),MCP-BB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180),MCP-V-6010S-10(180)



Serial_No:09071612:06

Project Name: Lab Number: L1627225 ATLANTIC BRIDGE **Project Number:** 140143.0000.7215

Report Date: 09/07/16

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1627225-06B	Plastic 500ml HNO3 preserved	A	<2	4.3	Y	Absent	MCP-CR-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-B-6010T-10(180),MCP-SB-6010T-10(180),MCP-BE-6010T-10(180),MCP-BE-6010T-10(180),MCP-BA-6010T-10(180),MCP-BA-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180),MCP-PB-6010T-10(180)



GLOSSARY

Acronyms

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).

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.

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.

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.

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

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

Terms

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

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report



Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- 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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- 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.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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.



Serial_No:09071612:06

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 7

Published Date: 8/5/2016 11:25:56 AM

Page 1 of 1

Certification Information

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

Westborough Facility

EPA 624: 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 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

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: 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, SM4500CI-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, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

June 23, 2015

Ryan Niles TRC Environmental Corporation - Lowell 650 Suffolk Street Lowell, MA 01852

Project Location: Weymouth, MA

Client Job Number: Project Number: 140143

Laboratory Work Order Number: 15F0654

Meghan S. Kelley

Enclosed are results of analyses for samples received by the laboratory on June 12, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	5
15F0654-01	5
15F0654-02	8
15F0654-03	11
Sample Preparation Information	14
QC Data	15
Herbicides by GC/ECD	15
B124118	15
Metals Analyses (Total)	18
B124228	18
B124315	18
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)	20
B124348	20
Dual Column RPD Report	21
Flag/Qualifier Summary	25
Certifications	26
Chain of Custody/Sample Receipt	28



TRC Environmental Corporation - Lowell

650 Suffolk Street Lowell, MA 01852

ATTN: Ryan Niles

REPORT DATE: 6/23/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 140143

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15F0654

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Weymouth, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
COMP-123 0-1'	15F0654-01	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
COMP-467 0-1'	15F0654-02	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
COMP-8910 0-1'	15F0654-03	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	



CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For Inorganic analysis, client did not specify QA/QC per MCP.

For method 8151, samples were derivatized on 06/16/15.

For method 8151, sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

SW-846 6010C

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria. Analyte & Samples(s) Qualified:

Lead

B124315-BS1

SW-846 8151A

Qualifications:

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

MCPP

B124118-BS1, B124118-BSD1

MS-15

Matrix spike and matrix spike duplicate recoveries are outside of control limits. Data validation is not affected since results for this compound in this sample are "not detected", and recovery bias is on the high side. Analyte & Samples(s) Qualified:

B124118-MS1, B124118-MSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Johanna K. Harrington

Manager, Laboratory Reporting



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA Date Received: 6/12/2015

Field Sample #: COMP-123 0-1'

Sampled: 6/10/2015 13:40

Sample ID: 15F0654-01
Sample Matrix: Soil

			Herbicides by	GC/ECD					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	26	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
2,4-DB [1]	ND	26	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
2,4,5-TP (Silvex) [1]	ND	2.6	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
2,4,5-T [1]	ND	2.6	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
Dalalpon [1]	ND	65	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
Dicamba [1]	ND	2.6	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
Dichloroprop [1]	ND	26	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
Dinoseb [1]	ND	13	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
MCPA [1]	ND	2600	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
MCPP [1]	ND	2600	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:01	PJG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		125	30-150					6/18/15 4:01	
2,4-Dichlorophenylacetic acid [2]		128	30-150					6/18/15 4:01	



Sample Description:

Work Order: 15F0654

Project Location: Weymouth, MA Date Received: 6/12/2015

Field Sample #: COMP-123 0-1'

Sampled: 6/10/2015 13:40

Sample ID: 15F0654-01
Sample Matrix: Soil

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Antimony	ND	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Arsenic	29	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Barium	71	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Beryllium	1.4	0.26	mg/Kg dry	1		SW-846 6010C	6/17/15	6/20/15 13:11	MJH
Cadmium	1.0	0.26	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Chromium	15	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Lead	23	0.78	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Mercury	0.11	0.026	mg/Kg dry	1		SW-846 7471B	6/16/15	6/17/15 11:45	SCB
Nickel	17	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Selenium	5.9	5.2	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Silver	ND	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Thallium	3.6	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Vanadium	90	1.0	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH
Zinc	46	1.0	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:27	MJH



Project Location: Weymouth, MA

Date Received: 6/12/2015

Field Sample #: COMP-123 0-1'

Sample ID: 15F0654-01 Sample Matrix: Soil

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Sampled: 6/10/2015 13:40

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		95.2		% Wt	1		SM 2540G	6/17/15	6/18/15 8:32	MRL

6/18/15 4:51



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/12/2015

Field Sample #: COMP-467 0-1'

2,4-Dichlorophenylacetic acid [2]

Sampled: 6/10/2015 13:45

110

Sample ID: 15F0654-02
Sample Matrix: Soil

			Herbicides by	GC/ECD					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
2,4-DB [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
2,4,5-TP (Silvex) [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
2,4,5-T [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
Dalalpon [1]	ND	68	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
Dicamba [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
Dichloroprop [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
Dinoseb [1]	ND	14	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
MCPA [1]	ND	2700	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
MCPP [1]	ND	2700	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 4:51	PJG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		107	30-150	•	•			6/18/15 4:51	

30-150

6/17/15 6/19/15 19:32

MJH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

49

1.1

Sample Description:

Date Received: 6/12/2015 Field Sample #: COMP-467 0-1'

Project Location: Weymouth, MA

Sampled: 6/10/2015 13:45

Sample ID: 15F0654-02 Sample Matrix: Soil

Zinc

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	МЈН
Arsenic	44	2.7	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Barium	94	2.7	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Beryllium	1.9	0.27	mg/Kg dry	1		SW-846 6010C	6/17/15	6/20/15 13:15	MJH
Cadmium	1.5	0.27	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Chromium	17	0.53	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Lead	30	0.80	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Mercury	0.11	0.026	mg/Kg dry	1		SW-846 7471B	6/16/15	6/17/15 11:50	SCB
Nickel	27	0.53	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Selenium	ND	5.3	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Silver	ND	0.53	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Thallium	3.6	2.7	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH
Vanadium	100	1.1	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:32	MJH

mg/Kg dry

SW-846 6010C



Project Location: Weymouth, MA

Date Received: 6/12/2015

Field Sample #: COMP-467 0-1'

Sample ID: 15F0654-02 Sample Matrix: Soil

Work Order: 15F0654 Sample Description:

Sampled: 6/10/2015 13:45

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		91.4		% Wt	1		SM 2540G	6/17/15	6/18/15 8:32	MRI



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/12/2015

Field Sample #: COMP-8910 0-1'

Project Location: Weymouth, MA

Sampled: 6/10/2015 13:50

Sample ID: 15F0654-03 Sample Matrix: Soil

			Herbicides by	GC/ECD					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
2,4-DB [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
2,4,5-TP (Silvex) [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
2,4,5-T [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
Dalalpon [1]	ND	66	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
Dicamba [1]	ND	2.7	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
Dichloroprop [1]	ND	27	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
Dinoseb [1]	ND	13	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
MCPA [1]	ND	2700	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
MCPP [1]	ND	2700	μg/kg dry	1		SW-846 8151A	6/15/15	6/18/15 5:41	PJG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		109	30-150					6/18/15 5:41	
2,4-Dichlorophenylacetic acid [2]		102	30-150					6/18/15 5:41	



Sample Description:

Work Order: 15F0654

Project Location: Weymouth, MA Date Received: 6/12/2015

Field Sample #: COMP-8910 0-1'

Sample ID: 15F0654-03

Sampled: 6/10/2015 13:50

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.6	mg/Kg dry	1	-	SW-846 6010C	6/17/15	6/19/15 19:36	МЈН
Arsenic	39	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Barium	85	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Beryllium	1.8	0.26	mg/Kg dry	1		SW-846 6010C	6/17/15	6/20/15 13:19	MJH
Cadmium	1.3	0.26	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Chromium	18	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Lead	27	0.78	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Mercury	0.16	0.026	mg/Kg dry	1		SW-846 7471B	6/16/15	6/17/15 11:51	SCB
Nickel	25	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Selenium	5.4	5.2	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Silver	ND	0.52	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Thallium	3.3	2.6	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Vanadium	95	1.0	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH
Zinc	51	1.0	mg/Kg dry	1		SW-846 6010C	6/17/15	6/19/15 19:36	MJH



Sample Description:

Work Order: 15F0654

Date Received: 6/12/2015

Field Sample #: COMP-8910 0-1'

Project Location: Weymouth, MA

Sample ID: 15F0654-03

Sample Matrix: Soil

Sampled: 6/10/2015 13:50

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		92.8		% Wt	1		SM 2540G	6/17/15	6/18/15 8:32	MRL



Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
15F0654-01 [COMP-123 0-1']	B124348	06/17/15
15F0654-02 [COMP-467 0-1']	B124348	06/17/15
15F0654-03 [COMP-8910 0-1']	B124348	06/17/15

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15F0654-01 [COMP-123 0-1']	B124315	1.00	50.0	06/17/15
15F0654-02 [COMP-467 0-1']	B124315	1.03	50.0	06/17/15
15F0654-03 [COMP-8910 0-1']	B124315	1.03	50.0	06/17/15

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15F0654-01 [COMP-123 0-1']	B124228	0.603	50.0	06/16/15
15F0654-02 [COMP-467 0-1']	B124228	0.621	50.0	06/16/15
15F0654-03 [COMP-8910 0-1']	B124228	0.616	50.0	06/16/15

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date	
15F0654-01 [COMP-123 0-1']	B124118	20.1	5.00	06/15/15	
15F0654-02 [COMP-467 0-1']	B124118	20.2	5.00	06/15/15	
15F0654-03 [COMP-8910 0-1']	B124118	20.3	5.00	06/15/15	



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B124118 - SW-846 8151										
Blank (B124118-BLK1)				Prepared: 06	/15/15 Anal	yzed: 06/17/	15			
2,4-D	ND	24	μg/kg wet							
2,4-D [2C]	ND	24	μg/kg wet							
2,4-DB	ND	24	μg/kg wet							
2,4-DB [2C]	ND	24	μg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	μg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	μg/kg wet							
2,4,5-T	ND	2.4	μg/kg wet							
2,4,5-T [2C]	ND	2.4	μg/kg wet							
Dalapon	ND	60	μg/kg wet							
Dalapon [2C]	ND	60	μg/kg wet							
Dicamba	ND	2.4	μg/kg wet							
Dicamba [2C]	ND	2.4	μg/kg wet							
Dichloroprop	ND	24	μg/kg wet							
Dichloroprop [2C]	ND	24	μg/kg wet							
Dinoseb	ND	12	μg/kg wet							
Dinoseb [2C]	ND	12	μg/kg wet							
MCPA	ND	2400	μg/kg wet							
MCPA [2C]	ND	2400	μg/kg wet							
MCPP	ND	2400	μg/kg wet							
MCPP [2C]	ND	2400	μg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	94.2		μg/kg wet	95.2		98.9	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	89.2		μg/kg wet	95.2		93.7	30-150			
LCS (B124118-BS1)				Prepared: 06	/15/15 Anal	yzed: 06/18/	15			
2,4-D	122	25	μg/kg wet	124		98.3	40-140			
2,4-D [2C]	98.6	25	μg/kg wet	124		79.7	40-140			
2,4-DB	123	25	μg/kg wet	124		99.7	40-140			
2,4-DB [2C]	111	25	μg/kg wet	124		90.1	40-140			
2,4,5-TP (Silvex)	11.9	2.5	μg/kg wet	12.4		96.5	40-140			
2,4,5-TP (Silvex) [2C]	11.3	2.5	μg/kg wet	12.4		91.5	40-140			
2,4,5-T	11.7	2.5	μg/kg wet	12.4		94.6	40-140			
2,4,5-T [2C]	11.3	2.5	μg/kg wet	12.4		91.0	40-140			
Dalapon	175	62	μg/kg wet	309		56.5	40-140			
Dalapon [2C]	168	62	μg/kg wet	309		54.2	40-140			
Dicamba	12.0	2.5	$\mu g/kg$ wet	12.4		96.6	40-140			
Dicamba [2C]	12.6	2.5	$\mu g/kg$ wet	12.4		102	40-140			
Dichloroprop	150	25	μg/kg wet	124		121	40-140			
Dichloroprop [2C]	136	25	μg/kg wet	124		110	40-140			
Dinoseb	19.3	12	μg/kg wet	61.9		31.3	0-42.4			
Dinoseb [2C]	19.4	12	μg/kg wet	61.9		31.3	0-41.1			
MCPA	12400	2500	μg/kg wet	12400		100	40-140			
MCPA [2C]	11000	2500	μg/kg wet	12400		89.0	40-140			
MCPP	19100	2500	μg/kg wet	12400		154 *	40-140			L-02
MCPP [2C]	11500	2500	μg/kg wet	12400		93.0	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	101		μg/kg wet	99.0		102	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	94.0		μg/kg wet	99.0		95.0	30-150			
[2C]	2		F-G G							



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B124118 - SW-846 8151										
LCS Dup (B124118-BSD1)				Prepared: 06	/15/15 Analy	zed: 06/18/	15			
2,4-D	120	25	μg/kg wet	124		96.7	40-140	1.74	30	
2,4-D [2C]	98.5	25	μg/kg wet	124		79.6	40-140	0.118	30	
2,4-DB	121	25	μg/kg wet	124		98.1	40-140	1.57	30	
2,4-DB [2C]	110	25	μg/kg wet	124		88.5	40-140	1.77	30	
2,4,5-TP (Silvex)	12.0	2.5	μg/kg wet	12.4		97.2	40-140	0.667	30	
2,4,5-TP (Silvex) [2C]	11.3	2.5	μg/kg wet	12.4		91.6	40-140	0.0852	30	
2,4,5-T	11.6	2.5	μg/kg wet	12.4		94.0	40-140	0.628	30	
2,4,5-T [2C]	11.2	2.5	μg/kg wet	12.4		90.2	40-140	0.837	30	
Dalapon	149	62	μg/kg wet	309		48.1	40-140	16.1	30	
Dalapon [2C]	144	62	μg/kg wet	309		46.5	40-140	15.3	30	
Dicamba	11.9	2.5	μg/kg wet	12.4		95.9	40-140	0.759	30	
Dicamba [2C]	12.5	2.5	μg/kg wet	12.4		101	40-140	0.707	30	
Dichloroprop	148	25	μg/kg wet	124		119	40-140	1.36	30	
Dichloroprop [2C]	136	25	μg/kg wet	124		110	40-140	0.222	30	
Dinoseb	18.1	12	μg/kg wet	61.9		29.3	0-42.4	6.59	30	
Dinoseb [2C]	18.4	12	μg/kg wet	61.9		29.7	0-41.1	5.19	30	
MCPA	12100	2500	μg/kg wet	12400		97.4	40-140	2.76	30	
MCPA [2C]	10700	2500	μg/kg wet	12400		86.2	40-140	3.23	30	
MCPP	19000	2500	μg/kg wet	12400		153 *	40-140	0.451	30	L-02
MCPP [2C]	11200	2500	μg/kg wet	12400		90.6	40-140	2.69	30	
Surrogate: 2,4-Dichlorophenylacetic acid	98.9		μg/kg wet	99.0		99.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	91.3		μg/kg wet	99.0		92.2	30-150			
[2C]										
Matrix Spike (B124118-MS1)	Sou	rce: 15F0654	-01	Prepared: 06	/15/15 Analy	zed: 06/18/	15			
2,4-D	150	26	μg/kg dry	131	ND	115	30-150			
2,4-D [2C]	129	26	μg/kg dry	131	ND	98.6	30-150			
2,4-DB	142	26	μg/kg dry	131	ND	108	30-150			
2,4-DB [2C]	168	26	μg/kg dry	131	ND	129	30-150			
2,4,5-TP (Silvex)	13.6	2.6	μg/kg dry	13.1	ND	104	30-150			
2,4,5-TP (Silvex) [2C]	16.6	2.6	μg/kg dry	13.1	ND	127	30-150			
2,4,5-T	13.9	2.6	μg/kg dry	13.1	ND	107	30-150			
2,4,5-T [2C]	10.7	2.6	μg/kg dry	13.1	ND	82.0	30-150			
Dalapon	208	65	μg/kg dry	327	ND	63.6	30-150			
Dalapon [2C]	209	65	μg/kg dry	327	ND	64.0	30-150			
Dicamba	13.6	2.6	μg/kg dry	13.1	ND	104	30-150			
Dicamba [2C]	13.5	2.6	μg/kg dry	13.1	ND	103	30-150			
Dichloroprop	188	26	μg/kg dry	131	ND	144	30-150			
Dichloroprop [2C]	178	26	μg/kg dry	131	ND	136	30-150			
Dinoseb	24.4	13	μg/kg dry	65.3	ND	37.4	10-150			
Dinoseb [2C]	23.4	13	μg/kg dry	65.3	ND	35.8	10-150			
MCPA	15500	2600	μg/kg dry	13100	ND	119	30-150			
MCPA [2C]	12800	2600	μg/kg dry	13100	ND	98.0	30-150			
MCPP	27100	2600	μg/kg dry	13100	ND	208 *	30-150			MS-15
MCPP [2C]	17000	2600	μg/kg dry	13100	ND	130	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	139		μg/kg dry	105		133	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	134		μg/kg dry	105		129	30-150			
[2C]										



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B124118 - SW-846 8151										
Matrix Spike Dup (B124118-MSD1)	Sourc	Source: 15F0654-01			5/15/15 Analy	/15				
2,4-D	140	26	μg/kg dry	131	ND	107	30-150	6.66	30	
2,4-D [2C]	121	26	μg/kg dry	131	ND	92.5	30-150	6.32	30	
2,4-DB	128	26	μg/kg dry	131	ND	98.1	30-150	9.93	30	
2,4-DB [2C]	156	26	μg/kg dry	131	ND	119	30-150	7.76	30	
,4,5-TP (Silvex)	12.5	2.6	μg/kg dry	13.1	ND	95.6	30-150	8.36	30	
2,4,5-TP (Silvex) [2C]	15.4	2.6	μg/kg dry	13.1	ND	118	30-150	7.24	30	
2,4,5-T	12.7	2.6	μg/kg dry	13.1	ND	96.9	30-150	9.56	30	
2,4,5-T [2C]	10.6	2.6	μg/kg dry	13.1	ND	80.9	30-150	1.32	30	
Dalapon	201	65	μg/kg dry	327	ND	61.5	30-150	3.38	30	
Dalapon [2C]	202	65	μg/kg dry	327	ND	61.8	30-150	3.42	30	
Dicamba	12.9	2.6	μg/kg dry	13.1	ND	98.8	30-150	5.32	30	
Dicamba [2C]	12.8	2.6	μg/kg dry	13.1	ND	97.6	30-150	5.82	30	

 $\mu g/kg \; dry$

 $\mu g/kg \; dry$

 $\mu g/kg \; dry$

 $\mu g/kg \; dry$

131

131

65.3

105

ND

ND 132

ND

139

34.0

123

3.41

3.08

9.42

9.96

6.18

7.93

4.59

4.17

30-150

30-150

10-150

30-150

30

30

30

30

30

30

30

30

MS-15

Dinoseb [2C] 13 $\mu g/kg \; dry$ 65.3 10-150 32.4 21.1 ND MCPA 2600 $\mu g/kg \; dry$ 13100 112 30-150 14600 ND MCPA [2C] 2600 11800 $\mu g/kg \; dry$ 13100 ND 90.5 30-150 MCPP 2600 $\mu g/kg \; dry$ 13100 198 30-150 25900 ND MCPP [2C] $\mu g/kg \; dry$ 13100 125 30-150 ND 16300 Surrogate: 2,4-Dichlorophenylacetic acid 136 $\mu g/kg \; dry$ 105 130 30-150

26

26

13

182

172

22.2

129

[2C]

Dichloroprop

Dinoseb

Dichloroprop [2C]

Surrogate: 2,4-Dichlorophenylacetic acid



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B124228 - SW-846 7471										
Blank (B124228-BLK1)				Prepared: 06	/16/15 Analy	yzed: 06/17/	15			
Mercury	ND	0.025	mg/Kg wet							
.CS (B124228-BS1)				Prepared: 06	/16/15 Analy	yzed: 06/17/	15			
Mercury	7.73	0.76	mg/Kg wet	7.10		109	73.7-126.3			
•	1.13		5 5 4							
CCS Dup (B124228-BSD1)			/**		/16/15 Analy					
Mercury	7.20	0.78	mg/Kg wet	7.10		101	73.7-126.3	7.09	30	
Batch B124315 - SW-846 3050B										
Blank (B124315-BLK1)				Prepared: 06	/17/15 Analy	yzed: 06/19/	15			
Antimony	ND	2.5	mg/Kg wet							
arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
ead	ND	0.75	mg/Kg wet							
lickel	ND	0.50	mg/Kg wet							
elenium	ND	5.0	mg/Kg wet							
ilver	ND	0.50	mg/Kg wet							
hallium Yanadium	ND	2.5	mg/Kg wet							
'anadium inc	ND	1.0 1.0	mg/Kg wet mg/Kg wet							
	ND	1.0	mg/kg wet							
.CS (B124315-BS1)					/17/15 Analy	yzed: 06/19/				
ntimony	101	5.0	mg/Kg wet	105		95.7	0-210.3			
rsenic	84.0	5.0	mg/Kg wet	98.5		85.3	77.8-122.1			
Barium	265	5.0	mg/Kg wet	308		86.0	82-117.4			
Beryllium	61.3	0.50	mg/Kg wet	66.0		92.9	82.3-117.7			
Cadmium Chromium	123	0.50	mg/Kg wet	146		84.4	81.9-118.2			
Chromium Lead	158	1.0 1.5	mg/Kg wet mg/Kg wet	182 130		86.9 70.0 *	78.7-120.6			L-07
ickel	104 129	1.0	mg/Kg wet	130		79.9 * 86.8	82.4-117.8 82.2-117.8			L-U/
elenium	129	10	mg/Kg wet	154		89.2	77.1-122.3			
ilver	33.8		mg/Kg wet	40.9		82.7	74.3-125.4			
Thallium	153	5.0	mg/Kg wet	175		87.2	78.2-121.6			
⁷ anadium	88.8	2.0	mg/Kg wet	96.7		91.8	64.8-135.2			
inc	161	2.0	mg/Kg wet	191		84.5	79.7-120.8			
CS Dup (B124315-BSD1)				Prepared: 06	/17/15 Analy	yzed: 06/19/	15			
antimony	98.3	5.1	mg/Kg wet	105		93.6	0-210.3	2.29	30	
arsenic	82.4	5.1	mg/Kg wet	98.5		83.7	77.8-122.1	1.92	30	
Barium	286	5.1	mg/Kg wet	308		92.8	82-117.4	7.55	30	
Beryllium	58.7	0.51	mg/Kg wet	66.0		89.0	82.3-117.7	4.26	30	
admium	121	0.51	mg/Kg wet	146		82.9	81.9-118.2	1.84	30	
hromium	159	1.0	mg/Kg wet	182		87.4	78.7-120.6	0.610	30	
ead	121	1.5	mg/Kg wet	130		93.0	82.4-117.8	15.2	30	
ickel	125	1.0	mg/Kg wet	149		84.0	82.2-117.8	3.22	30	
elenium	136	10	mg/Kg wet	154		88.4	77.1-122.3	0.814	30	
ilver	33.3	1.0	mg/Kg wet	40.9		81.3	74.3-125.4	1.66	30	
`hallium	153	5.1	mg/Kg wet	175		87.3	78.2-121.6	0.0497	30	
⁷ anadium	89.0	2.0	mg/Kg wet	96.7		92.1	64.8-135.2	0.298	30	
line	161	2.0	mg/Kg wet	191		84.3	79.7-120.8	0.205	30	



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

MRL Check (B124315-MRL1)	Prepared: 06/17/15 Analyzed: 06/19/15						
Lead	0.625	0.72 mg/Kg wet 0.723 86.5 80-120					



QUALITY CONTROL

$Conventional\ Chemistry\ Parameters\ by\ EPA/APHA/SW-846\ Methods\ (Total)\ -\ Quality\ Control$

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch B124348 - % S	Solids
---------------------	--------

Duplicate (B124348-DUP3)	Source: 15F0654-01		Prepared: 06/17/15 Analyzed: 06/18/15		
% Solids	95.4	% Wt	95.2	0.210	20



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

LCS

Lab Sample ID:	B124118-BS1		Date(s) Analyzed:	06/18/2015	06/18/20	15
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WI	NDOW	CONCENTRATION	%D
ANAMETIC	002	111	FROM	TO	CONCENTION	7015
2,4,5-T	1	16.31	0.00	0.00	11.7	
	2	16.25	0.00	0.00	11.3	3
2,4,5-TP (Silvex)	1	15.69	0.00	0.00	11.9	
	2	15.39	0.00	0.00	11.3	5
2,4-D	1	13.82	0.00	0.00	122	
	2	13.63	0.00	0.00	98.6	21
2,4-DB	1	17.06	0.00	0.00	123	
	2	17.00	0.00	0.00	111	10
Dalapon	1	4.64	0.00	0.00	175	
	2	4.23	0.00	0.00	168	4
Dicamba	1	11.69	0.00	0.00	12.0	
	2	11.40	0.00	0.00	12.6	5
Dichloroprop	1	13.31	0.00	0.00	150	
	2	12.95	0.00	0.00	136	10
Dinoseb	1	17.72	0.00	0.00	19.3	
	2	17.23	0.00	0.00	19.4	1
MCPA	1	12.52	0.00	0.00	12400	
	2	12.25	0.00	0.00	11000	12
MCPP	1	12.18	0.00	0.00	19100	
	2	11.74	0.00	0.00	11500	50



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

LCS	Dup	

Lab Sample ID:	B124118-BSD1		Date(s) Analyzed:	06/18/2015	06/18/20	015
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WI	NDOW	CONCENTRATION	%D
ANAMETIE	002	111	FROM	TO	CONCENTIVITION	7010
2,4,5-T	1	16.31	0.00	0.00	11.6	
	2	16.24	0.00	0.00	11.2	4
2,4,5-TP (Silvex)	1	15.68	0.00	0.00	12.0	
	2	15.39	0.00	0.00	11.3	6
2,4-D	1	13.82	0.00	0.00	120	
	2	13.63	0.00	0.00	98.5	20
2,4-DB	1	17.06	0.00	0.00	121	
	2	17.00	0.00	0.00	110	10
Dalapon	1	4.64	0.00	0.00	149	
	2	4.23	0.00	0.00	144	3
Dicamba	1	11.69	0.00	0.00	11.9	
	2	11.40	0.00	0.00	12.5	5
Dichloroprop	1	13.31	0.00	0.00	148	
	2	12.95	0.00	0.00	136	8
Dinoseb	1	17.71	0.00	0.00	18.1	
	2	17.23	0.00	0.00	18.4	2
MCPA	1	12.52	0.00	0.00	12100	
	2	12.25	0.00	0.00	10700	12
MCPP	1	12.18	0.00	0.00	19000	
	2	11.74	0.00	0.00	11200	52



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

Matrix Spike

Lab Sample ID:	B124118-MS1		Date(s) Analyzed:	06/18/2015	06/18/201	5
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WI	NDOW	CONCENTRATION	%D
70002112	002		FROM	TO	001102111111111011	702
2,4,5-T	1	16.31	0.00	0.00	13.9	
	2	16.24	0.00	0.00	10.7	26
2,4,5-TP (Silvex)	1	15.68	0.00	0.00	13.6	
	2	15.39	0.00	0.00	16.6	20
2,4-D	1	13.82	0.00	0.00	150	
	2	13.63	0.00	0.00	129	15
2,4-DB	1	17.05	0.00	0.00	142	
	2	16.99	0.00	0.00	168	17
Dalapon	1	4.64	0.00	0.00	208	
	2	4.24	0.00	0.00	209	0
Dicamba	1	11.69	0.00	0.00	13.6	
	2	11.40	0.00	0.00	13.5	1
Dichloroprop	1	13.31	0.00	0.00	188	
	2	12.95	0.00	0.00	178	5
Dinoseb	1	17.70	0.00	0.00	24.4	
	2	17.22	0.00	0.00	23.4	4
MCPA	1	12.52	0.00	0.00	15500	
	2	12.25	0.00	0.00	12800	19
MCPP	1	12.18	0.00	0.00	27100	
	2	11.75	0.00	0.00	17000	46



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

Matrix Spike Dup

Lab Sample ID:	B124118-MSD1		Date(s) Analyzed:	06/18/2015	06/18/2015	
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WI	NDOW	CONCENTRATION	%D
ANAMETTE	OOL	111	FROM	TO	CONCENTION	7015
2,4,5-T	1	16.31	0.00	0.00	12.7	
	2	16.24	0.00	0.00	10.6	18
2,4,5-TP (Silvex)	1	15.68	0.00	0.00	12.5	
	2	15.39	0.00	0.00	15.4	21
2,4-D	1	13.82	0.00	0.00	140	
	2	13.63	0.00	0.00	121	15
2,4-DB	1	17.05	0.00	0.00	128	
	2	16.99	0.00	0.00	156	20
Dalapon	1	4.64	0.00	0.00	201	
	2	4.24	0.00	0.00	202	0
Dicamba	1	11.69	0.00	0.00	12.9	
	2	11.40	0.00	0.00	12.8	1
Dichloroprop	1	13.31	0.00	0.00	182	
	2	12.95	0.00	0.00	172	6
Dinoseb	1	17.71	0.00	0.00	22.2	
	2	17.22	0.00	0.00	21.1	5
MCPA	1	12.52	0.00	0.00	14600	
	2	12.25	0.00	0.00	11800	21
MCPP	1	12.17	0.00	0.00	25900	
	2	11.75	0.00	0.00	16300	46



FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
AS-15	Matrix spike and matrix spike duplicate recoveries are outside of control limits. Data validation is not affected since results for this compound in this sample are "not detected", and recovery bias is on the high side.



CERTIFICATIONS

Certified Analyses included in this Report

Certifications
CT,NH,NY,NC,ME,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,AIHA,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,ME,NC,VA,NJ
CT,NH,NY,NC,ME,VA,NJ
NY,ME,NC,NH,VA,CT,NJ



The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

B = Sodium bisulfate **DW**≅ drinking water Dissolved Metals ***Container Code **GW**= groundwater NELAC & AIHA-LAP, LLC WW = wastewater T = Na thiosulfate WBE/DBE Certified X = Na hydroxide O Field Filtered # of Containers ** Preservation O Lab to Filter S = Sulfuric Acid ***Cont. Code: **Preservation A=amber glass *Matrix Code: M = Methanol S=summa can N = Nitric Acid PÚRNAR OUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR S = soil/solid T≖tedlar bag PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT SL = sludge Accredited o = Other ST=sterile O = other P=plastic 0=Other G-glass l= |ced HE HO A II COL V= Vial O MA State DW Form Required PWSID# Please use the following codes to let Con-Test know if a specific sample is your project MCP or RCP? East long meadow, MA 01028 H - High; M - Medium; L - Low; C - Clean; U - Unknown may be high in concentration in Matrix/Conc. Code Box: ANALYSIS REQUESTED O MCP Form Required O RCP Form Required CHAIN OF CUSTODY RECORD V **Detection Limit Requirements** X *Matrix Conc Code 978-946-840 S INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. いろいってのようの "Enhanced Data Package" Rev 04.05.12 DATA DELIVERY (check all that apply) ØPDF ○EXCEL Composite Grab DEMAIL OWEBSITE Mas sachusetts: Connecticut O OTHER_ Other Require lab approval Telephone Client PQ# Date/Time Project # Ending アナア ○ FAX ormat 10-Day O 172-Hr O 14-Day **Furnaround** 0 24 Hr O 148 Hr Email Collection Email: info@contestlabs.com # XX 7-Day Other RUSH 5/10/1/9/ www.contestlabs.com Dates/Anne Hactoring GOO Fax. 413-525-2332 Client Sample ID / Description Date/Time: Date/Time: 909/ Date/Time: Date/Time $\overline{\Diamond}$ 7 SONP-8910 ANALYTICAL LABORATORY Project Proposal Provided? (for billing purposes) 477-010 proposal date 123 PAP-123 さるア とうこと てい とられ Inquished by: (signature) Attention: Ryan LOCAP ceived by: (signeture) Con-Test Lab ID Project Location: 1 Company Name: E S Sampled By: omments Address: O Yes Final 06 23 15F0654 Page 28 of 31

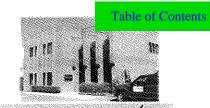
39 Spruce Street

Table of Contents

39 Spruce St. East Longmeadow, MA. 01028 P: 413-525-2332 F: 413-525-6405 www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

Was the chain(s) of custody reli	nquished and signe	ed?	Yes No	No CoC Included
2) Does the chain agree with the s			Yes No	
If not, explain:	·			
B) Are all the samples in good con- lf not, explain:	dition?		Yes No	
l) How were the samples received	:			
On Ice Direct from Sam		Ambient 🔲	In Cooler(s)	∇
Were the samples received in Tem	—		(Yes) No	N/A
Temperature °C by Temp blank		Γemperature °C I	by Temp gun	C4
Temperature O by Temp blank		i omporatoro	oy Tomp gan	
Are there Dissolved samples for	the lab to filter?		Yes (No)
Who was notified	Date	Time		
6) Are there any RUSH or SHORT I	HOLDING TIME sam	ples?	Yes (No)	
Who was notified	Date	Time		
		Perm	nission to subco	ntract samples? Yes No
		1 / I (Wall	k-in clients only) if not already approved
1) Location where samples are stored			•	, , , ,
) Location where samples are stored		/ / Clien	nt Signature:	
			nt Signature:	
		Clien	nt Signature:	
8) Do all samples have the proper	Acid pH: Yes N		nt Signature:	
 7) Location where samples are stored B) Do all samples have the proper 9) Do all samples have the proper 10) Was the PC notified of any disc 	Acid pH: Yes N Base pH: Yes I	No N/A	9.00	No N/A
B) Do all samples have the proper B) Do all samples have the proper 10) Was the PC notified of any disc	Acid pH: Yes N Base pH: Yes I	No N/A CoC vs the sam	nples: Yes	No N/A
B) Do all samples have the proper B) Do all samples have the proper 10) Was the PC notified of any disc	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A CoC vs the sam	nples: Yes	No N/A # of containers
B) Do all samples have the proper B) Do all samples have the proper 10) Was the PC notified of any disc	Acid pH: Yes N Base pH: Yes I repancies with the	No N/A No N/A CoC vs the same eived at C	nples: Yes	# of containers
B) Do all samples have the proper B) Do all samples have the proper 10) Was the PC notified of any disc	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A CoC vs the same veived at C	nples: Yes	# of containers
Do all samples have the proper Do all samples have the proper D) Was the PC notified of any disc COI 1 Liter Amber 500 mL Amber	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A CoC vs the same velocity at Coc vs the same velocity at Coc vs the same	on-Test	# of containers
B) Do all samples have the proper B) Do all samples have the proper B) Was the PC notified of any disc COI 1 Liter Amber	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A No N/A CoC vs the same veived at C 8 oz 4 oz 2 oz	on-Test amber/clear jar	# of containers
Do all samples have the proper Do all samples have the proper Was the PC notified of any disc COI 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber)	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A No N/A CoC vs the same veived at C 8 oz 4 oz 2 oz	on-Test amber/clear jar amber/clear jar	# of containers
Do all samples have the proper D) Do all samples have the proper D) Was the PC notified of any disc COI 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A No N/A CoC vs the same veived at CoC vs the same veived at CoC vs the same veived at CoC vs the same veived at CoC vs the same veived at CoC vs the same veived at CoC vs the same veived at CoC vs the same vs vs vs vs vs vs vs vs vs vs vs vs vs	on-Test amber/clear jar amber/clear jar amber/clear jar	# of containers
Do all samples have the proper Do all samples have the proper Do Was the PC notified of any disc Col 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A No N/A CoC vs the same veived at C 8 oz 4 oz 2 oz Plas Non-C	on-Test amber/clear jar amber/clear jar amber/clear jar stic Bag / Ziploc	# of containers
Do all samples have the proper Do all samples have the proper Do all samples have the proper O all samples have the proper Col 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic	Acid pH: Yes N Base pH: Yes I crepancies with the	No N/A No N/A CoC vs the same velocity at Coc vs the same	amber/clear jar amber/clear jar amber/clear jar amber/clear jar stic Bag / Ziploc SOC Kit	# of containers
Do all samples have the proper Do all samples have the proper Do all samples have the proper Do all samples have the proper Liter Plastic Soo mL Plastic 250 mL Plastic 40 mL Vial - type listed below	Acid pH: Yes N Base pH: Yes I crepancies with the	Roo N/A No N/A CoC vs the same eived at CoC vs the same eived	amber/clear jar amber/clear jar amber/clear jar amber/clear jar stic Bag / Ziploc SOC Kit conTest Contain	# of containers
Do all samples have the proper Do all samples have the proper Do all samples have the proper It iter Posticular (a) 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle	Acid pH: Yes N Base pH: Yes I crepancies with the	Roo N/A No N/A CoC vs the same eived at CoC vs the same eived	amber/clear jar amber/clear jar amber/clear jar amber/clear jar stic Bag / Ziploc SOC Kit ConTest Contain erchlorate Kit	# of containers

Page 2 of 2 <u>Login Sample Receipt Checklist</u>

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False)	Comment
	T/F/NA	
1) The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	And the second s
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	<i>M</i>	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.		
16) Proper collection media used.	T	40
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	J	
19) Trip blanks provided if applicable.	NA	***************************************
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA .	
21) Samples do not require splitting or compositing.		Pato/Timo:

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials:

Date/Time:

6/12/15 /

		MADE	P MCP Analytical N	Method Report Cert	ification Form	
Labo	ratory Name:	Con-Test Ana	lytical Laboratory		Project #: 15F0	D654
Proje	ect Location:	Weymouth, M	RTN:			
This F	orm provides	certifications for t	he following data se	t: [list Laboratory Sar	mple ID Number(s)]	
15F	0654-01 thru	15F0654-03				
Matri	ces:	Soil				
C	AM Protocol	(check all that b	pelow)			
	VOC II A ()	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
	SVOC II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
	Metals III A (X)	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	
	Af	firmative response	to Questions A throu	ghF is required for "F	Presumptive Certainty"	status
Α		ved (including temperate		e described on the Chain- ratory, and prepared/anal		☑ Yes □No¹
В		tical method(s) and all	associated QC requiren	nents specificed in the sel	ected CAM	☑ Yes □ No¹
С	Were all require protocol(s) imp	ected CAM	☑ Yes □No¹			
D				ements specified in CAM sition and Reporting of Ar		☑ Yes □No¹
Еа		•	Vas each method conduction with the last of the last o	cted without significant significant modificant modifications).		☐ Yes ☐ No¹
Εb	APH and TO-1	5 Methods only: Was t	he complete analyte list	reported for each method	?	☐ Yes ☐ No¹
F				ard non-conformances ide to Qestions A through E)		☑ Yes □No¹
	A response	to questions G, H	and I below is require	ed for "Presumptive C	ertainty" status	
G	Were the repor	ting limits at or below	all CAM reporting limits s	pecified in the selected C	AM	☑ Yes □ No¹
	User Note: Da			status may not neces R 40. 1056 (2)(k) and V	ssarily meet the data us	sability
Н	•	<u> </u>	pecified in the CAM prote		730-07-330.	☐ Yes ☑ No¹
ı	Were results re	ported for the complet	e analyte list specified in	the selected CAM protoc	col(s)?	✓ Yes □No¹
1 _{All}	Negative respo	nses must be addre	essed in an attached E	nvironmental Laborator	ry case narrative.	
l, th	e undersigned se responsible	l, attest under the p	pains and penalties of	perjury that, based u	pon my personal inqui nalytical report is, to tl	-
Sig	nature:	Joles	u Hourigh	Position:	Manager, Laboratory Re	porting
Prir	nted Name:	Johanna K. Harrir	ngton	_ Date:	06/23/15	
				Page 31 o	f 31 15F0654_1 Cont	est_Final 06 23 15 1014



July 7, 2015

Ryan Niles TRC Environmental Corporation - Lowell 650 Suffolk Street Lowell, MA 01852

Project Location: Weymouth, MA

Client Job Number: Project Number: 140143

Laboratory Work Order Number: 15F1330

Meghan S. Kelley

Enclosed are results of analyses for samples received by the laboratory on June 26, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley Project Manager

Table of Contents

Sample Summary	4
Case Narrative	6
Sample Results	7
15F1330-01	7
15F1330-02	10
15F1330-03	13
15F1330-04	16
15F1330-05	19
15F1330-06	22
15F1330-07	25
15F1330-08	28
15F1330-09	31
15F1330-10	34
15F1330-11	37
15F1330-12	39
15F1330-13	42
15F1330-14	45
15F1330-15	47
15F1330-16	50
Sample Preparation Information	52
QC Data	54
Herbicides by GC/ECD	54
B125163	54
Petroleum Hydrocarbons Analyses - EPH	57
B125176	57
Metals Analyses (Total)	60

Table of Contents (continued)

B125291	60
B125329	60
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)	62
B125067	62
B125201	62
Dual Column RPD Report	63
Flag/Qualifier Summary	67
Certifications	68
Chain of Custody/Sample Receipt	70



TRC Environmental Corporation - Lowell

650 Suffolk Street

Lowell, MA 01852

ATTN: Ryan Niles

PURCHASE ORDER NUMBER:

REPORT DATE: 7/7/2015

PROJECT NUMBER: 140143

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15F1330

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Weymouth, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-2	15F1330-01	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-3	15F1330-02	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-10	15F1330-03	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-9	15F1330-04	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-7	15F1330-05	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-6	15F1330-06	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-4	15F1330-07	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-5	15F1330-08	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-1	15F1330-09	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	
B-8	15F1330-10	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8151A	



TRC Environmental Corporation - Lowell

650 Suffolk Street

REPORT DATE: 7/7/2015

Lowell, MA 01852 ATTN: Ryan Niles PURCHASE ORDER NUMBER:

PROJECT NUMBER: 140143

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15F1330

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Weymouth, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
COMP-8910-Native	15F1330-11	Soil		SM 2540G	
				SM21-22 2510B	
				Modified	
				SW-846 6010C	
				SW-846 7471B	
COMP-910-Fill	15F1330-12	Soil		MADEP-EPH-04-	1.1
				SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
COMP-467-Fill	15F1330-13	Soil		MADEP-EPH-04-	1.1
				SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
COMP-467-Native	15F1330-14	Soil		SM 2540G	
				SM21-22 2510B	
				Modified	
				SW-846 6010C	
				SW-846 7471B	
COMP-123-Fill	15F1330-15	Soil		MADEP-EPH-04-	1.1
				SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
COMP-123-Native	15F1330-16	Soil		SM 2540G	
				SM21-22 2510B	
				Modified	
				SW-846 6010C	
				SW-846 7471B	



CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8151, samples were derivatized on 07/01/15.

For method 8151, sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

For Inorganic analysis, client did not specify QA/QC per MCP.

SW-846 6010C

Qualifications:

MS-07

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:

Antimony

15F1330-01[B-2], B125329-MS1

R-02

Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:

Zinc

15F1330-01[B-2], B125329-DUP1

SW-846 8151A

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this

compound. Analyte & Samples(s) Qualified:

15F1330-01[B-2], 15F1330-02[B-3], 15F1330-03[B-10], 15F1330-04[B-9], 15F1330-05[B-7], 15F1330-06[B-6], 15F1330-07[B-4], 15F1330-08[B-5], 15F1330-09[B-1], 15F1330-10[B-8], B125163-BLK1, B125163-BS1, B125163-BSD1

Dinoseb [2C]

15F1330-01[B-2], 15F1330-02[B-3], 15F1330-03[B-10], 15F1330-04[B-9], 15F1330-05[B-7], 15F1330-06[B-6], 15F1330-07[B-4], 15F1330-08[B-5], 15F1330-09[B-1], 15F15F1330-10[B-8], B125163-BLK1, B125163-BS1, B125163-BSD1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Johanna K. Harrington

Manager, Laboratory Reporting



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-2

Sampled: 6/25/2015 07:50

Sample ID: 15F1330-01
Sample Matrix: Soil

Herbicides by GC/ECD									
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
2,4-DB [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
2,4,5-TP (Silvex) [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
2,4,5-T [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
Dalalpon [1]	ND	70	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
Dicamba [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
Dichloroprop [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
Dinoseb [1]	ND	14	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 9:49	JMB
MCPA [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
MCPP [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 9:49	JMB
Surrogates		% Recovery	Recovery Limits	i	Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		103	30-150					7/2/15 9:49	
2,4-Dichlorophenylacetic acid [2]		91.0	30-150					7/2/15 9:49	



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/26/2015

Field Sample #: B-2

Project Location: Weymouth, MA

Sampled: 6/25/2015 07:50

Sample ID: 15F1330-01
Sample Matrix: Soil

Metals Analyses	(Total)
-----------------	---------

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Antimony		6.6	2.8	mg/Kg dry	1	MS-07	SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Arsenic		31	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Barium		76	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Beryllium		2.0	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Cadmium		1.2	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Chromium		14	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Lead		35	0.84	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Mercury		0.17	0.028	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 10:59	SCB
Nickel		20	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Selenium		ND	5.6	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Silver		ND	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Thallium		ND	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:45	MJH
Vanadium		100	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:53	MJH
Zinc		43	1.1	mg/Kg dry	1	R-02	SW-846 6010C	7/1/15	7/6/15 17:45	MJH



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-2

Sampled: 6/25/2015 07:50

Sample ID: 15F1330-01
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		88.3		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA
Date Received: 6/26/2015
Field Sample #: B-3

Sampled: 6/25/2015 07:55

Sample ID: 15F1330-02
Sample Matrix: Soil

Harbiaidas	by GC/ECD
Herbicides	DV CYC/EC.D

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	30	μg/kg dry	1	-	SW-846 8151A	6/30/15	7/2/15 10:39	JMB
2,4-DB [1]	ND	30	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
2,4,5-TP (Silvex) [1]	ND	3.0	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
2,4,5-T [1]	ND	3.0	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
Dalalpon [1]	ND	75	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
Dicamba [1]	ND	3.0	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
Dichloroprop [1]	ND	30	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
Dinoseb [1]	ND	15	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 10:39	JMB
MCPA [1]	ND	3000	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
MCPP [1]	ND	3000	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 10:39	JMB
Surrogates		% Recovery	Recovery Limits	3	Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		88.9	30-150					7/2/15 10:39	
2,4-Dichlorophenylacetic acid [2]		92.7	30-150					7/2/15 10:39	



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/26/2015

Field Sample #: B-3

Project Location: Weymouth, MA

Sampled: 6/25/2015 07:55

Sample ID: 15F1330-02
Sample Matrix: Soil

Metals Analyses (Total)

				, ,					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	8.0	3.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	МЈН
Arsenic	47	3.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Barium	99	3.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	МЈН
Beryllium	2.5	0.30	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Cadmium	1.7	0.30	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Chromium	17	0.60	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Lead	37	0.90	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Mercury	0.17	0.030	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:01	SCB
Nickel	23	0.60	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Selenium	ND	6.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Silver	ND	0.60	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Thallium	ND	3.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH
Vanadium	110	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:57	MJH
Zinc	54	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:50	MJH



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-3

Sampled: 6/25/2015 07:55

Sample ID: 15F1330-02
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		82.6		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Herbicides by GC/ECD

Sample Description:

Project Location: Weymouth, MA
Date Received: 6/26/2015
Field Sample #: B-10

Sampled: 6/25/2015 09:30

RL

29

29

2.9

Results

ND

ND

ND

Sample ID: 15F1330-03
Sample Matrix: Soil

2,4-D [1]

2,4-DB [1]

2,4,5-TP (Silvex) [1]

Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Units	Dilution	riag/Quai	Method	Перагеи	Allalyzeu	Analyst
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
/1 1	1		CW 046 0151 A	6/20/15	7/2/15 11 20	D (D

2.4-Dichlorophenylacetic acid [1]		111	30-150					7/2/15 11:29	
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
MCPP [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
MCPA [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
Dinoseb [1]	ND	15	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 11:29	JMB
Dichloroprop [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
Dicamba [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
Dalalpon [1]	ND	73	$\mu g/kg \ dry$	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB
2,4,5-T [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 11:29	JMB



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-10

Sampled: 6/25/2015 09:30

Sample ID: 15F1330-03
Sample Matrix: Soil

Metals Analyses (To	tal))
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								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Antimony		7.8	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Arsenic		48	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Barium		110	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Beryllium		2.5	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Cadmium		1.7	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Chromium		17	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Lead		29	0.88	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Mercury		0.10	0.029	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:02	SCB
Nickel		25	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Selenium		ND	5.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Silver		ND	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Thallium		ND	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH
Vanadium		99	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:01	MJH
Zinc		51	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:54	MJH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015

Field Sample #: B-10

Sampled: 6/25/2015 09:30

Sample ID: 15F1330-03
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		85.4		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015
Field Sample #: B-9

Sampled: 6/25/2015 09:35

Sample ID: 15F1330-04
Sample Matrix: Soil

** ** **		~~~~
Herbicides	hv	GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
2,4-DB [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
2,4,5-TP (Silvex) [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
2,4,5-T [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
Dalalpon [1]	ND	73	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
Dicamba [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
Dichloroprop [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
Dinoseb [1]	ND	15	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 12:19	JMB
MCPA [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
MCPP [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 12:19	JMB
Surrogates		% Recovery	Recovery Limits	S	Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		91.3	30-150					7/2/15 12:19	
2,4-Dichlorophenylacetic acid [2]		95.1	30-150					7/2/15 12:19	



Sample Description:

Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: B-9

Project Location: Weymouth, MA

Sampled: 6/25/2015 09:35

Sample ID: 15F1330-04
Sample Matrix: Soil

Metals Analyses (Total)											
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst		
Antimony	6.8	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	МЈН		
Arsenic	55	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Barium	120	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Beryllium	2.7	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Cadmium	1.8	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Chromium	17	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Lead	27	0.87	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Mercury	0.10	0.029	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:03	SCB		
Nickel	21	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Selenium	ND	5.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Silver	ND	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		
Vanadium	89	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:22	MJH		
Zinc	47	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 17:59	MJH		



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-9

Sampled: 6/25/2015 09:35

Sample ID: 15F1330-04
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		85.1		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL

7/2/15 13:09



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-7

2,4-Dichlorophenylacetic acid [2]

Sampled: 6/25/2015 09:45

100

Sample ID: 15F1330-05
Sample Matrix: Soil

Herbicides by GC/ECD												
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst			
2,4-D [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
2,4-DB [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
2,4,5-TP (Silvex) [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
2,4,5-T [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
Dalalpon [1]	ND	72	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
Dicamba [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
Dichloroprop [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
Dinoseb [1]	ND	14	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
MCPA [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
MCPP [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:09	JMB			
Surrogates		% Recovery	Recovery Limits		Flag/Qual							
2,4-Dichlorophenylacetic acid [1]		130	30-150					7/2/15 13:09				

30-150



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/26/2015

Field Sample #: B-7

Project Location: Weymouth, MA

Sampled: 6/25/2015 09:45

Sample ID: 15F1330-05
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
				1	1 mg/ Q mm				
Antimony	7.1	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Arsenic	34	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Barium	79	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Beryllium	2.0	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Cadmium	1.3	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Chromium	14	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Lead	29	0.87	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Mercury	0.11	0.029	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:05	SCB
Nickel	19	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Selenium	ND	5.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Silver	ND	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH
Vanadium	89	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:27	MJH
Zinc	45	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:04	MJH



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-7

Sampled: 6/25/2015 09:45

Sample ID: 15F1330-05
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		86.1		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-6

Sampled: 6/25/2015 09:55

Sample ID: 15F1330-06
Sample Matrix: Soil

Herbicides by GC/ECD												
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst			
2,4-D [1]	ND	31	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
2,4-DB [1]	ND	31	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
2,4,5-TP (Silvex) [1]	ND	3.1	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
2,4,5-T [1]	ND	3.1	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
Dalalpon [1]	ND	78	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
Dicamba [1]	ND	3.1	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
Dichloroprop [1]	ND	31	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
Dinoseb [1]	ND	16	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
MCPA [1]	ND	3100	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
MCPP [1]	ND	3100	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 13:59	JMB			
Surrogates		% Recovery	Recovery Limits		Flag/Qual							
2,4-Dichlorophenylacetic acid [1]		87.4	30-150					7/2/15 13:59				
2,4-Dichlorophenylacetic acid [2]		85.2	30-150					7/2/15 13:59				

SW-846 6010C

7/1/15

7/6/15 18:28

MJH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Sample Descripti

35

1.3

Field Sample #: B-6 Sample ID: 15F1330-06

Sample Matrix: Soil

Zinc

Date Received: 6/26/2015

Project Location: Weymouth, MA

Sampled: 6/25/2015 09:55

Metals Analyses (Total) Date Date/Time Analyte Results RL Units Dilution Flag/Qual Method Prepared Analyzed Analyst Antimony 8.3 3.1 mg/Kg dry 1 SW-846 6010C 7/1/15 7/6/15 18:28 MJH Arsenic 90 3.1 mg/Kg dry 1 SW-846 6010C 7/1/15 7/6/15 18:28 MJH Barium 110 3.1 SW-846 6010C 7/1/15 mg/Kg dry 1 7/6/15 18:28 MJH SW-846 6010C Beryllium 3.4 0.31 1 7/1/15 7/6/15 18:28 MJH mg/Kg dry Cadmium 2.9 0.31 SW-846 6010C 7/1/15 7/6/15 18:28 MJH 1 mg/Kg dry Chromium SW-846 6010C 7/1/15 20 7/6/15 18:28 MJH 0.63 mg/Kg dry Lead 29 SW-846 6010C 7/1/15 0.94 mg/Kg dry 7/6/15 18:28 MJH SW-846 7471B Mercury 0.14 7/1/15 7/6/15 11:06 0.031mg/Kg dry 1 SCB Nickel 32 0.63 mg/Kg dry SW-846 6010C 7/1/15 7/6/15 18:28 MJH Selenium ND 6.3 mg/Kg dry SW-846 6010C 7/1/15 7/6/15 18:28 MJH Silver ND 0.63 mg/Kg dry SW-846 6010C 7/1/15 7/6/15 18:28 MJH Thallium ND 3.1 mg/Kg dry SW-846 6010C 7/1/15 7/6/15 18:28 MJH Vanadium 86 1.3 mg/Kg dry SW-846 6010C 7/1/15 7/6/15 18:31 MJH

mg/Kg dry



Project Location: Weymouth, MA Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: B-6

Sampled: 6/25/2015 09:55

Sample ID: 15F1330-06
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		79.9		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL

7/2/15 18:48



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-4

Sampled: 6/25/2015 14:05

91.9

Sample ID: 15F1330-07
Sample Matrix: Soil

2,4-Dichlorophenylacetic acid [2]

Herbicides by GC/ECD										
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst	
2,4-D [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
2,4-DB [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
2,4,5-TP (Silvex) [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
2,4,5-T [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
Dalalpon [1]	ND	73	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
Dicamba [1]	ND	2.9	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
Dichloroprop [1]	ND	29	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
Dinoseb [1]	ND	15	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
MCPA [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
MCPP [1]	ND	2900	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 18:48	JMB	
Surrogates		% Recovery	Recovery Limit	s	Flag/Qual					
2,4-Dichlorophenylacetic acid [1]		106	30-150					7/2/15 18:48		

30-150



Sample Description: Work Order: 15F1330

Date Received: 6/26/2015 Field Sample #: B-4

Project Location: Weymouth, MA

Sampled: 6/25/2015 14:05

Sample ID: 15F1330-07 Sample Matrix: Soil

Metals Analyses (Total)												
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst			
Antimony	7.5	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	МЈН			
Arsenic	48	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Barium	98	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Beryllium	2.5	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Cadmium	1.7	0.29	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Chromium	17	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Lead	32	0.87	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Mercury	0.13	0.029	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:12	SCB			
Nickel	24	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Selenium	ND	5.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Silver	ND	0.58	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			
Vanadium	120	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:35	MJH			
Zinc	50	1.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:32	MJH			



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-4

Sampled: 6/25/2015 14:05

Sample ID: 15F1330-07
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		85.3		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015

Field Sample #: B-5

Sampled: 6/25/2015 14:10

Sample ID: 15F1330-08
Sample Matrix: Soil

Herbicides	hv	CC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
2,4-DB [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
2,4,5-TP (Silvex) [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
2,4,5-T [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
Dalalpon [1]	ND	70	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
Dicamba [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
Dichloroprop [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
Dinoseb [1]	ND	14	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 19:38	JMB
MCPA [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
MCPP [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 19:38	JMB
Surrogates		% Recovery	Recovery Limits	s	Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		123	30-150			_		7/2/15 19:38	
2,4-Dichlorophenylacetic acid [2]		111	30-150					7/2/15 19:38	



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-5

Sampled: 6/25/2015 14:10

Sample ID: 15F1330-08
Sample Matrix: Soil

Metals	Analyses	(Total)
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Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	7.3	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	МЈН
Arsenic	30	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Barium	70	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Beryllium	1.9	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Cadmium	1.1	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Chromium	15	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Lead	23	0.83	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Mercury	0.084	0.028	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:13	SCB
Nickel	20	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH
Vanadium	98	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:40	MJH
Zinc	45	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:37	MJH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015

Field Sample #: B-5

Sampled: 6/25/2015 14:10

Sample ID: 15F1330-08
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		89.5		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-1

Sampled: 6/25/2015 14:15

Sample ID: 15F1330-09
Sample Matrix: Soil

			Herbicides by	GC/ECD					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
2,4-DB [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
2,4,5-TP (Silvex) [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
2,4,5-T [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
Dalalpon [1]	ND	69	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
Dicamba [1]	ND	2.8	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
Dichloroprop [1]	ND	28	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
Dinoseb [1]	ND	14	μg/kg dry	1	R-05	SW-846 8151A	6/30/15	7/2/15 20:28	JMB
MCPA [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
MCPP [1]	ND	2800	μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 20:28	JMB
Surrogates		% Recovery	Recovery Limits	6	Flag/Qual				
2,4-Dichlorophenylacetic acid [1]		98.9	30-150					7/2/15 20:28	
2,4-Dichlorophenylacetic acid [2]		95.0	30-150					7/2/15 20:28	



Sample Description:

Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: B-1

Project Location: Weymouth, MA

Sampled: 6/25/2015 14:15

Sample ID: 15F1330-09
Sample Matrix: Soil

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	6.9	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	МЈН
Arsenic	17	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Barium	49	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Beryllium	1.0	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Cadmium	0.73	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Chromium	12	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Lead	31	0.83	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Mercury	0.061	0.028	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:15	SCB
Nickel	11	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Selenium	ND	5.5	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Silver	ND	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH
Vanadium	48	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:44	MJH
Zinc	34	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:42	MJH



Project Location: Weymouth, MA Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: B-1

Sampled: 6/25/2015 14:15

Sample ID: 15F1330-09
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		90.0		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015
Field Sample #: B-8

Sampled: 6/25/2015 09:40

RL

28

28

2.8

2.8

69

2.8

28

14

2800

2800

Results

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

Sample ID: 15F1330-10
Sample Matrix: Soil

2,4-D [1]

2,4-DB [1]

2,4,5-T [1]

Dalalpon [1]

Dicamba [1]

Dinoseb [1]

MCPA [1]

MCPP [1]

Dichloroprop [1]

2,4,5-TP (Silvex) [1]

Herbicides b	y GC/ECD					
				Date	Date/Time	
Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB
μg/kg dry	1		SW-846 8151A	6/30/15	7/2/15 21:18	JMB

SW-846 8151A

SW-846 8151A

SW-846 8151A

6/30/15

6/30/15

6/30/15

7/2/15 21:18

7/2/15 21:18

7/2/15 21:18

JMB

JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	103	30-150		7/2/15 21:18
2.4-Dichlorophenylacetic acid [2]	90.2	30-150		7/2/15 21:18

 $\mu g/kg \ dry$

 $\mu g/kg \; dry$

μg/kg dry

1

R-05



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA
Date Received: 6/26/2015
Field Sample #: B-8

Sampled: 6/25/2015 09:40

Sample ID: 15F1330-10
Sample Matrix: Soil

Metals	Analyse	s (Total)
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Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	7.4	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	МЈН
Arsenic	36	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Barium	77	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Beryllium	1.9	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Cadmium	1.3	0.28	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Chromium	16	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Lead	28	0.83	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Mercury	0.081	0.028	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:16	SCB
Nickel	20	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Selenium	ND	5.5	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Silver	ND	0.55	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH
Vanadium	84	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:48	MJH
Zinc	49	1.1	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:46	MJH



Sample Description: Work Order: 15F1330

Project Location: Weymouth, MA

Date Received: 6/26/2015

Field Sample #: B-8

Sampled: 6/25/2015 09:40

Sample ID: 15F1330-10
Sample Matrix: Soil

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		89.9		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-8910-Native

Project Location: Weymouth, MA

Sampled: 6/26/2015 08:40

Sample ID: 15F1330-11
Sample Matrix: Soil

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	16	3.4	mg/Kg dry	1	g	SW-846 6010C	7/1/15	7/6/15 18:51	МЈН
Arsenic	13	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	МЈН
Barium	59	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Beryllium	1.3	0.34	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Cadmium	0.92	0.34	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Chromium	35	0.67	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Lead	17	1.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Mercury	0.047	0.033	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:17	SCB
Nickel	25	0.67	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Selenium	ND	6.7	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Silver	ND	0.67	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Thallium	ND	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH
Vanadium	54	1.3	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:53	MJH
Zinc	69	1.3	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:51	MJH



Project Location: Weymouth, MA Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-8910-Native

Sampled: 6/26/2015 08:40

Sample ID: 15F1330-11
Sample Matrix: Soil

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Specific conductance	160	2.0	μmhos/cm	1		SM21-22 2510B Modified	6/30/15	6/30/15 10:15	LL
% Solids	73.8		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015

Field Sample #: COMP-910-Fill

Sampled: 6/26/2015 08:45

Sample ID: 15F1330-12
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
C19-C36 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Unadjusted C11-C22 Aromatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
C11-C22 Aromatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Acenaphthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Benzo(a)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Benzo(a)pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Benzo(b)fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Benzo(g,h,i)perylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Benzo(k)fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Chrysene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Dibenz(a,h)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Fluoranthene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Fluorene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Indeno(1,2,3-cd)pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Phenanthrene	0.18	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Pyrene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/6/15 11:04	SCS
Surrogates		% Recovery	Recovery Limits	i	Flag/Qual				
Chlorooctadecane (COD)		58.4	40-140					7/6/15 11:04	
o-Terphenyl (OTP)		84.3	40-140					7/6/15 11:04	
2-Bromonaphthalene		95.1	40-140					7/6/15 11:04	
2-Fluorobiphenyl		98.3	40-140					7/6/15 11:04	



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

RL

3.5

3.5

3.5

0.35

0.35

0.69

1.0

0.035

0.69

6.9

0.69

3.5

1.4

1.4

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry

Results

7.1

80

130

4.9

2.6

28

23

0.095

27

ND

ND

ND

86

33

Work Order: 15F1330

Project Location: Weymouth, MA Date Received: 6/26/2015

Field Sample #: COMP-910-Fill

Sampled: 6/26/2015 08:45

Sample ID: 15F1330-12 Sample Matrix: Soil

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Lead

Mercury

Nickel

Silver

Zinc

Selenium

Thallium

Vanadium

Metals Analy	ses (Total)					
				Date	Date/Time	
Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	МЈН
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:19	SCB
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 18:56	MJH

SW-846 6010C

SW-846 6010C

SW-846 6010C

SW-846 6010C

7/1/15

7/1/15

7/1/15

7/1/15

7/6/15 18:56

7/6/15 18:56

7/6/15 18:56

7/6/15 18:56

MJH

MJH

MJH

MJH



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Project Location: Weymouth, MA

Sample ID: 15F1330-12 Sample Matrix: Soil

Date Received: 6/26/2015

Field Sample #: COMP-910-Fill

Sampled: 6/26/2015 08:45

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		71.6		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/26/2015

Field Sample #: COMP-467-Fill

Project Location: Weymouth, MA

Sampled: 6/26/2015 11:10

Sample ID: 15F1330-13 Sample Matrix: Soil

T	** * *		CDIT
Petroleum	Hydrocarbons	Anaiyses	- KPH

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
C19-C36 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Unadjusted C11-C22 Aromatics	23	13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
C11-C22 Aromatics	22	13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Acenaphthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Acenaphthylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Benzo(a)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Benzo(a)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Benzo(b)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Benzo(g,h,i)perylene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Benzo(k)fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Chrysene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Dibenz(a,h)anthracene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Fluoranthene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Fluorene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Indeno(1,2,3-cd)pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
2-Methylnaphthalene	0.16	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Naphthalene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Phenanthrene	0.34	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Pyrene	ND	0.13	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:10	SCS
Surrogates		% Recovery	Recovery Limits	6	Flag/Qual				
Chlorooctadecane (COD)		54.0	40-140					7/2/15 16:10	
o-Terphenyl (OTP)		73.9	40-140					7/2/15 16:10	
2-Bromonaphthalene		82.6	40-140					7/2/15 16:10	
2-Fluorobiphenyl		81.4	40-140					7/2/15 16:10	



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

RL

3.2

3.2

3.2

0.32

0.32

0.65 0.97

0.032

0.65

6.5

0.65

3.2

1.3

1.3

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry

1

Results

6.2

43

48

2.8

1.5

15

12

0.047

38

ND

ND

ND

40

34

Project Location: Weymouth, MA Date Received: 6/26/2015

Field Sample #: COMP-467-Fill

Sampled: 6/26/2015 11:10

Sample ID: 15F1330-13
Sample Matrix: Soil

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Lead

Mercury

Nickel

Silver

Zinc

Selenium

Thallium

Vanadium

Metals Analy	ses (Total)					
Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	МЈН
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:20	SCB
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:00	MJH

SW-846 6010C

SW-846 6010C

SW-846 6010C

SW-846 6010C

7/1/15

7/1/15

7/1/15

7/1/15

7/6/15 19:00

7/6/15 19:00

7/6/15 19:01

7/6/15 19:00

MJH

MJH

MJH

MJH



Project Location: Weymouth, MA Sample Description:

Date Received: 6/26/2015

Field Sample #: COMP-467-Fill

Sample ID: 15F1330-13 Sample Matrix: Soil

Work Order: 15F1330

Sampled: 6/26/2015 11:10

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		77.3		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Sample Description:

escription: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-467-Native

Sample ID: 15F1330-14
Sample Matrix: Soil

Project Location: Weymouth, MA

Sampled: 6/26/2015 11:15

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	16	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	МЈН
Arsenic	12	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	МЈН
Barium	77	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	МЈН
Beryllium	1.2	0.34	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Cadmium	0.82	0.34	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Chromium	34	0.68	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Lead	11	1.0	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Mercury	ND	0.034	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:22	SCB
Nickel	24	0.68	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Selenium	ND	6.8	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Silver	ND	0.68	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Thallium	ND	3.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH
Vanadium	51	1.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:22	MJH
Zinc	63	1.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:05	MJH



Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-467-Native

Project Location: Weymouth, MA

Sampled: 6/26/2015 11:15

Sample ID: 15F1330-14
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Specific conductance	140	2.0	μmhos/cm	1		SM21-22 2510B Modified	6/30/15	6/30/15 10:15	LL
% Solids	73.1		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRI



Sample Description:

Work Order: 15F1330

Project Location: Weymouth, MA Date Received: 6/26/2015

Field Sample #: COMP-123-Fill

Sampled: 6/26/2015 11:45

Sample ID: 15F1330-15 Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

	ъ. т	D.	***	D11 4	FI (0 1	M (1.1	Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
C9-C18 Aliphatics	13	12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Unadjusted C11-C22 Aromatics	27	12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
C11-C22 Aromatics	26	12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Benzo(a)anthracene	0.13	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Benzo(a)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Benzo(b)fluoranthene	0.13	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Benzo(g,h,i)perylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Chrysene	0.28	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Indeno(1,2,3-cd)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
2-Methylnaphthalene	0.21	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Phenanthrene	0.61	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Pyrene	0.29	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	6/30/15	7/2/15 16:31	SCS
Surrogates		% Recovery	Recovery Limit	s	Flag/Qual				
Chlorooctadecane (COD)		52.0	40-140					7/2/15 16:31	
o-Terphenyl (OTP)		66.0	40-140					7/2/15 16:31	
2-Bromonaphthalene		78.2	40-140					7/2/15 16:31	
2-Fluorobiphenyl		79.5	40-140					7/2/15 16:31	

Work Order: 15F1330



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

RL

2.9

2.9

2.9

0.29

0.29

0.59

0.88

0.029

0.59

5.9

0.59

2.9

1.2

1.2

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry

Results

5.5

23

46

1.2

0.89

13

13

0.052

13

ND

ND

ND

33

17

Project Location: Weymouth, MA Date Received: 6/26/2015

Field Sample #: COMP-123-Fill

Sampled: 6/26/2015 11:45

Sample ID: 15F1330-15
Sample Matrix: Soil

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Lead

Mercury

Nickel

Silver

Zinc

Selenium

Thallium

Vanadium

Metals Analy	ses (Total)					
				Date	Date/Time	
Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:23	SCB
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	MJH
mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:09	N

SW-846 6010C

SW-846 6010C

SW-846 6010C

SW-846 6010C

7/1/15

7/1/15

7/1/15

7/1/15

7/6/15 19:09

7/6/15 19:09

7/6/15 19:26

7/6/15 19:09

MJH

MJH

MJH

MJH

Work Order: 15F1330



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Description:

Date Received: 6/26/2015

Field Sample #: COMP-123-Fill

Project Location: Weymouth, MA

Sampled: 6/26/2015 11:45

Sample ID: 15F1330-15
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
% Solids		84.6		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Sample Description:

Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-123-Native

Project Location: Weymouth, MA

Sample ID: 15F1330-16
Sample Matrix: Soil

Sampled: 6/26/2015 11:50

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	15	3.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	МЈН
Arsenic	13	3.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Barium	60	3.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Beryllium	1.1	0.32	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Cadmium	0.90	0.32	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Chromium	34	0.64	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Lead	34	0.97	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Mercury	0.16	0.032	mg/Kg dry	1		SW-846 7471B	7/1/15	7/6/15 11:25	SCB
Nickel	24	0.64	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Selenium	ND	6.4	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Silver	ND	0.64	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Thallium	ND	3.2	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH
Vanadium	46	1.3	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:31	MJH
Zinc	90	1.3	mg/Kg dry	1		SW-846 6010C	7/1/15	7/6/15 19:14	MJH



Sample Description: Work Order: 15F1330

Date Received: 6/26/2015

Field Sample #: COMP-123-Native

Project Location: Weymouth, MA

Sampled: 6/26/2015 11:50

Sample ID: 15F1330-16
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Specific conductance	160	2.0	μmhos/cm	1		SM21-22 2510B Modified	6/30/15	6/30/15 10:15	LL
% Solids	77.5		% Wt	1		SM 2540G	6/27/15	6/29/15 8:07	MRL



Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15F1330-12 [COMP-910-Fill]	B125176	20.1	2.00	06/30/15
15F1330-13 [COMP-467-Fill]	B125176	20.3	2.00	06/30/15
15F1330-15 [COMP-123-Fill]	B125176	20.1	2.00	06/30/15

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
15F1330-01 [B-2]	B125067	06/27/15
15F1330-02 [B-3]	B125067	06/27/15
15F1330-03 [B-10]	B125067	06/27/15
15F1330-04 [B-9]	B125067	06/27/15
15F1330-05 [B-7]	B125067	06/27/15
15F1330-06 [B-6]	B125067	06/27/15
15F1330-07 [B-4]	B125067	06/27/15
15F1330-08 [B-5]	B125067	06/27/15
15F1330-09 [B-1]	B125067	06/27/15
15F1330-10 [B-8]	B125067	06/27/15
15F1330-11 [COMP-8910-Native]	B125067	06/27/15
15F1330-12 [COMP-910-Fill]	B125067	06/27/15
15F1330-13 [COMP-467-Fill]	B125067	06/27/15
15F1330-14 [COMP-467-Native]	B125067	06/27/15
15F1330-15 [COMP-123-Fill]	B125067	06/27/15
15F1330-16 [COMP-123-Native]	B125067	06/27/15

SM21-22 2510B Modified

Lab Number [Field ID]	Batch	Initial [g]	Date
15F1330-11 [COMP-8910-Native]	B125201	1.00	06/30/15
15F1330-14 [COMP-467-Native]	B125201	1.00	06/30/15
15F1330-16 [COMP-123-Native]	B125201	1.00	06/30/15

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date	
15F1330-01 [B-2]	B125329	1.01	50.0	07/01/15	
15F1330-02 [B-3]	B125329	1.01	50.0	07/01/15	
15F1330-03 [B-10]	B125329	1.00	50.0	07/01/15	
15F1330-04 [B-9]	B125329	1.01	50.0	07/01/15	
15F1330-05 [B-7]	B125329	1.00	50.0	07/01/15	
15F1330-06 [B-6]	B125329	1.00	50.0	07/01/15	
15F1330-07 [B-4]	B125329	1.01	50.0	07/01/15	
15F1330-08 [B-5]	B125329	1.01	50.0	07/01/15	
15F1330-09 [B-1]	B125329	1.00	50.0	07/01/15	
15F1330-10 [B-8]	B125329	1.01	50.0	07/01/15	
15F1330-11 [COMP-8910-Native]	B125329	1.00	50.0	07/01/15	
15F1330-12 [COMP-910-Fill]	B125329	1.01	50.0	07/01/15	
15F1330-13 [COMP-467-Fill]	B125329	1.00	50.0	07/01/15	
15F1330-14 [COMP-467-Native]	B125329	1.00	50.0	07/01/15	
15F1330-15 [COMP-123-Fill]	B125329	1.01	50.0	07/01/15	
15F1330-16 [COMP-123-Native]	B125329	1.00	50.0	07/01/15	



Sample Extraction Data

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15F1330-01 [B-2]	B125291	0.602	50.0	07/01/15
15F1330-02 [B-3]	B125291	0.602	50.0	07/01/15
15F1330-03 [B-10]	B125291	0.605	50.0	07/01/15
15F1330-04 [B-9]	B125291	0.601	50.0	07/01/15
15F1330-05 [B-7]	B125291	0.605	50.0	07/01/15
15F1330-06 [B-6]	B125291	0.607	50.0	07/01/15
15F1330-07 [B-4]	B125291	0.602	50.0	07/01/15
15F1330-08 [B-5]	B125291	0.603	50.0	07/01/15
15F1330-09 [B-1]	B125291	0.605	50.0	07/01/15
15F1330-10 [B-8]	B125291	0.600	50.0	07/01/15
15F1330-11 [COMP-8910-Native]	B125291	0.607	50.0	07/01/15
15F1330-12 [COMP-910-Fill]	B125291	0.604	50.0	07/01/15
15F1330-13 [COMP-467-Fill]	B125291	0.603	50.0	07/01/15
15F1330-14 [COMP-467-Native]	B125291	0.610	50.0	07/01/15
15F1330-15 [COMP-123-Fill]	B125291	0.605	50.0	07/01/15
15F1330-16 [COMP-123-Native]	B125291	0.602	50.0	07/01/15

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15F1330-01 [B-2]	B125163	20.2	5.00	06/30/15
15F1330-02 [B-3]	B125163	20.1	5.00	06/30/15
15F1330-03 [B-10]	B125163	20.0	5.00	06/30/15
15F1330-04 [B-9]	B125163	20.3	5.00	06/30/15
15F1330-05 [B-7]	B125163	20.1	5.00	06/30/15
15F1330-06 [B-6]	B125163	20.1	5.00	06/30/15
15F1330-07 [B-4]	B125163	20.2	5.00	06/30/15
15F1330-08 [B-5]	B125163	20.1	5.00	06/30/15
15F1330-09 [B-1]	B125163	20.1	5.00	06/30/15
15F1330-10 [B-8]	B125163	20.1	5.00	06/30/15



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
atch B125163 - SW-846 8151										
lank (B125163-BLK1)				Prepared: 06	6/29/15 Anal	yzed: 07/01/	15			
.4-D	ND	24	μg/kg wet							
,4-D [2C]	ND	24	μg/kg wet							
,4-DB	ND	24	μg/kg wet							
,4-DB [2C]	ND	24	μg/kg wet							
4,5-TP (Silvex)	ND	2.4	μg/kg wet							
,4,5-TP (Silvex) [2C]	ND	2.4	μg/kg wet							
,4,5-T	ND	2.4	μg/kg wet							
,4,5-T [2C]	ND	2.4	μg/kg wet							
alapon	ND	59	μg/kg wet							
alapon [2C]	ND	59	μg/kg wet							
vicamba	ND	2.4	μg/kg wet							
ricamba [2C]	ND	2.4	μg/kg wet							
richloroprop	ND	24	μg/kg wet							
richloroprop [2C]	ND	24	μg/kg wet							
rinoseb	ND	12	μg/kg wet							R-05
inoseb [2C]	ND	12	μg/kg wet							R-05
ICPA	ND	2400	μg/kg wet							
ICPA [2C]	ND	2400	μg/kg wet							
ICPP	ND	2400	μg/kg wet							
ICPP [2C]	ND	2400	μg/kg wet							
urrogate: 2,4-Dichlorophenylacetic acid	97.9		μg/kg wet	95.1		103	30-150			
urrogate: 2,4-Dichlorophenylacetic acid PC]	84.8		μg/kg wet	95.1		89.1	30-150			
CS (B125163-BS1)				Prepared: 06	0/29/15 Anal	yzed: 07/02/	15			
,4-D	93.8	25	μg/kg wet	125		75.1	40-140			
,4-D [2C]	87.6	25	μg/kg wet	125		70.1	40-140			
4-DB	107	25	μg/kg wet	125		85.4	40-140			
4-DB [2C]	106	25	μg/kg wet	125		84.8	40-140			
4,5-TP (Silvex)	8.60	2.5	μg/kg wet	12.5		68.8	40-140			
4,5-TP (Silvex) [2C]	9.23	2.5	μg/kg wet	12.5		73.8	40-140			
4,5-T	8.74	2.5	μg/kg wet	12.5		70.0	40-140			
.4,5-T [2C]	9.33	2.5	μg/kg wet	12.5		74.6	40-140			
alapon	138	62	μg/kg wet	312		44.2	40-140			
alapon [2C]	140	62	μg/kg wet	312		44.8	40-140			
ticamba	10.1	2.5	μg/kg wet	12.5		80.4	40-140			
ricamba [2C]	10.4	2.5	μg/kg wet	12.5		83.4	40-140			
richloroprop	122	25	μg/kg wet	125		97.4	40-140			
richloroprop [2C]	121	25	μg/kg wet	125		97.2	40-140			
rinoseb	16.3	12	μg/kg wet	62.5		26.1	0-42.4			R-05
rinoseb [2C]	18.5	12	μg/kg wet	62.5		29.7	0-41.1			R-05
ICPA	9730	2500	μg/kg wet	12500		77.9	40-140			
ICPA [2C]	9720	2500	μg/kg wet	12500		77.8	40-140			
СРР	9700	2500	μg/kg wet	12500		77.6	40-140			
ICPP [2C]	9640	2500	μg/kg wet	12500		77.1	40-140			
urrogate: 2,4-Dichlorophenylacetic acid	96.9		μg/kg wet	100		97.0	30-150			
urrogate. 2,4-Dicinorophenylacetic acid										



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B125163 - SW-846 8151		·							-	
LCS Dup (B125163-BSD1)				Prepared: 06	5/29/15 Analy	zed: 07/02/	15			
2,4-D	89.8	25	μg/kg wet	125		71.9	40-140	4.30	30	
2,4-D [2C]	84.3	25	μg/kg wet	125		67.5	40-140	3.82	30	
2,4-DB	91.6	25	μg/kg wet	125		73.3	40-140	15.2	30	
2,4-DB [2C]	88.9	25	μg/kg wet	125		71.2	40-140	17.5	30	
2,4,5-TP (Silvex)	8.05	2.5	μg/kg wet	12.5		64.5	40-140	6.59	30	
2,4,5-TP (Silvex) [2C]	9.46	2.5	μg/kg wet	12.5		75.8	40-140	2.54	30	
2,4,5-T	8.42	2.5	μg/kg wet	12.5		67.4	40-140	3.78	30	
2,4,5-T [2C]	9.48	2.5	μg/kg wet	12.5		75.9	40-140	1.60	30	
Dalapon	149	62	μg/kg wet	312		47.8	40-140	7.65	30	
Dalapon [2C]	152	62	μg/kg wet	312		48.6	40-140	8.06	30	
Dicamba	9.77	2.5	μg/kg wet	12.5		78.3	40-140	2.81	30	
Dicamba [2C]	10.1	2.5	μg/kg wet	12.5		80.7	40-140	3.42	30	
Dichloroprop	112	25	μg/kg wet	125		90.0	40-140	7.97	30	
Dichloroprop [2C]	115	25	μg/kg wet	125		92.1	40-140	5.43	30	
Dinoseb	6.84	12	μg/kg wet	62.4		11.0	0-42.4	81.6		R-05
Dinoseb [2C]	7.62	12	μg/kg wet	62.4		12.2	0-41.1	83.4		R-05
MCPA	9540	2500	μg/kg wet	12500		76.4	40-140	2.06	30	
MCPA [2C]	9100	2500	μg/kg wet	12500		72.9	40-140	6.56	30	
MCPP	9260	2500	μg/kg wet	12500		74.1	40-140	4.66	30	
MCPP [2C]	9140	2500	μg/kg wet	12500		73.2	40-140	5.32	30	
Surrogate: 2,4-Dichlorophenylacetic acid	88.1		μg/kg wet	99.9		88.2	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	81.5		μg/kg wet μg/kg wet	99.9		81.6	30-150			
[2C]	01.5		μg/kg wct	77.7		81.0	30-130			
Matrix Spike (B125163-MS1)	Sou	rce: 15F1330	-01	Prepared: 06	5/29/15 Analy	zed: 07/02/	15			
2,4-D	106	28	μg/kg dry	140	ND	75.7	30-150			
2,4-D [2C]	104	28	μg/kg dry	140	ND	73.9	30-150			
2,4-DB	78.0	28	μg/kg dry	140	ND		30-150			
2,4-DB [2C]	111	28	μg/kg dry	140	ND		30-150			
2,4,5-TP (Silvex)	10.3	2.8	μg/kg dry	14.0	ND	73.2	30-150			
2,4,5-TP (Silvex) [2C]	11.7	2.8	μg/kg dry	14.0	ND		30-150			
2,4,5-T	9.72	2.8	μg/kg dry	14.0	ND		30-150			
2,4,5-T [2C]	9.88	2.8	μg/kg dry	14.0	ND		30-150			
Dalapon	173	70	μg/kg dry	351	ND		30-150			
Dalapon [2C]	182	70	μg/kg dry	351		51.8	30-150			
Dicamba	11.5	2.8	μg/kg dry	14.0	ND		30-150			
Dicamba [2C]	11.9	2.8	μg/kg dry	14.0	ND		30-150			
Dichloroprop	145	28	μg/kg dry	140	ND		30-150			
Dichloroprop [2C]	142	28	μg/kg dry	140	ND		30-150			
Dinoseb	21.1	14	μg/kg dry	70.2	ND		10-150			
Dinoseb [2C]	19.9	14	μg/kg dry	70.2	ND		10-150			
MCPA	12300	2800	μg/kg dry	14000	ND		30-150			
MCPA [2C]	12300	2800	μg/kg dry	14000	ND		30-150			
МСРР	10800	2800	μg/kg dry	14000	ND		30-150			
MCPP [2C]	13400	2800	μg/kg dry	14000	ND		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	126		μg/kg dry	112		112	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	114		μg/kg dry μg/kg dry	112		101	30-150			
[2C]	11,		ro o j	.12			30 130			



QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Rotch R125163 SW 846 8151										

Matrix Spike Dup (B125163-MSD1)	Source	e: 15F1330	-01	Prepared: 06/29/15 Analyzed: 07/02/15					
2,4-D	108	28	μg/kg dry	140	ND	76.9	30-150	1.48	30
2,4-D [2C]	103	28	μg/kg dry	140	ND	73.2	30-150	0.887	30
2,4-DB	80.6	28	μg/kg dry	140	ND	57.4	30-150	3.24	30
2,4-DB [2C]	114	28	μg/kg dry	140	ND	81.1	30-150	2.39	30
2,4,5-TP (Silvex)	10.7	2.8	μg/kg dry	14.0	ND	76.3	30-150	4.10	30
2,4,5-TP (Silvex) [2C]	11.6	2.8	μg/kg dry	14.0	ND	82.7	30-150	0.445	30
2,4,5-T	9.70	2.8	μg/kg dry	14.0	ND	69.1	30-150	0.183	30
2,4,5-T [2C]	10.1	2.8	μg/kg dry	14.0	ND	72.0	30-150	2.30	30
Dalapon	157	70	μg/kg dry	351	ND	44.8	30-150	9.30	30
Dalapon [2C]	165	70	μg/kg dry	351	ND	46.9	30-150	10.1	30
Dicamba	11.4	2.8	μg/kg dry	14.0	ND	81.0	30-150	0.903	30
Dicamba [2C]	11.3	2.8	μg/kg dry	14.0	ND	80.2	30-150	5.15	30
Dichloroprop	146	28	μg/kg dry	140	ND	104	30-150	0.349	30
Dichloroprop [2C]	141	28	μg/kg dry	140	ND	101	30-150	0.445	30
Dinoseb	21.0	14	μg/kg dry	70.2	ND	30.0	10-150	0.155	30
Dinoseb [2C]	19.9	14	μg/kg dry	70.2	ND	28.3	10-150	0.104	30
MCPA	12400	2800	μg/kg dry	14000	ND	88.5	30-150	0.830	30
MCPA [2C]	11700	2800	μg/kg dry	14000	ND	83.1	30-150	4.96	30
MCPP	11100	2800	μg/kg dry	14000	ND	78.9	30-150	2.06	30
MCPP [2C]	12000	2800	μg/kg dry	14000	ND	85.8	30-150	10.9	30
Surrogate: 2,4-Dichlorophenylacetic acid	122		μg/kg dry	112		109	30-150		
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	107		μg/kg dry	112		94.9	30-150		



QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

A 1.	D 1	Reporting	17.	Spike	Source	0/853	%REC	DDC	RPD	3.7
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B125176 - SW-846 3546										
Blank (B125176-BLK1)				Prepared: 06	5/30/15 Analy	yzed: 07/01/1	15			
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene Anthracene	ND	0.10	mg/Kg wet mg/Kg wet							
Benzo(a)anthracene	ND	0.10 0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND ND	0.10	mg/Kg wet							
Chrysene	ND ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
luorene	ND	0.10	mg/Kg wet							
ndeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
-Methylnaphthalene	ND	0.10	mg/Kg wet							
Vaphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
'yrene	ND	0.10	mg/Kg wet							
-Decane	ND	0.10	mg/Kg wet							
-Docosane	ND	0.10	mg/Kg wet							
-Dodecane	ND	0.10	mg/Kg wet							
Eicosane	ND	0.10	mg/Kg wet							
-Hexacosane	ND	0.10	mg/Kg wet							
-Hexadecane	ND	0.10	mg/Kg wet							
-Hexatriacontane	ND	0.10	mg/Kg wet							
-Nonadecane	ND	0.10	mg/Kg wet							
-Nonane	ND	0.10	mg/Kg wet							
ı-Octacosane	ND	0.10	mg/Kg wet							
-Octadecane	ND	0.10	mg/Kg wet							
-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
urrogate: Chlorooctadecane (COD)	2.89		mg/Kg wet	5.00		57.8	40-140			
Surrogate: o-Terphenyl (OTP)	3.58		mg/Kg wet	5.00		71.5	40-140			
Surrogate: 2-Bromonaphthalene	4.36		mg/Kg wet	5.00		87.2	40-140			
Surrogate: 2-Fluorobiphenyl	4.31		mg/Kg wet	5.00		86.1	40-140			
.CS (B125176-BS1)				Prepared: 06	5/30/15 Analy	yzed: 07/01/1	15			
cenaphthene	3.39	0.10	mg/Kg wet	5.00		67.8	40-140			
cenaphthylene	3.34	0.10	mg/Kg wet	5.00		66.7	40-140			
inthracene	4.01	0.10	mg/Kg wet	5.00		80.1	40-140			
Benzo(a)anthracene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140			
enzo(a)pyrene	3.63	0.10	mg/Kg wet	5.00		72.6	40-140			
Benzo(b)fluoranthene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
Benzo(g,h,i)perylene	3.66	0.10	mg/Kg wet	5.00		73.2	40-140			
Benzo(k)fluoranthene	3.54	0.10	mg/Kg wet	5.00		70.7	40-140			
Chrysene	3.51	0.10	mg/Kg wet	5.00		70.2	40-140			



QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B125176 - SW-846 3546										
LCS (B125176-BS1)				Prepared: 06	5/30/15 Analy	yzed: 07/01/	15			
Dibenz(a,h)anthracene	3.65	0.10	mg/Kg wet	5.00		73.1	40-140			
Fluoranthene	3.54	0.10	mg/Kg wet	5.00		70.7	40-140			
Fluorene	3.46	0.10	mg/Kg wet	5.00		69.2	40-140			
Indeno(1,2,3-cd)pyrene	2.97	0.10	mg/Kg wet	5.00		59.4	40-140			
2-Methylnaphthalene	3.43	0.10	mg/Kg wet	5.00		68.6	40-140			
Naphthalene	3.23	0.10	mg/Kg wet	5.00		64.7	40-140			
Phenanthrene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
Pyrene	3.54	0.10	mg/Kg wet	5.00		70.8	40-140			
n-Decane	2.48	0.10	mg/Kg wet	5.00		49.5	40-140			
n-Docosane	3.24	0.10	mg/Kg wet	5.00		64.9	40-140			
n-Dodecane	3.04	0.10	mg/Kg wet	5.00		60.7	40-140			
n-Eicosane	3.45	0.10	mg/Kg wet	5.00		69.1	40-140			
n-Hexacosane	3.28	0.10	mg/Kg wet	5.00		65.5	40-140			
n-Hexadecane	3.48	0.10	mg/Kg wet	5.00		69.5	40-140			
n-Hexatriacontane	3.49	0.10	mg/Kg wet	5.00		69.8	40-140			
n-Nonadecane	3.53	0.10	mg/Kg wet	5.00		70.6	40-140			
n-Nonane	1.74	0.10	mg/Kg wet	5.00		34.7	30-140			
n-Octacosane	3.27	0.10	mg/Kg wet	5.00		65.4	40-140			
n-Octadecane	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
n-Tetracosane n-Tetradecane	3.59	0.10	mg/Kg wet	5.00		71.9	40-140			
n-Triacontane	3.24	0.10 0.10	mg/Kg wet mg/Kg wet	5.00 5.00		64.8 67.5	40-140			
Naphthalene-aliphatic fraction	3.37	0.10	mg/Kg wet	5.00		07.3	40-140 0-5			
2-Methylnaphthalene-aliphatic fraction	ND ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	2.81		mg/Kg wet	5.00		56.2	40-140			
Surrogate: o-Terphenyl (OTP)	3.46		mg/Kg wet	5.00		69.2	40-140			
Surrogate: 2-Bromonaphthalene	4.24		mg/Kg wet	5.00		84.8	40-140			
Surrogate: 2-Fluorobiphenyl	4.10		mg/Kg wet	5.00		82.0	40-140			
LCS Dup (B125176-BSD1)				Prepared: 06	5/30/15 Analy	vzed: 07/01/	15			
Acenaphthene	3.74	0.099	mg/Kg wet	4.95		75.6	40-140	9.84	25	
Acenaphthylene	3.68	0.099	mg/Kg wet	4.95		74.3	40-140	9.77	25	
Anthracene	4.39	0.099	mg/Kg wet	4.95		88.7	40-140	9.21	25	
Benzo(a)anthracene	3.91	0.099	mg/Kg wet	4.95		79.1	40-140	9.53	25	
Benzo(a)pyrene	3.97	0.099	mg/Kg wet	4.95		80.2	40-140	9.01	25	
Benzo(b)fluoranthene	3.86	0.099	mg/Kg wet	4.95		77.9	40-140	8.31	25	
Benzo(g,h,i)perylene	3.92	0.099	mg/Kg wet	4.95		79.3	40-140	7.03	25	
Benzo(k)fluoranthene	3.89	0.099	mg/Kg wet	4.95		78.7	40-140	9.63	25	
Chrysene	3.90	0.099	mg/Kg wet	4.95		78.8	40-140	10.6	25	
Dibenz(a,h)anthracene	4.02	0.099	mg/Kg wet	4.95		81.2	40-140	9.53	25	
Fluoranthene	3.86	0.099	mg/Kg wet	4.95		78.1	40-140	8.89	25	
Fluorene	3.82	0.099	mg/Kg wet	4.95		77.1	40-140	9.90	25	
Indeno(1,2,3-cd)pyrene	3.22	0.099	mg/Kg wet	4.95		65.1	40-140	8.16	25	
2-Methylnaphthalene	3.75	0.099	mg/Kg wet	4.95		75.8	40-140	8.96	25	
Naphthalene	3.51	0.099	mg/Kg wet	4.95		70.9	40-140	8.22	25	
Phenanthrene	3.88	0.099	mg/Kg wet	4.95		78.3	40-140	8.79	25	
Pyrene	3.87	0.099	mg/Kg wet	4.95		78.2	40-140	8.88	25	
n-Decane	2.50	0.099	mg/Kg wet	4.95		50.5	40-140	0.893	25	
n-Docosane	3.35	0.099	mg/Kg wet	4.95		67.7	40-140	3.33	25	
n-Dodecane	3.07	0.099	mg/Kg wet	4.95		62.1	40-140	1.26	25	
n-Eicosane	3.48	0.099	mg/Kg wet	4.95		70.2	40-140	0.630	25	
n-Hexacosane	3.32	0.099	mg/Kg wet	4.95		67.1	40-140	1.39	25	



QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B125176 - SW-846 3546										
LCS Dup (B125176-BSD1)			I	Prepared: 06	6/30/15 Anal	yzed: 07/01/	15			
n-Hexadecane	3.51	0.099	mg/Kg wet	4.95		70.8	40-140	0.837	25	
n-Hexatriacontane	3.67	0.099	mg/Kg wet	4.95		74.0	40-140	4.84	25	
n-Nonadecane	3.55	0.099	mg/Kg wet	4.95		71.6	40-140	0.461	25	
n-Nonane	1.72	0.099	mg/Kg wet	4.95		34.8	30-140	0.868	25	
n-Octacosane	3.33	0.099	mg/Kg wet	4.95		67.3	40-140	1.81	25	
n-Octadecane	3.56	0.099	mg/Kg wet	4.95		71.9	40-140	0.248	25	
n-Tetracosane	3.62	0.099	mg/Kg wet	4.95		73.2	40-140	0.850	25	
n-Tetradecane	3.29	0.099	mg/Kg wet	4.95		66.4	40-140	1.44	25	
n-Triacontane	3.45	0.099	mg/Kg wet	4.95		69.6	40-140	2.13	25	
Naphthalene-aliphatic fraction	ND	0.099	mg/Kg wet	4.95			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.099	mg/Kg wet	4.95			0-5			
Surrogate: Chlorooctadecane (COD)	2.92		mg/Kg wet	4.95		58.9	40-140			
Surrogate: o-Terphenyl (OTP)	3.78		mg/Kg wet	4.95		76.4	40-140			
Surrogate: 2-Bromonaphthalene	4.49		mg/Kg wet	4.95		90.6	40-140			
Surrogate: 2-Fluorobiphenyl	4.39		mg/Kg wet	4.95		88.6	40-140			



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

		D		0.7			0/DEG		DPD	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B125291 - SW-846 7471										
Blank (B125291-BLK1)				Prepared: 07	7/01/15 Analy	yzed: 07/06/	15			
Mercury	ND	0.025	mg/Kg wet	•		*				
I CS (B125201 BS1)				Dramarad: 07	1/01/15 Amol	uradi 07/06	/15			
LCS (B125291-BS1) Mercury	(5)	0.79	mg/Kg wet	7.10	7/01/15 Analy	92.1	73.7-126.3			
Withcuty	6.54	0.79	mg/Kg wet	7.10		92.1	/3./-120.3			
LCS Dup (B125291-BSD1)				Prepared: 07	7/01/15 Analy	yzed: 07/06/	15			
Mercury	6.74	0.80	mg/Kg wet	7.10		94.9	73.7-126.3	3.04	30	
Batch B125329 - SW-846 3050B										
Blank (B125329-BLK1)				Prepared: 07	7/01/15 Analy	vzed: 07/06/	15			
Antimony	ND	2.5	mg/Kg wet	•		*				
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B125329-BS1)				Prepared: 07	7/01/15 Analy	yzed: 07/06/	15			
Antimony	95.3	5.0	mg/Kg wet	105		90.8	0-210.3			
Arsenic	97.6	5.0	mg/Kg wet	98.5		99.1	77.8-122.1			
Barium	294	5.0	mg/Kg wet	308		95.6	82-117.4			
Beryllium	62.0	0.50	mg/Kg wet	66.0		93.9	82.3-117.7			
Cadmium	138	0.50	mg/Kg wet	146		94.6	81.9-118.2			
Chromium	170	1.0	mg/Kg wet	182		93.5	78.7-120.6			
Lead	119	1.5	mg/Kg wet	130		91.6	82.4-117.8			
Nickel	138	1.0	mg/Kg wet	149		92.8	82.2-117.8			
Selenium	140	10	mg/Kg wet	154		91.1	77.1-122.3			
Silver	35.7	1.0	mg/Kg wet	40.9		87.3	74.3-125.4			
Thallium	165	5.0	mg/Kg wet	175		94.5	78.2-121.6			
Vanadium	92.8	2.0	mg/Kg wet	96.7		96.0	64.8-135.2			
Zinc	166	2.0	mg/Kg wet	191		87.1	79.7-120.8			
LCS Dup (B125329-BSD1)					7/01/15 Analy	yzed: 07/06/				
Antimony	96.8	5.0	mg/Kg wet	105		92.2	0-210.3	1.56	30	
Arsenic	95.2	5.0	mg/Kg wet	98.5		96.6	77.8-122.1	2.56	30	
Barium	289	5.0	mg/Kg wet	308		93.7	82-117.4	1.96	30	
Beryllium	61.8	0.50	mg/Kg wet	66.0		93.6	82.3-117.7	0.393	30	
Cadmium	134	0.50	mg/Kg wet	146		92.0	81.9-118.2	2.86	30	
Chromium	169	1.0	mg/Kg wet	182		93.1	78.7-120.6	0.485	30	
Lead	118	1.5	mg/Kg wet	130		90.7	82.4-117.8	1.03	30	
Nickel	137	1.0	mg/Kg wet	149		92.0	82.2-117.8	0.870	30	
Selenium	138	10	mg/Kg wet	154		89.4	77.1-122.3	1.85	30	
Silver	34.8	1.0	mg/Kg wet	40.9		85.1	74.3-125.4	2.60	30	
Thallium	159	5.0	mg/Kg wet	175		90.8	78.2-121.6	3.90	30	
Vanadium	92.5	2.0	mg/Kg wet	96.7		95.6	64.8-135.2	0.343	30	
Zinc	166	2.0	mg/Kg wet	191		86.8	79.7-120.8	0.340	30	



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B125329 - SW-846 3050B										
Duplicate (B125329-DUP1)	Sour	ce: 15F1330	-01	Prepared: 07	7/01/15 Analy	zed: 07/06	/15			
Antimony	7.38	2.8	mg/Kg dry		6.65			10.5	35	
Arsenic	32.2	2.8	mg/Kg dry		30.6			5.33	35	
Barium	84.7	2.8	mg/Kg dry		75.6			11.4	35	
Beryllium	1.99	0.28	mg/Kg dry		1.99			0.00589	35	
Cadmium	1.29	0.28	mg/Kg dry		1.21			6.17	35	
Chromium	14.0	0.56	mg/Kg dry		14.0			0.401	35	
Lead	31.7	0.85	mg/Kg dry		34.9			9.63	35	
Nickel	21.9	0.56	mg/Kg dry		20.2			7.86	35	
Selenium	ND	5.6	mg/Kg dry		ND			NC	35	
Silver	ND	0.56	mg/Kg dry		ND			NC	35	
Thallium Thallium	ND	2.8	mg/Kg dry		ND			NC	35	
Vanadium Vanadium	107	1.1	mg/Kg dry		104			2.51	35	
Zine	80.3	1.1	mg/Kg dry		43.0			60.6	35	R-02
MRL Check (B125329-MRL1)				Prepared: 07	7/01/15 Analy	zed: 07/06	/15			
Lead	0.627	0.71	mg/Kg wet	0.707		88.7	80-120			
Matrix Spike (B125329-MS1)	Sour	ce: 15F1330	-01	Prepared: 07	7/01/15 Analy	zed: 07/06	/15			
Antimony	19.6	2.8	mg/Kg dry	28.3	6.65	45.8	* 75-125			MS-07
Arsenic	57.8	2.8	mg/Kg dry	28.3	30.6	96.4	75-125			
Barium	102	2.8	mg/Kg dry	28.3	75.6	93.6	75-125			
Beryllium	27.8	0.28	mg/Kg dry	28.3	1.99	91.2	75-125			
Cadmium	27.1	0.28	mg/Kg dry	28.3	1.21	91.7	75-125			
Chromium	40.2	0.57	mg/Kg dry	28.3	14.0	92.9	75-125			
Lead	63.5	0.85	mg/Kg dry	28.3	34.9	101	75-125			
Nickel	46.6	0.57	mg/Kg dry	28.3	20.2	93.0	75-125			
Selenium	25.4	5.7	mg/Kg dry	28.3	ND	90.0	75-125			
Silver	23.5	0.57	mg/Kg dry	28.3	ND	82.9	75-125			
Гhallium	24.6	2.8	mg/Kg dry	28.3	ND	86.8	75-125			
Vanadium	132	1.1	mg/Kg dry	28.3	104	98.2	75-125			
Zinc	70.9	1.1	mg/Kg dry	28.3	43.0	98.7	75-125			



QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit U	Limit Units		Result %REC		Limits RPD		Limit	Notes
Batch B125067 - % Solids										
Duplicate (B125067-DUP1)	Sour	ce: 15F1330-01		Prepared: 06	/27/15 Anal	yzed: 06/29/	15			
% Solids	89.1	Ç	% Wt		88.3			0.902	20	
Batch B125201 - SM21-22 2510B Modified										
Blank (B125201-BLK1)				Prepared &	Analyzed: 06	/30/15				
Specific conductance	ND	2.0 μm	nhos/cm							
LCS (B125201-BS1)				Prepared &	Analyzed: 06	/30/15				
Specific conductance	280	μт	nhos/cm	286		98.9	88.6-105			



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

LCS		

Lab Sample ID:	B125163-BS1		Date(s) Analyzed:	07/02/2015	07/02/	2015
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
7117712112	002	1,11	FROM	TO	CONCENTIVITION	7015
2,4,5-T	1	15.63	0.00	0.00	8.74	
	2	15.58	0.00	0.00	9.33	7
2,4,5-TP (Silvex)	1	15.01	0.00	0.00	8.60	
	2	14.73	0.00	0.00	9.23	7
2,4-D	1	13.20	0.00	0.00	93.8	
	2	13.02	0.00	0.00	87.6	7
2,4-DB	1	16.73	0.00	0.00	107	
	2	16.65	0.00	0.00	106	1
Dalapon	1	4.40	0.00	0.00	138	
	2	3.99	0.00	0.00	140	1
Dicamba	1	11.12	0.00	0.00	10.1	
	2	10.85	0.00	0.00	10.4	3
Dichloroprop	1	12.70	0.00	0.00	122	
	2	12.35	0.00	0.00	121	1
Dinoseb	1	17.50	0.00	0.00	16.3	
	2	16.97	0.00	0.00	18.5	13
MCPA	1	11.93	0.00	0.00	9730	
	2	11.68	0.00	0.00	9720	0
MCPP	1	11.61	0.00	0.00	9700	
	2	11.19	0.00	0.00	9640	1



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

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Lab Sample ID:	B125163-BSD1		Date(s) Analyzed:	07/02/2015	07/02/20	15
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
ANACTIE	002	111	FROM	TO	CONCENTION	7015
2,4,5-T	1	15.63	0.00	0.00	8.42	
	2	15.58	0.00	0.00	9.48	12
2,4,5-TP (Silvex)	1	15.01	0.00	0.00	8.05	
	2	14.73	0.00	0.00	9.46	16
2,4-D	1	13.20	0.00	0.00	89.8	
	2	13.02	0.00	0.00	84.3	6
2,4-DB	1	16.73	0.00	0.00	91.6	
	2	16.65	0.00	0.00	88.9	3
Dalapon	1	4.39	0.00	0.00	149	
	2	3.98	0.00	0.00	152	2
Dicamba	1	11.12	0.00	0.00	9.77	
	2	10.85	0.00	0.00	10.1	3
Dichloroprop	1	12.70	0.00	0.00	112	
	2	12.35	0.00	0.00	115	3
Dinoseb	1	17.50	0.00	0.00	6.84	
	2	16.97	0.00	0.00	7.62	11
MCPA	1	11.93	0.00	0.00	9540	
	2	11.68	0.00	0.00	9100	5
MCPP	1	11.61	0.00	0.00	9260	
	2	11.19	0.00	0.00	9140	1



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

Matrix Spike

Lab Sample ID:	B125163-MS1		Date(s) Analyzed:	07/02/2015	07/02/20	15
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
ANAMETIC	002	111	FROM	TO	CONCENTION	700
2,4,5-T	1	15.62	0.00	0.00	9.72	
	2	15.57	0.00	0.00	9.88	2
2,4,5-TP (Silvex)	1	15.01	0.00	0.00	10.3	
	2	14.73	0.00	0.00	11.7	13
2,4-D	1	13.19	0.00	0.00	106	
	2	13.02	0.00	0.00	104	2
2,4-DB	1	16.73	0.00	0.00	78.0	
	2	16.65	0.00	0.00	111	35
Dalapon	1	4.39	0.00	0.00	173	
	2	3.99	0.00	0.00	182	5
Dicamba	1	11.12	0.00	0.00	11.5	
	2	10.85	0.00	0.00	11.9	3
Dichloroprop	1	12.70	0.00	0.00	145	
	2	12.35	0.00	0.00	142	2
Dinoseb	1	17.49	0.00	0.00	21.1	
	2	16.96	0.00	0.00	19.9	6
MCPA	1	11.93	0.00	0.00	12300	·
	2	11.68	0.00	0.00	12300	0
MCPP	1	11.60	0.00	0.00	10800	
	2	11.19	0.00	0.00	13400	22



IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

Matrix Spike Dup

Lab Sample ID:	B125163-MSD1		Date(s) Analyzed:	07/02/2015	07/02	/2015
Instrument ID (1):			Instrument ID (2):			
GC Column (1):	ID:	(mm)	GC Column (2):		ID:	(mm)

ANALYTE	COL	RT	RT WI	NDOW	CONCENTRATION	%D
7.07.2.1.2			FROM	TO	33.132.11.1.17.17014	,,,,
2,4,5-T	1	15.62	0.00	0.00	9.70	
	2	15.57	0.00	0.00	10.1	4
2,4,5-TP (Silvex)	1	15.01	0.00	0.00	10.7	
	2	14.73	0.00	0.00	11.6	8
2,4-D	1	13.19	0.00	0.00	108	
	2	13.02	0.00	0.00	103	5
2,4-DB	1	16.73	0.00	0.00	80.6	
	2	16.65	0.00	0.00	114	34
Dalapon	1	4.39	0.00	0.00	157	
	2	3.99	0.00	0.00	165	5
Dicamba	1	11.12	0.00	0.00	11.4	
	2	10.85	0.00	0.00	11.3	1
Dichloroprop	1	12.70	0.00	0.00	146	
	2	12.35	0.00	0.00	141	3
Dinoseb	1	17.49	0.00	0.00	21.0	
	2	16.96	0.00	0.00	19.9	5
MCPA	1	11.93	0.00	0.00	12400	
	2	11.68	0.00	0.00	11700	6
MCPP	1	11.60	0.00	0.00	11100	
	2	11.19	0.00	0.00	12000	8



FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.



CERTIFICATIONS

Certified Analyses included in this Report

2,4,5-T

2,4,5-T [2C]

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C in Soil	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,ME,NC,VA,NJ
Barium	CT,NH,NY,ME,NC,VA,NJ
Beryllium	CT,NH,NY,ME,NC,VA,NJ
Cadmium	CT,NH,NY,ME,NC,VA,NJ
Chromium	CT,NH,NY,ME,NC,VA,NJ
Lead	CT,NH,NY,AIHA,ME,NC,VA,NJ
Nickel	CT,NH,NY,ME,NC,VA,NJ
Selenium	CT,NH,NY,ME,NC,VA,NJ
Silver	CT,NH,NY,ME,NC,VA,NJ
Thallium	CT,NH,NY,ME,NC,VA,NJ
Vanadium	CT,NH,NY,ME,NC,VA,NJ
Zinc	CT,NH,NY,ME,NC,VA,NJ
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA,NJ
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT,NJ
2,4-D [2C]	NY,ME,NC,NH,VA,CT,NJ
2,4-DB	NY,ME,NC,NH,VA,CT,NJ
2,4-DB [2C]	NY,ME,NC,NH,VA,CT,NJ
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT,NJ
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT,NJ
2.4.5 T	NV ME NO NIL VA CT NI

NY,ME,NC,NH,VA,CT,NJ

NY,ME,NC,NH,VA,CT,NJ



CERTIFICATIONS

Certified Analyses included in this Report

MCPP [2C]

Analyte SW-846 8151A in Soil Dalapon NY,ME,NC,NH,VA,CT,NJ Dalapon [2C] NY,ME,NC,NH,VA,CT,NJ Dicamba NY,ME,NC,NH,VA,CT,NJ Dicamba [2C] NY,ME,NC,NH,VA,CT,NJ Dichloroprop NY,ME,NC,NH,VA,CT,NJ Dichloroprop [2C] NY,ME,NC,NH,VA,CT,NJ Dinoseb NY,ME,NC,NH,VA,CT,NJ Dinoseb [2C] NY,ME,NC,NH,VA,CT,NJ MCPA NY,ME,NC,NH,VA,CT,NJ MCPA [2C] NY,ME,NC,NH,VA,CT,NJ MCPP NY,ME,NC,NH,VA,CT,NJ

Certifications

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires	
AIHA	AIHA-LAP, LLC	100033	02/1/2016	
MA	Massachusetts DEP	M-MA100	06/30/2016	
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015	
NY	New York State Department of Health	10899 NELAP	04/1/2016	
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016	
RI	Rhode Island Department of Health	LAO00112	12/30/2015	
NC	North Carolina Div. of Water Quality	652	12/31/2015	
NJ	New Jersey DEP	MA007 NELAP	09/30/2015	
FL	Florida Department of Health	E871027 NELAP	06/30/2016	
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015	
WA	State of Washington Department of Ecology	C2065	02/23/2016	
ME	State of Maine	2011028	06/9/2017	
VA	Commonwealth of Virginia	460217	12/14/2015	
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015	

NY,ME,NC,NH,VA,CT,NJ

Ì 995-045-345 Telephone: Project # mail info@contestlabs.com www.contestlabs.com FRX: 443-525-640% MANY CALL ABOXACON Company Name: Address:

East longmeadow, WA 01028

8 « Sodium bisultate OW. Chaking water ***Container Code Dissolved Metals GW= groundwater WW = wastewater T = Na thiosulfate X = Na hydroxide O Field Pillered # of Containers s = Suffuric Acid * Preservation * "Preservation *** Cont. Code: * Matrix Code: M = Nitric Acid Awamber glass M = Methanol Sesumma can phos/hos = \$ Tweder bag 51. - studge Sinsterile O = Other O = other Paplesic Q-Other G = (g | 25.5 War William THE \$ 14 CEC Please use the fullowing codes to let Con-Test know if a specific sample H - Might, M - Madium; L - Low, C - Clean; U - Unknown may be high in concentration in Matrix/Conc. Code Box: ANAKSS X 2002 2002 RV: Stateson Solvingia C "Enhanced Data Package" OPE OPER OGS "TILL S DAYA DELIVERY (check all that apply) CIMAR CWESSEE Composite Grab COTHER 6430 Client Post Date (TITLE 250 000 resident de la companya de la compan Ending えるこ OTTO! TO E 称人間 Carry Carry 1 x 60 Client Sample ID / Description Project Proposal Previded? (for billing purposes) proposal date É C 10 X Con-Test Lab ID Project Location: Sampled By: Attention: Comments , 0

WEEDER Contino WELLOR A WALLANDE LLD UNARROUND THE STATS AT 9-00'A M/THE DAY AFTER SAMPLE RECEPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR Accredited O MA State DW Form Required PWSID# O MCP Form Required O ROT Tom Required Connectiont: Street. 830 H Require Inb approval à C C D TREE TO TANGE D *24-H-O *48-H-Other T C C C Date/Time Med Time My: (signature) Page 70 of 75

Detection Limit Requirements

Turnaround

Date/Tine:

Vas sechusetts

7-Day

ACORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE RECAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

Phone: 413-525-2332

CHAIN OF CUSTODY RECORD

East kingmeadow, NA 01028 39 Spruce Street

Project Proj
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Flease use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box: H Hight, M Medium; L Low, C Clean; U Unknown Limit Requirements S. O. MCP Form Required O. MA State DW Form Required O. MA STATE DW FORM FORM FORM FORM FORM FORM FORM FORM
X X X
Limit Requirements No. No
Please use the following codes, to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box: H High; M Medium; L Low, C Clean; U Unknown H High; M Medium; L Low, C Clean; U Unknown O MCP Form Required O MCP Form Required O MCP Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required
Please use the following codes to let Con-Test know if a specific semple may be high in concentration in Matrix/Conc. Code Box. H High, M Medium; L Low, C Clean; U Unknown H High, M Medium; L Low, C Clean; U Unknown O NCP Form Required O NCP Form Required O NCP Form Required O NA State DW Form Required O MA State DW Form Required O MA State DW Form Required
Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box. H.: High, M.: Medium; L.: Low, C.: Clean; U.: Likinown H.: High, M.: Medium; L.: Low, C.: Clean; U.: Likinown O MCP Form Required O RCP Form Required O RCP Form Required O MA State DW Form Required O MA State DW Form Required
Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix Conc. Code Box. H High, M Medium, L Low, C Clean; U Unknown H High, M Medium, L Low, C Clean; U Unknown C. O. MCP Form Required O. MCP Form Required O. MCP Form Required O. MA State DW Form Required O. MA State DW Form Required O. MA State DW Form Required O. MA State DW Form Required O. MA State DW Form Required
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Please use the following codes to lat Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box: H. High, M. Medium, L. Low, C. Clean, U. Unknown Limit Requirements O MCP Form Required O RCP Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required O MA State DW Form Required
Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box. Limit Requirements E. your project M.C. Or RCP 7. Ac. Clean: U-Unknown H. High, M. Medium, L. Low, C. Clean: U-Unknown O MCP Form Required O MCP Form Required O MCP Form Required O MA State DW Form Required O MA State DW Form Required
Limit Requirements Low, C. Clesn; U. Unknow Str. M. Medium, L. Low, C. Clesn; U. Unknow Str. M. Meduled M. Stelle Dw Form Required
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USAGROUND TIME STARTS AT 3.00 A.M./THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR Please be careful not to contaminate this document KCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

ntents

Login@ContestLabs.com

From:

"Meghan Kelley" <mkelley@contestlabs.com> Friday, June 26, 2015 1:48 PM

Date:

To:

"LOG-IN" <login@contestlabs.com>; "'Meagan Jones'" <meagan.jones@contestlabs.com>; "'Paula

Blakeborough'" <pblakeborough@contestlabs.com>

Subject:

Incoming TRC Weymouth Samples

Hi All,

Coming in tonight from TRCs Weymouth site will be some samples that will need to be placed on hold, the samples that are not listed below should be logged in per the COC.

V 1 through 10 fill

Any questions let me know.

-Meghan

Meghan Kelley Project Manager Con-Test Analytical Laboratory 39 Spruce Street., East Longmeadow, MA 01028 Phone: 413.525.2332 x55 | Email: mkelley@contestlabs.com

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332

F: 413-525-6405 www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: TRC	172000000000000000000000000000000000000	RECEIVED BY	: JDL	DATE: 6/26/15		
Was the chain(s) of custody relin	auished and siar	ied?	Yes No	No CoC Included		
2) Does the chain agree with the samples? Yes No						
If not, explain:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
3) Are all the samples in good cond If not, explain:	ition?		(Yes) No			
4) How were the samples received:						
On Ice Direct from Samp	oling	Ambient	In Cooler(s)			
Were the samples received in Tempe	erature Complian	ce of (2-6°C)?	(Yes) No	N/A		
Temperature °C by Temp blank	nado nadimido de destruido de Historio de Historio de Historio de Historio de Historio de Historio de Historio	Temperature °C	by Temp gun	4-7		
5) Are there Dissolved samples for t	the lab to filter?		Yes No			
Who was notified		Time	The second second			
6) Are there any RUSH or SHORT He			Yes (No)			
Who was notified			Antonia com and a common of the common of th			
		· · · · · · · · · · · · · · · · · · ·	mission to subcor	itract samples? Yes No		
The section where sevenies are stored.				if not already approved		
7) Location where samples are stored:		1 7/ 11	• /	ii not aiready approved		
			ent Signature:	440000		
8) Do all samples have the proper A	cid pH: Yes	No (N/A)	ALLERANDO MARTINA DE LA COMPANSA DEL COMPANSA DE LA COMPANSA DEL COMPANSA DE LA C	**************************************		
9) Do all samples have the proper B	lase pH: Yes	No (N/A)	454-654-656-656-656-656-656-656-656-656-			
10) Was the PC notified of any discr	epancies with the	e CoC vs the sa	ımples: Yes	No (N/A)		
Con	tainers rec	eived at (Con-Test			
	# of containers		And the second s	# of containers		
1 Liter Amber		80	oz amber/clear jar			
500 mL Amber		4.0	z amber/clear jar	The state of the s		
250 mL Amber (8oz amber)		20	z amber/clear jar			
1 Liter Plastic		l PI	astic Bag / Ziploc			
500 mL Plastic	MALA LAW WATER WATER TO THE TOTAL OF THE TOT		SOC Kit	CONTRACTOR CONTRACTOR		
250 mL plastic		4	-ConTest Containe	er		
40 mL Vial - type listed below		Perchlorate Kit				
Colisure / bacteria bottle)M - MARINE IN THE STATE OF THE	1	lashpoint bottle	MANUSCHICK CONTRACTOR		
Dissolved Oxygen bottle			Other glass jar			
Encore	WEAD STREET THE STREET		Other			
Laboratory Comments:						
40 mL vials: # HCl	# Meti	hanol		Time and Date Frozen:		
Doc# 277 # Bisulfate		Vater	ŀ			
Rev. 4 August 2013 # Thiosulfate		served		D 70. (7		
				Page 73 of 7		

Page 2 of 2 Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy) Any False statement will be brought to the attention of Client

Question	Answer (True/False)	Comment		
	T/F/NA			
1) The cooler's custody seal, if present, is intact.	NA			
The cooler or samples do not appear to have been compromised or tampered with.				
3) Samples were received on ice.	J			
4) Cooler Temperature is acceptable.	L. I			
5) Cooler Temperature is recorded.				
6) COC is filled out in ink and legible.		ACTION CONTROL OF THE PROPERTY		
7) COC is filled out with all pertinent information.	<u></u>	400,007500000000000000000000000000000000		
8) Field Sampler's name present on COC.				
There are no discrepancies between the sample IDs on the container and the COC.	mining states :			
10) Samples are received within Holding Time.	<u></u>	NII GOOGO MAAAA MAAAAA AA AA AA AA AA AA AA AA AA		
11) Sample containers have legible labels.				
12) Containers are not broken or leaking.				
13) Air Cassettes are not broken/open.	NA			
14) Sample collection date/times are provided.				
15) Appropriate sample containers are used.				
16) Proper collection media used.				
17) No headspace sample bottles are completely filled.	T			
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	7			
19) Trip blanks provided if applicable.	NA			
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA			
21) Samples do not require splitting or compositing.		Fada PP		
Who notified of Fa Doc #277 Rev. 4 August 2013 Log-In Technician	A.	Date/Time: 6/26/15 1830		

MADEP MCP Analytical Method Report Certification Form						
Laboratory Name: Con-Test Analytical Laboratory Project #: 15			Project #: 15F1	330		
Project Location: Weymouth, MA RTN:						
This F	orm provide	s certifications for	the following data se	t: [list Laboratory Sar	nple ID Number(s)]	
15F	1330-01 thru	ı 15F1330-16				
Matri	ces:	Soil				
C	AM Protoco	I (check all that	below)			
8260 CAM	VOC IIA()	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
	SVOC II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
	Metals III A (X)	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	
	A	ffirmative response	to Questions A throu	ıghF is required for "P	Presumptive Certainty"	status
Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?					☑ Yes □ No¹	
В	R Were the analytical method(s) and all associated OC requirements specificed in the selected CAM					☑ Yes □ No¹
C. Were all required corrective actions and analytical response actions specified in the selected CAM					☑ Yes □ No¹	
Does the laboratory report comply with all the reporting requirements specified in CAM VII A.					☑ Yes □No¹	
E a VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).						☐ Yes ☐ No¹
Εb						
F Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?					☑ Yes □ No¹	
	A response	e to questions G, H	and I below is require	ed for "Presumptive C	ertainty" status	
G	G Were the reporting limits at or below all CAM reporting limits specified in the selected CAM					
<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.						
Н	H Were all QC perfomance standards specified in the CAM protocol(s) achieved?					☐ Yes ☑ No¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? ☑ Yes □ No¹					☑ Yes □ No¹
¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.						
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.						
Sig	nature:	Joles	un Hourigh	Position:	Manager, Laboratory Re	porting
Prin	Printed Name: Johanna K. Harrington Date: 07/07/15					

Page 75 of 75



December 31, 2015

Ryan Niles TRC Environmental Corporation - Boston 31 Milk Street, Suite 1000 Boston, MA 02109

Project Location: Weymouth Compressor

Client Job Number:

Project Number: 140143.0000.7478 Laboratory Work Order Number: 15L1202

Meghan S. Kelley

Enclosed are results of analyses for samples received by the laboratory on December 22, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley Project Manager

Table of Contents

Sample Summary	3
Case Narrative	4
Sample Results	7
15L1202-01	7
15L1202-02	9
15L1202-03	12
15L1202-04	15
15L1202-05	18
15L1202-06	21
15L1202-07	24
Sample Preparation Information	27
QC Data	28
Semivolatile Organic Compounds by GC/MS	28
B138715	28
Metals Analyses (Total)	30
B138342	30
B138347	31
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)	32
B138331	32
Flag/Qualifier Summary	33
Certifications	34
Chain of Custody/Sample Receipt	36



TRC Environmental Corporation - Boston 31 Milk Street, Suite 1000

31 Milk Street, Suite 1000 Boston, MA 02109 ATTN: Ryan Niles

PURCHASE ORDER NUMBER:

REPORT DATE: 12/31/2015

PROJECT NUMBER: 140143.0000.7478

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15L1202

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Weymouth Compressor

FIELD SAMPLE#	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TP-3 (5-7')	15L1202-01	Soil		SW-846 6010C	
				SW-846 7471B	
				SW-846 9045C	
TP-3 (7-9')	15L1202-02	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	
TP-2 (5-7')	15L1202-03	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	
TP-2 (7-9')	15L1202-04	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	
TP-1 (5-7')	15L1202-05	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	
TP-1 (7-9')	15L1202-06	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	
TP-101 (5-7')	15L1202-07	Soil		SM 2540G	
				SW-846 6010C	
				SW-846 7471B	
				SW-846 8270D	
				SW-846 9045C	



CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.



SW-846 6010C

Qualifications:

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

 $15L1202-01[TP-3 \ \, (5-7')], \ 15L1202-02[TP-3 \ \, (7-9')], \ 15L1202-03[TP-2 \ \, (5-7')], \ 15L1202-04[TP-2 \ \, (7-9')], \ 15L1202-05[TP-1 \ \, (5-7')], \ 15L1202-06[TP-1 \ \, (7-9')], \ 15L1202-05[TP-1 \ \, (7-9')]$ 15L1202-07[TP-101 (5-7')]

SW-846 7471B

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Mercury

B138347-BS1

SW-846 8270D

Qualifications:

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

Nitrobenzene-d5

B138715-BS1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side. Analyte & Samples(s) Qualified:

Benzo(g,h,i)perylene

B138715-BLK1, B138715-BS1, B138715-BSD1

Dibenz(a,h)anthracene

B138715-BLK1, B138715-BS1, B138715-BSD1

Indeno(1,2,3-cd)pyrene

B138715-BLK1, B138715-BS1, B138715-BSD1

SW-846 9045C

Qualifications:

H-01

Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.

Analyte & Samples(s) Qualified:

pН

15L1202-07[TP-101 (5-7')], B138331-DUP3

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was

exceeded. Analyte & Samples(s) Qualified:

15L1202-01[TP-3 (5-7')], 15L1202-02[TP-3 (7-9')], 15L1202-03[TP-2 (5-7')], 15L1202-04[TP-2 (7-9')]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski Laboratory Director



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-3 (5-7')

Sampled: 12/21/2015 13:45

Sample ID: 15L1202-01
Sample Matrix: Soil

	Metals Analyses (Total)											
							Date	Date/Time				
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst			
Antimony	ND	2.5	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Arsenic	46	2.5	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Barium	39	2.5	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Beryllium	1.7	0.25	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Cadmium	1.6	0.25	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Chromium	8.9	0.50	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Lead	13	0.75	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Mercury	0.15	0.025	mg/Kg wet	1		SW-846 7471B	12/23/15	12/28/15 9:52	RMS			
Nickel	16	0.50	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Selenium	ND	5.0	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Silver	ND	0.50	mg/Kg wet	1	V-20	SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Thallium	ND	2.5	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Vanadium	24	1.0	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			
Zinc	14	1.0	mg/Kg wet	1		SW-846 6010C	12/23/15	12/28/15 20:51	AME			

Work Order: 15L1202



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Weymouth Compressor Sample Description:

Date Received: 12/22/2015

Field Sample #: TP-3 (5-7')

Sampled: 12/21/2015 13:45

Sample ID: 15L1202-01
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @24.3°C		7.0		pH Units	1	H-05	SW-846 9045C	12/23/15	12/23/15 8:30	LL



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-3 (7-9')

Sampled: 12/21/2015 14:00

Sample ID: 15L1202-02
Sample Matrix: Soil

Semivol	atile O	rganic (Compounds	s by	GC/MS	

							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Acenaphthene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Acenaphthylene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Benzo(a)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Benzo(a)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Benzo(b)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Benzo(g,h,i)perylene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Benzo(k)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Chrysene	0.36	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Dibenz(a,h)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Fluorene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Indeno(1,2,3-cd)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
2-Methylnaphthalene	0.28	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Naphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Phenanthrene	0.69	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Pyrene	0.24	0.21	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 15:49	CMR
Surrogates		% Recovery	Recovery Limits	i	Flag/Qual				
Nitrobenzene-d5		101	30-130			-		12/30/15 15:49	
2-Fluorobiphenyl		92.1	30-130					12/30/15 15:49	
p-Terphenyl-d14		96.7	30-130					12/30/15 15:49	



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-3 (7-9')

Sampled: 12/21/2015 14:00

Sample ID: 15L1202-02
Sample Matrix: Soil

	Metals Analyses (Total)												
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst				
Antimony	ND	3.1	mg/Kg dry	1	8.0	SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Arsenic	45	3.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Barium	31	3.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Beryllium	2.2	0.31	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Cadmium	1.6	0.31	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Chromium	32	0.62	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Lead	20	0.93	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Mercury	0.14	0.031	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 9:53	RMS				
Nickel	21	0.62	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Selenium	ND	6.2	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Silver	ND	0.62	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Thallium	ND	3.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Vanadium	20	1.2	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				
Zinc	20	1.2	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 20:56	AME				



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-3 (7-9')

Sampled: 12/21/2015 14:00

Sample ID: 15L1202-02
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @24.2°C		6.3		pH Units	1	H-05	SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		80.9		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015 Field Sample #: TP-2 (5-7')

Sampled: 12/21/2015 15:30

Sample ID: 15L1202-03 Sample Matrix: Soil

			Semivolatile Organic C	ompounds by	GC/MS				
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Benzo(a)anthracene	0.27	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Chrysene	0.54	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
2-Methylnaphthalene	0.37	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Phenanthrene	1.0	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR
Pyrene	0.59	0.19	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:13	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	86.0	30-130		12/30/15 16:13
2-Fluorobiphenyl	86.2	30-130		12/30/15 16:13
p-Terphenyl-d14	94.2	30-130		12/30/15 16:13



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-2 (5-7')

Sampled: 12/21/2015 15:30

Sample ID: 15L1202-03
Sample Matrix: Soil

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Arsenic	31	2.8	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Barium	41	2.8	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Beryllium	1.1	0.28	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Cadmium	1.3	0.28	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Chromium	14	0.56	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Lead	15	0.83	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Mercury	ND	0.027	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 9:58	RMS
Nickel	14	0.56	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Silver	ND	0.56	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 21:00	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Vanadium	29	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME
Zinc	30	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:00	AME



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-2 (5-7')

Sampled: 12/21/2015 15:30

Sample ID: 15L1202-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @23.5°C		5.8		pH Units	1	H-05	SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		90.0		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-2 (7-9')

Sampled: 12/21/2015 15:45

Sample ID: 15L1202-04
Sample Matrix: Soil

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date	Date/Time Analyzed	Analyst
Acenaphthene					riag/Quai		Prepared		Analyst
*	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Benzo(a)anthracene	0.31	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Benzo(b)fluoranthene	0.25	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Chrysene	0.71	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Fluoranthene	0.24	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
2-Methylnaphthalene	0.50	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Naphthalene	0.21	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Phenanthrene	1.3	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Pyrene	0.68	0.20	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 16:37	CMR
Surrogates		% Recovery	Recovery Limits	3	Flag/Qual				
Nitrobenzene-d5		92.2	30-130				•	12/30/15 16:37	
2-Fluorobiphenyl		87.2	30-130					12/30/15 16:37	
p-Terphenyl-d14		86.7	30-130					12/30/15 16:37	



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-2 (7-9')

Sampled: 12/21/2015 15:45

Sample ID: 15L1202-04
Sample Matrix: Soil

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.0	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Arsenic	54	3.0	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Barium	75	3.0	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Beryllium	2.7	0.30	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Cadmium	1.9	0.30	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Chromium	9.6	0.60	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Lead	34	0.90	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Mercury	0.049	0.030	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 10:00	RMS
Nickel	15	0.60	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Selenium	ND	6.0	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Silver	ND	0.60	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 21:05	AME
Thallium	ND	3.0	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Vanadium	39	1.2	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME
Zinc	16	1.2	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:05	AME



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-2 (7-9')

Sampled: 12/21/2015 15:45

Sample ID: 15L1202-04
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @24.3°С		6.2		pH Units	1	H-05	SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		83.1		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Analyte

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Semivolatile Organic Compounds by GC/MS

Project Location: Weymouth Compressor

Sample Description:

Results

ND

ND

ND

0.25

0.20

0.24

ND

ND

0.31

ND

0.33

ND

ND

ND

ND

0.18

0.18

0.18

0.18

0.18

0.18

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (5-7')

Sampled: 12/22/2015 09:00

Sample ID: 15L1202-05
Sample Matrix: Soil

Acenaphthene

Acenaphthylene

Benzo(a)pyrene

Benzo(a)anthracene

Benzo(b)fluoranthene

Benzo(g,h,i)perylene

Benzo(k)fluoranthene

Dibenz(a,h)anthracene

Indeno(1,2,3-cd)pyrene

2-Methylnaphthalene

Anthracene

Chrysene

Fluorene

Fluoranthene

Naphthalene

					Date	Date/Time	
RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR

SW-846 8270D

SW-846 8270D

SW-846 8270D

SW-846 8270D

SW-846 8270D

SW-846 8270D

12/29/15

12/29/15

12/29/15

12/29/15

12/29/15

12/29/15

12/30/15 17:02

12/30/15 17:02

12/30/15 17:02

12/30/15 17:02

12/30/15 17:02

12/30/15 17:02

CMR

CMR

CMR

CMR

CMR

CMR

Phenanthrene	0.47	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
Pyrene	0.50	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:02	CMR
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		104	30-130					12/30/15 17:02	
2-Fluorobiphenyl		96.7	30-130					12/30/15 17:02	
p-Terphenyl-d14		117	30-130					12/30/15 17:02	

1

1

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry

mg/Kg dry



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (5-7')

Sampled: 12/22/2015 09:00

Sample ID: 15L1202-05
Sample Matrix: Soil

			Metals Analy	rses (Total)					
							Date	Date/Time	
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Arsenic	7.7	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Barium	23	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Beryllium	0.84	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Cadmium	0.66	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Chromium	12	0.53	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Lead	10	0.80	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Mercury	0.031	0.027	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 10:01	RMS
Nickel	12	0.53	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Selenium	ND	5.3	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Silver	ND	0.53	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 21:24	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Vanadium	33	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME
Zinc	36	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:24	AME



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (5-7')

Sampled: 12/22/2015 09:00

Sample ID: 15L1202-05
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @24.4°C		7.9		pH Units	1		SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		93.1		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (7-9')

Sampled: 12/22/2015 09:15

Sample ID: 15L1202-06
Sample Matrix: Soil

Analyta	Results	RL	Units	Dilution	Flag/Qual	Method	Date	Date/Time	Analyst
Analyte					Flag/Qual		Prepared	Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Benzo(a)anthracene	0.46	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Benzo(a)pyrene	0.37	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Benzo(b)fluoranthene	0.49	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Benzo(g,h,i)perylene	0.19	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Chrysene	0.62	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Fluoranthene	0.56	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
2-Methylnaphthalene	0.23	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Phenanthrene	0.91	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Pyrene	0.89	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:25	CMR
Surrogates		% Recovery	Recovery Limits	1	Flag/Qual				
Nitrobenzene-d5		88.2	30-130			•		12/30/15 17:25	
2-Fluorobiphenyl		92.9	30-130					12/30/15 17:25	
p-Terphenyl-d14		104	30-130					12/30/15 17:25	



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (7-9')

Sampled: 12/22/2015 09:15

Sample ID: 15L1202-06
Sample Matrix: Soil

			Metals Analy	rses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Arsenic	9.8	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Barium	30	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Beryllium	0.93	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Cadmium	0.72	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Chromium	13	0.54	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Lead	15	0.81	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Mercury	0.033	0.027	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 10:02	RMS
Nickel	14	0.54	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Silver	ND	0.54	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 21:29	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Vanadium	39	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME
Zinc	38	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:29	AME



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-1 (7-9')

Sampled: 12/22/2015 09:15

Sample ID: 15L1202-06
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @24.9°C		7.5		pH Units	1		SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		92.7		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015 Field Sample #: TP-101 (5-7')

Sampled: 12/22/2015 08:00

Sample ID: 15L1202-07 Sample Matrix: Soil

5	
	5

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18		1	riag/Quai	SW-846 8270D	12/29/15	12/30/15 17:49	CMR
•			mg/Kg dry	-					
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Benzo(a)anthracene	0.65	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Benzo(a)pyrene	0.46	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Benzo(b)fluoranthene	0.61	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Benzo(k)fluoranthene	0.20	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Chrysene	0.80	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Fluoranthene	0.90	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Indeno(1,2,3-cd)pyrene	0.20	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
2-Methylnaphthalene	0.22	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Phenanthrene	1.2	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Pyrene	1.3	0.18	mg/Kg dry	1		SW-846 8270D	12/29/15	12/30/15 17:49	CMR
Surrogates		% Recovery	Recovery Limit	s	Flag/Qual				
Nitrobenzene-d5		99.6	30-130					12/30/15 17:49	
2-Fluorobiphenyl		99.7	30-130					12/30/15 17:49	
p-Terphenyl-d14		117	30-130					12/30/15 17:49	



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015

Field Sample #: TP-101 (5-7')

Sampled: 12/22/2015 08:00

Sample ID: 15L1202-07
Sample Matrix: Soil

			Metals Analy	ses (Total)					
Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Arsenic	7.0	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Barium	23	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Beryllium	0.73	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Cadmium	0.57	0.27	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Chromium	11	0.54	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Lead	9.6	0.81	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Mercury	0.033	0.027	mg/Kg dry	1		SW-846 7471B	12/23/15	12/28/15 10:04	RMS
Nickel	10	0.54	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Silver	ND	0.54	mg/Kg dry	1	V-20	SW-846 6010C	12/23/15	12/28/15 21:33	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Vanadium	31	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME
Zinc	32	1.1	mg/Kg dry	1		SW-846 6010C	12/23/15	12/28/15 21:33	AME



Project Location: Weymouth Compressor

Sample Description:

Work Order: 15L1202

Date Received: 12/22/2015 Field Sample #: TP-101 (5-7')

Sampled: 12/22/2015 08:00

Sample ID: 15L1202-07
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

								Date	Date/Time	
	Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Prepared	Analyzed	Analyst
рН @23.4°C		8.0		pH Units	1	H-01	SW-846 9045C	12/23/15	12/23/15 8:30	LL
% Solids		92.6		% Wt	1		SM 2540G	12/28/15	12/29/15 9:10	MRL



Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
15L1202-02 [TP-3 (7-9')]	B138573	12/28/15
15L1202-03 [TP-2 (5-7')]	B138573	12/28/15
15L1202-04 [TP-2 (7-9')]	B138573	12/28/15
15L1202-05 [TP-1 (5-7')]	B138573	12/28/15
15L1202-06 [TP-1 (7-9')]	B138573	12/28/15
15L1202-07 [TP-101 (5-7')]	B138573	12/28/15

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date	
15L1202-01 [TP-3 (5-7')]	B138342	1.00	50.0	12/23/15	
15L1202-02 [TP-3 (7-9')]	B138342	1.00	50.0	12/23/15	
15L1202-03 [TP-2 (5-7')]	B138342	1.00	50.0	12/23/15	
15L1202-04 [TP-2 (7-9')]	B138342	1.00	50.0	12/23/15	
15L1202-05 [TP-1 (5-7')]	B138342	1.01	50.0	12/23/15	
15L1202-06 [TP-1 (7-9')]	B138342	1.00	50.0	12/23/15	
15L1202-07 [TP-101 (5-7')]	B138342	1.00	50.0	12/23/15	

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date	
15L1202-01 [TP-3 (5-7')]	B138347	0.601	50.0	12/23/15	
15L1202-02 [TP-3 (7-9')]	B138347	0.605	50.0	12/23/15	
15L1202-03 [TP-2 (5-7')]	B138347	0.606	50.0	12/23/15	
15L1202-04 [TP-2 (7-9')]	B138347	0.602	50.0	12/23/15	
15L1202-05 [TP-1 (5-7')]	B138347	0.601	50.0	12/23/15	
15L1202-06 [TP-1 (7-9')]	B138347	0.604	50.0	12/23/15	
15L1202-07 [TP-101 (5-7')]	B138347	0.610	50.0	12/23/15	

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15L1202-02 [TP-3 (7-9')]	B138715	30.0	1.00	12/29/15
15L1202-03 [TP-2 (5-7')]	B138715	30.0	1.00	12/29/15
15L1202-04 [TP-2 (7-9')]	B138715	30.0	1.00	12/29/15
15L1202-05 [TP-1 (5-7')]	B138715	30.0	1.00	12/29/15
15L1202-06 [TP-1 (7-9')]	B138715	30.0	1.00	12/29/15
15L1202-07 [TP-101 (5-7')]	B138715	30.0	1.00	12/29/15

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
15L1202-01 [TP-3 (5-7')]	B138331	20.0	12/23/15
15L1202-02 [TP-3 (7-9')]	B138331	20.0	12/23/15
15L1202-03 [TP-2 (5-7')]	B138331	20.0	12/23/15
15L1202-04 [TP-2 (7-9')]	B138331	20.0	12/23/15
15L1202-05 [TP-1 (5-7')]	B138331	20.0	12/23/15
15L1202-06 [TP-1 (7-9')]	B138331	20.0	12/23/15
15L1202-07 [TP-101 (5-7')]	B138331	20.0	12/23/15



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B138715 - SW-846 3546										
Blank (B138715-BLK1)				Prepared: 12	2/29/15 Anal	yzed: 12/30/	15			
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							V-05
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							V-05
luoranthene	ND	0.17	mg/Kg wet							
luorene	ND	0.17	mg/Kg wet							
ndeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							V-05
-Methylnaphthalene	ND	0.17	mg/Kg wet							
Japhthalene	ND	0.17	mg/Kg wet							
henanthrene	ND	0.17	mg/Kg wet							
yrene	ND	0.17	mg/Kg wet							
urrogate: Nitrobenzene-d5	4.07		mg/Kg wet	3.33		122	30-130			
urrogate: 2-Fluorobiphenyl	3.30		mg/Kg wet	3.33		98.9	30-130			
Surrogate: p-Terphenyl-d14	3.54		mg/Kg wet	3.33		106	30-130			
LCS (B138715-BS1)				Prepared: 12	2/29/15 Anal	yzed: 12/30/	15			
Acenaphthene	1.61	0.17	mg/Kg wet	1.67		96.8	40-140			
Acenaphthylene	1.61	0.17	mg/Kg wet	1.67		96.7	40-140			
Anthracene	1.66	0.17	mg/Kg wet	1.67		99.6	40-140			
Benzo(a)anthracene	1.70	0.17	mg/Kg wet	1.67		102	40-140			
Benzo(a)pyrene	1.66	0.17	mg/Kg wet	1.67		99.3	40-140			
Benzo(b)fluoranthene	1.63	0.17	mg/Kg wet	1.67		98.0	40-140			
Benzo(g,h,i)perylene	1.24	0.17	mg/Kg wet	1.67		74.5	40-140			V-05
Benzo(k)fluoranthene	1.60	0.17	mg/Kg wet	1.67		96.0	40-140			
Chrysene	1.69	0.17	mg/Kg wet	1.67		101	40-140			
Dibenz(a,h)anthracene	1.33	0.17	mg/Kg wet	1.67		79.5	40-140			V-05
luoranthene	1.65	0.17	mg/Kg wet	1.67		99.1	40-140			
Fluorene	1.68	0.17	mg/Kg wet	1.67		101	40-140			
ndeno(1,2,3-cd)pyrene	1.44	0.17	mg/Kg wet	1.67		86.4	40-140			V-05
-Methylnaphthalene	1.76	0.17	mg/Kg wet	1.67		106	40-140			
laphthalene	1.62	0.17	mg/Kg wet	1.67		97.4	40-140			
henanthrene	1.70	0.17	mg/Kg wet	1.67		102	40-140			
Pyrene	1.65	0.17	mg/Kg wet	1.67		99.3	40-140			
urrogate: Nitrobenzene-d5	4.51		mg/Kg wet	3.33		135 *	30-130			S-07
urrogate: 2-Fluorobiphenyl	3.79		mg/Kg wet	3.33		114	30-130			
Surrogate: p-Terphenyl-d14	3.90		mg/Kg wet	3.33		117	30-130			



QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B138715 - SW-846 3546										
LCS Dup (B138715-BSD1)			I	Prepared: 12	2/29/15 Anal	yzed: 12/30/	15			
Acenaphthene	1.46	0.17	mg/Kg wet	1.67		87.5	40-140	10.2	30	
Acenaphthylene	1.47	0.17	mg/Kg wet	1.67		88.5	40-140	8.86	30	
Anthracene	1.49	0.17	mg/Kg wet	1.67		89.4	40-140	10.8	30	
Benzo(a)anthracene	1.54	0.17	mg/Kg wet	1.67		92.5	40-140	9.86	30	
Benzo(a)pyrene	1.44	0.17	mg/Kg wet	1.67		86.7	40-140	13.6	30	
Benzo(b)fluoranthene	1.42	0.17	mg/Kg wet	1.67		85.0	40-140	14.2	30	
Benzo(g,h,i)perylene	1.14	0.17	mg/Kg wet	1.67		68.3	40-140	8.74	30	V-05
Benzo(k)fluoranthene	1.40	0.17	mg/Kg wet	1.67		84.3	40-140	13.0	30	
Chrysene	1.53	0.17	mg/Kg wet	1.67		91.9	40-140	9.67	30	
Dibenz(a,h)anthracene	1.24	0.17	mg/Kg wet	1.67		74.2	40-140	6.97	30	V-05
Fluoranthene	1.50	0.17	mg/Kg wet	1.67		89.8	40-140	9.89	30	
Fluorene	1.51	0.17	mg/Kg wet	1.67		90.7	40-140	10.4	30	
ndeno(1,2,3-cd)pyrene	1.26	0.17	mg/Kg wet	1.67		75.6	40-140	13.3	30	V-05
2-Methylnaphthalene	1.53	0.17	mg/Kg wet	1.67		92.0	40-140	13.8	30	
Naphthalene	1.48	0.17	mg/Kg wet	1.67		88.6	40-140	9.46	30	
Phenanthrene	1.50	0.17	mg/Kg wet	1.67		90.0	40-140	12.2	30	
Pyrene	1.46	0.17	mg/Kg wet	1.67		87.5	40-140	12.7	30	
Surrogate: Nitrobenzene-d5	4.06		mg/Kg wet	3.33		122	30-130			
Surrogate: 2-Fluorobiphenyl	3.40		mg/Kg wet	3.33		102	30-130			
Surrogate: p-Terphenyl-d14	3.48		mg/Kg wet	3.33		104	30-130			



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B138342 - SW-846 3050B										
Blank (B138342-BLK1)				Prepared: 12	2/23/15 Analy	yzed: 12/28/	15			
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Гhallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
.CS (B138342-BS1)				Prepared: 12	2/23/15 Analy	yzed: 12/28/	15			
Antimony	73.7	5.0	mg/Kg wet	105		70.2	0-210.3			
Arsenic	95.0	5.0	mg/Kg wet	98.5		96.5	77.8-122.1			
Barium	287	5.0	mg/Kg wet	308		93.2	82-117.4			
Beryllium	63.9	0.50	mg/Kg wet	66.0		96.9	82.3-117.7			
Cadmium	135	0.50	mg/Kg wet	146		92.2	81.9-118.2			
Chromium	172	1.0	mg/Kg wet	182		94.7	78.7-120.6			
Lead	119	1.5	mg/Kg wet	130		91.9	82.4-117.8			
Vickel	135	1.0	mg/Kg wet	149		90.3	82.2-117.8			
Selenium	136	10	mg/Kg wet	154		88.1	77.1-122.3			
Silver	38.1	1.0	mg/Kg wet	40.9		93.1	74.3-125.4			
Thallium	166	5.0	mg/Kg wet	175		94.7	78.2-121.6			
/anadium	90.9	2.0	mg/Kg wet	96.7		94.0	64.8-135.2			
Zinc	175	2.0	mg/Kg wet	191		91.8	79.7-120.8			
LCS Dup (B138342-BSD1)				Prepared: 12	2/23/15 Analy	yzed: 12/28/	15			
Antimony	79.8	5.0	mg/Kg wet	105		76.0	0-210.3	7.93	30	
Arsenic	101	5.0	mg/Kg wet	98.5		103	77.8-122.1	6.46	30	
Barium	304	5.0	mg/Kg wet	308		98.6	82-117.4	5.60	30	
Beryllium	66.2	0.50	mg/Kg wet	66.0		100	82.3-117.7	3.47	30	
Cadmium	141	0.50	mg/Kg wet	146		96.4	81.9-118.2	4.48	30	
Chromium	181	1.0	mg/Kg wet	182		99.7	78.7-120.6	5.14	30	
Lead	127	1.5	mg/Kg wet	130		97.9	82.4-117.8	6.33	30	
Nickel	141	1.0	mg/Kg wet	149		94.7	82.2-117.8	4.83	30	
Selenium	143	10	mg/Kg wet	154		92.5	77.1-122.3	4.95	30	
Silver	40.3	1.0	mg/Kg wet	40.9		98.6	74.3-125.4	5.71	30	
Гhallium	175	5.0	mg/Kg wet	175		100	78.2-121.6	5.68	30	
/anadium	96.4	2.0	mg/Kg wet	96.7		99.7	64.8-135.2	5.84	30	
Zinc	185	2.0	mg/Kg wet	191		97.0	79.7-120.8	5.51	30	



QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B138342 - SW-846 3050B										
MRL Check (B138342-MRL1)				Prepared: 12	2/23/15 Anal	yzed: 12/28/	/15			
Lead	0.603	0.68	mg/Kg wet	0.683		88.3	80-120			
Batch B138347 - SW-846 7471										
Blank (B138347-BLK1)				Prepared: 12	2/23/15 Anal	yzed: 12/28/	/15			
Mercury	ND	0.025	mg/Kg wet							
LCS (B138347-BS1)				Prepared: 12	2/23/15 Anal	yzed: 12/30	/15			
Mercury	10.1	0.82	mg/Kg wet	7.10		143 *	73.7-126.3			L-07
LCS Dup (B138347-BSD1)				Prepared: 12	2/23/15 Anal	yzed: 12/30	/15			
Mercury	8.74	0.82	mg/Kg wet	7.10		123	73.7-126.3	14.6	30	



QUALITY CONTROL

$Conventional\ Chemistry\ Parameters\ by\ EPA/APHA/SW-846\ Methods\ (Total)\ -\ Quality\ Control$

Analyte	Result	Reporting Limit Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B138331 - SW-846 9045C									
LCS (B138331-BS1)			Prepared &	Analyzed: 12/	23/15				
рН	6.02	pH Units	6.00		100	98.6-102			
LCS (B138331-BS2)			Prepared &	Analyzed: 12/	23/15				
рН	5.99	pH Units	6.00		99.8	98.6-102			
LCS (B138331-BS3)			Prepared &	Analyzed: 12/	23/15				
рН	6.05	pH Units	6.00		101	98.6-102			
Duplicate (B138331-DUP2)	Sourc	e: 15L1202-05	Prepared &	Analyzed: 12/	23/15				
рН	8.2	pH Units		7.9			4.21	5	
Duplicate (B138331-DUP3)	Sourc	e: 15L1202-07	Prepared &	Analyzed: 12/	23/15				
pH	8.0	pH Units		8.0			0.249	5	H-01



FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-01	Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are $> 10\%$.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.



CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications	
SW-846 6010C in Soil		
Antimony	CT,NH,NY,NC,ME,VA	
Arsenic	CT,NH,NY,ME,NC,VA	
Barium	CT,NH,NY,ME,NC,VA	
Beryllium	CT,NH,NY,ME,NC,VA	
Cadmium	CT,NH,NY,ME,NC,VA	
Chromium	CT,NH,NY,ME,NC,VA	
Lead	CT,NH,NY,AIHA,ME,NC,VA	
Nickel	CT,NH,NY,ME,NC,VA	
Selenium	CT,NH,NY,ME,NC,VA	
Silver	CT,NH,NY,ME,NC,VA	
Thallium	CT,NH,NY,ME,NC,VA	
Vanadium	CT,NH,NY,ME,NC,VA	
Zinc	CT,NH,NY,ME,NC,VA	
SW-846 7471B in Soil		
Mercury	CT,NH,NY,NC,ME,VA	
SW-846 8270D in Soil		
Acenaphthene	CT,NY,NH,ME,NC,VA	
Acenaphthylene	CT,NY,NH,ME,NC,VA	
Anthracene	CT,NY,NH,ME,NC,VA	
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA	
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA	
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA	
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA	
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA	
Chrysene	CT,NY,NH,ME,NC,VA	
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA	
Fluoranthene	CT,NY,NH,ME,NC,VA	
Fluorene	CT,NY,NH,ME,NC,VA	
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA	
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA	
Naphthalene	CT,NY,NH,ME,NC,VA	
Phenanthrene	CT,NY,NH,ME,NC,VA	
Pyrene	CT,NY,NH,ME,NC,VA	



The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

Table of Contents

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NAI GEVEN CONTRACTOR OF THE CO	Email: info@contestlabs.com	.com		менимог	***************************************						**	# of Containers
	www.contestlabs.com			} \					-m176-00-0			** Preservation
	ĝoree .	Telephone 617-385-6633	200	estation of the second							*	""Container Code
port (Sept)		44	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	unon	A. Sa. b.	14 VAC 64	ASSASSASSASSASSASSAS	3.0 J.L.3	wan		

Sodium bisulfate Dissolved Metals T = Na thiosulfate X = Na hydroxide O Flack Fillipred S = Suffuric Acid Lab to Filter Spot Tuos "Treservation N = Mtric Acid A-amberglass M = Methanol Sesumma can T-tedlar bag O = Other 21.25cr16 Paplastic Gaglass No wait M = MC × × John, rieseticoletics con Gast Cate CENTRAL PROPERTY. O "Enhanced Data Package" 5 OATA DELIVERY (check all that apply Composite Grab OEMAIL OWERSTIE OOME BY THEIR Project # 7 7 300 0000 5 004 0000 345 O FAX ormet AF AF Date / Mark No 200 7 なのめれてい Client Sample ID / Description 505/ Project Proposal Provided? (for billing purposes) proposal date 7-0-5 Project Location: Weymothth 1 7577 ý 1277 るナスステ Ś Ć. NAME OF STREET 1000 Sampled By: Max Con-Test Lab ID Company Name: Attention: Address:

NELAC BAHA-LAP, LLC O MA State DW Form Required PWSID# O MCP Form Required O ROP Form Required

OW= drinking water

Please use the following codes to let Con-Test know if a specific sample

DYY C

Mar boote, and all to here the

may be high in concentration in Marix/Conc. Odd Box.

H-Mght M-Medium, L. Low, C.-Chem, U-Unknown

Detection Limit Requirements

Turnaround

2/22/15/ 6/5

J V

Plear 4

Comments

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Massachusetts.

7-Day

Sonnecticut.

700

Date/Time.

(Signature)

Celved by Systemes

San Care

Whate)

wed by

36 of 38

E COL

10-Day Other V

S = soit/solid

職 の みば

St. - skudge

O . Other

GW- groundwater

"Matrix Code:

WW= wastewater

JENAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR please be careful not to contarnate this document NCORRECT, TURNARQUING WILL NOT STARTUNTIL ALL DUESTIONS ARE ANSWERED BY OUR CLIENT.

Require tab approvation Other

Data Time of 1241 of 4 Day

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

		The second secon	\ / 3	12/32/173
CLIENT NAME: TRC	ransumpr-achtomishemodis-iyiniisi 303mmi hiiridiiqiiqii (alica - 31 s - 1 - 1 - 1 - 1	RECEIVED BY:	SECTION AND ASSESSMENT OF THE PROPERTY OF THE	DATE: 12/22/15
1) Was the chain(s) of custody re	linquished and sigr	ned?	(Yes) No	No CoC included
2) Does the chain agree with the If not, explain:	samples?		Yes No	
Are all the samples in good co If not, explain:	ndition?		(Yes) No	
4) How were the samples receive	CŽ »			
On Ice 🛣 Direct from Sa	impling \square	Ambient []	In Cooler(s)	
Were the samples received in Ter	nperature Complian	ce of (2-6°C)?	(Yes) No	N/A
Temperature °C by Temp blank	ngayang sagai an ang ang ang ang ang ang ang ang ang	Temperature °C b	y Temp gun	4.2
5) Are there Dissolved samples f	or the lab to filter?		Yes (No)	
Who was notified	Date	Time		
6) Are there any RUSH or SHORT			Yes (No)	
Who was notified			Manage Court	
88110 8800 11011100		X X	ssion to subcont	ract samples? Yes No
	22-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-	t A.		not already approved
7) Location where samples are store	: 			not alleady approved
			Signature:	
8) Do all samples have the prope	r Acid pH: Yes	No (NIA)		Дерефактивнического
9) Do all samples have the prope	r Base pH: Yes	No (N/A)	many and the second sec	HARMAN TO THE REAL PROPERTY OF THE PARTY OF
10) Was the PC notified of any dis	screpancies with the	CoC vs the sam	ples: Yes N	io (NA)
Co	ntainers rec	eived at Co	n-Test	
a and the second	# of containers			# of containers
1 Liter Amber		8 oz a	mbenclear jar	, 7
500 mL Amber	NEW PORT OF THE PROPERTY OF TH	4 023	mber/clear jar	(2
250 mL Amber (8oz amber)		2 oz a	amber/clear jar	
1 Liter Plastic		Plast	ic Bag / Ziploc	
500 mL Plastic			SOC Kit	
250 mL plastic		Non-Co	onTest Container	
40 mL Vial - type listed below		Pe	rchlorate Kit	
Colisure / bacteria bottle		Fla	shpoint bottle	AND SECURITY
Dissolved Oxygen bottle		<u>Ot</u>	her glass jar	A STATE OF THE STA
Encore			Other	
Laboratory Comments:				
40 mL vials: # HCl	# Math	nanol		Time and Date Frozen:
Doc# 277 # Bisulfate	# DI W	***************************************	namatan yelengan perantan saman	
Rev. 4 August 2013 # Thiosulfate	Unpre	served	ne and an and an an an an an an an an an an an an an	

Page 2 of 2 <u>Login Sample Receipt Checklist</u>

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (I rue/hal:	se) Comment
harmon managed transmit control comments	T/F/NA	
The cooler's custody seal, if present, is intact.	NA	
T) The cooler's easiery sear, it present, to interest		MATERIAL TO THE RESIDENCE OF THE PROPERTY OF T
2) The cooler or samples do not appear to have	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
been compromised or tampered with.		
3) Samples were received on ice.		
4) Cooler Temperature is acceptable.		
5) Cooler Temperature is recorded.	g self-self systems.	
6) COC is filled out in ink and legible.	A the state of the	
7) COC is filled out with all pertinent information.	Opposition (CERTIFICATION CO. CERTIFICATION CO.	
8) Field Sampler's name present on COC.		
There are no discrepancies between the sample IDs on the container and the COC.		
10) Samples are received within Holding Time.		
11) Sample containers have legible labels.	Marking Control	
12) Containers are not broken or leaking.	* Elicipa (Almaining) and a second and a sec	
13) Air Cassettes are not broken/open.	WA	
14) Sample collection date/times are provided.	grepations in.	
15) Appropriate sample containers are used.		
16) Proper collection media used.	L Syriky magraph (Symun -)	
17) No headspace sample bottles are completely filled.	project (April 2016) 4 m - 1	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.		
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	WA	
21) Samples do not require splitting or compositing.	g bold and a proper section of the s	. See a Page 9
Who notified of Fal	se statements?	Date/Time:

Doc #277 Rev. 4 August 2013 Log-In Technic

Log-In Technician Initials: $\sqrt{?}$

Date/Time: 12 22 / / 5 16 55

APPENDIX C LNAPL FLUID PROPERTIES AND SMEAR ZONE PHYSICAL PROPERTIES

APPENDIX C

LNAPL MANUAL SKIMMING TEST DESCRIPTION AND RESULTS PERMANENT SOLUTION WITH CONDITIONS STATEMENT ATLANTIC BRIDGE PROJECT WEYMOUTH COMPRESSOR STATION WEYMOUTH, MASSACHUSETTS

This Appendix summarizes the LNAPL manual skimming test at MW-414.

MW-414 – LNAPL MANUAL SKIMMING TEST

A manual skimming test was started at MW-414 on April 18, 2017. Prior to pumping, LNAPL was measured as approximately 1.39 feet thick in this monitoring well. Pumping started at 9:10 am and a mixture of LNAPL and water was initially recovered followed by LNAPL, and LNAPL globules in groundwater, then pumping was stopped at 9:32 am. Approximately 3,000 milliliters (mls) LNAPL and 8,000 mls of water were recovered. The pump was kept off to monitor product thickness. At 9:51 am product was 0.04 ft thick. LNAPL was recovered during the following skimming test events:

- 1. At 1:49 pm on April 18, 2017, LNAPL recovered to 0.46 feet thick. This response represents slow gravity drainage of the viscous LNAPL through the monitoring well screen sand pack after removal of the initial LNAPL (earlier in the day). The pump was started at 1:58 pm, and stopped at 2:04 pm after water and LNAPL globules were observed. The inside of the tubing, previously coated with LNAPL from initial pumping, cleared up during pumping. Approximately one-half of the LNAPL floating in the graduated bucket appeared to be separate "pieces" of LNAPL, probably separated from the inside of the tubing during pumping, while the remaining half consisted of a cohesive mass of LNAPL globules recovered from this monitoring well. Approximately 750 mls LNAPL and 3,250 mls of water were recovered. At 2:12 pm product was measured as approximately 0.03 ft thick.
- 2. At 7:22 am on April 18, 2017, product was measured as approximately 0.29 ft thick in MW-414. Pumping began at 7:40 am, and stopped at 7:53 am with only 118 mls LNAPL and 11,000 mls water recovered. At 7:55 am, product was measured at 0.08 ft thick. Product gauging continued during the day. At 12:15 pm, product was measured at approximately 0.01 ft thick. LNAPL coated the oil-water interface probe tape, which probably affected product thickness measurements. Product thickness was monitored on 4/18/17 and 4/19/17.
- 3. At 12:20 pm on 4/19/17, product was measured as approximately 0.02 ft thick in monitoring well MW-414. At 13:12 pumping restarted and stopped two minutes later. Only LNAPL globules with water was recovered. Approximately 59 mls LNAPL and 2,070 mls water was recovered. At 1:14 on April 18, 2017, LNAPL was measured as approximately 0.02 ft thick. Based on field observations, the field team continued the

skimming test at MW-414 before starting the next gauging event scheduled for April 25, 2017.

- 4. At 7:17 am on April 25, 2017, LNAPL was measured as approximately 0.02 ft thick in MW-414. Pumping started at 7:30 am for further evaluation and confirmation and was stopped two minutes later. Approximately 4 ounces (118 mls) LNAPL and 80 ounces (2,366 mls) water was recovered. At 7:32 am LNAPL was measured as approximately 0.00 ft thick. At 10:07 am, LNAPL was measured as approximately 0.03 ft thick. A significant rainfall event was forecasted to start later in the day on April 25th and continue for several days. Based on field conditions and forecasted weather conditions, the field team prepared for continuation of the skimming test at MW-414 before starting the gauging event scheduled for May 1, 2017.
- 5. At 7:30 am on May 1, 2017, groundwater level with LNAPL rose approximately 0.8 feet. LNAPL was measured as approximately 0.01 feet thick in MW-414. Pumping started at 7:50 am. Water and LNAPL globules were recovered, and pumping was terminated after only water was recovered at 7:52 am. Approximately 148 mls LNAPL and 1750 mls water were recovered.

Tn estimates were calculated using a spreadsheet provided in a MassDEP LSP continuing education course on LNAPL Transmissivity held on September 29-30, 2015. The formula for calculating Tn using manual skimming test data (Charbeneau, 2007) follows:

$$T_n = \frac{Q_n \ln \frac{R_{oi}}{r_w}}{2\pi S_n}$$

where:

Tn is the LNAPL transmissivity (ft²/day), Qn is the LNAPL recovery rate (ft³/day), Roi is the radius of influence (ft), Rw is the well radius (ft), and Sn is the LNAPL drawdown (ft).

As indicated by ASTM 2856-13, the LNAPL transmissivity is sensitive to both the recovery rate and drawdown. To calculate Tn from manual skimming test data, ASTM recommends utilizing the stabilized LNAPL recovery rate (Qn) to estimate the drawdown (Sn) that corresponds to this discharge using the equation above. Assumptions include equilibrium well conditions and steady-state flow during testing, which are not achieved at the Site due to tidal influence; therefore, the calculated LNAPL transmissivity values are considered to be approximate.

The initial Tn estimate is not a valid estimate because the LNAPL volume removed includes LNAPL removed from the monitoring well and from the well's sand pack. Thus, the measured initial volume removed does not represent steady flow into the well from LNAPL contained in the formation as assumed in the above equation. Stabilized LNAPL recovery rates and estimated corresponding drawdown were entered into the spreadsheet, and formulas checked prior to calculating Tn. After initial removal of LNAPL from MW-414, first four sets of recovery data (see above), were utilized to calculate Tn. Spreadsheet graphs of DTP, DTW, product thickness, product removed, and product recovery rate during the skimming test show decreased Tn values are associated with decreased product thickness and product recovery rates. Because the DTW was relatively stable during the April 17 through April 25, 2017, ranging from 14.4 to 14.6 ft below top of PVC well casing (tpvc), and a significant rainfall event occurred after Skimming Event 4 (above), it was decided to continue the skimming test at MW-414 to evaluate the effect of a significant rainfall event on the behavior of the LNAPL. On May 1, 2017, the DTP and DTW was approximately 0.8 feet higher than that measured during the previous event on April 25, 2017. The 0.8 ft rise in the water table was due to recharge from infiltration of rain. Approximately 1.51 inches of rain fell on April 26-27, 2017 at weather Station Weymouth.

ASTM recommends continuing LNAPL recovery until the recovery rates stabilize to within 25% of each other for three or four readings and that no consistently decreasing trend is observed. The average Tn of the last three recovery events was 0.0032 ft²/day, which was similar to the two preceding estimates for April 19, 2017, and April 25, 2017. This value is taken as the best estimate of Tn at MW-414. These results clearly show that LNAPL transmissivity is reproducible, therefore, the skimming test was terminated. Because of the extremely low LNAPL recovery rate (e.g. the LNAPL is highly viscous and of a sticky nature) and the varying environmental conditions discussed above, it was not possible to attain steady state conditions and the Tn value has to be taken as an estimate of the true value. However, the estimate can be taken as an accurate estimate of the magnitude of Tn at the Site. All Tn estimates are below the ASTM 2856 criterion of 0.8 ft²/day, which supports it is infeasible to remove LNAPL using hydraulic or vacuum recovery methods, as indicated in the MassDEP LNAPL Policy #WSC-16-450 (MassDEP, 2016).

Site:	6 Bridge St., Weymouth, MA	Project #:	140143.0000.4903 Phase 1
Well:		Samplers:	C.Race, L.Hopp, A.Cornell
	Peristaltic pump with 1/2" x 5/8" tubing	LNAPL Density	0.9785

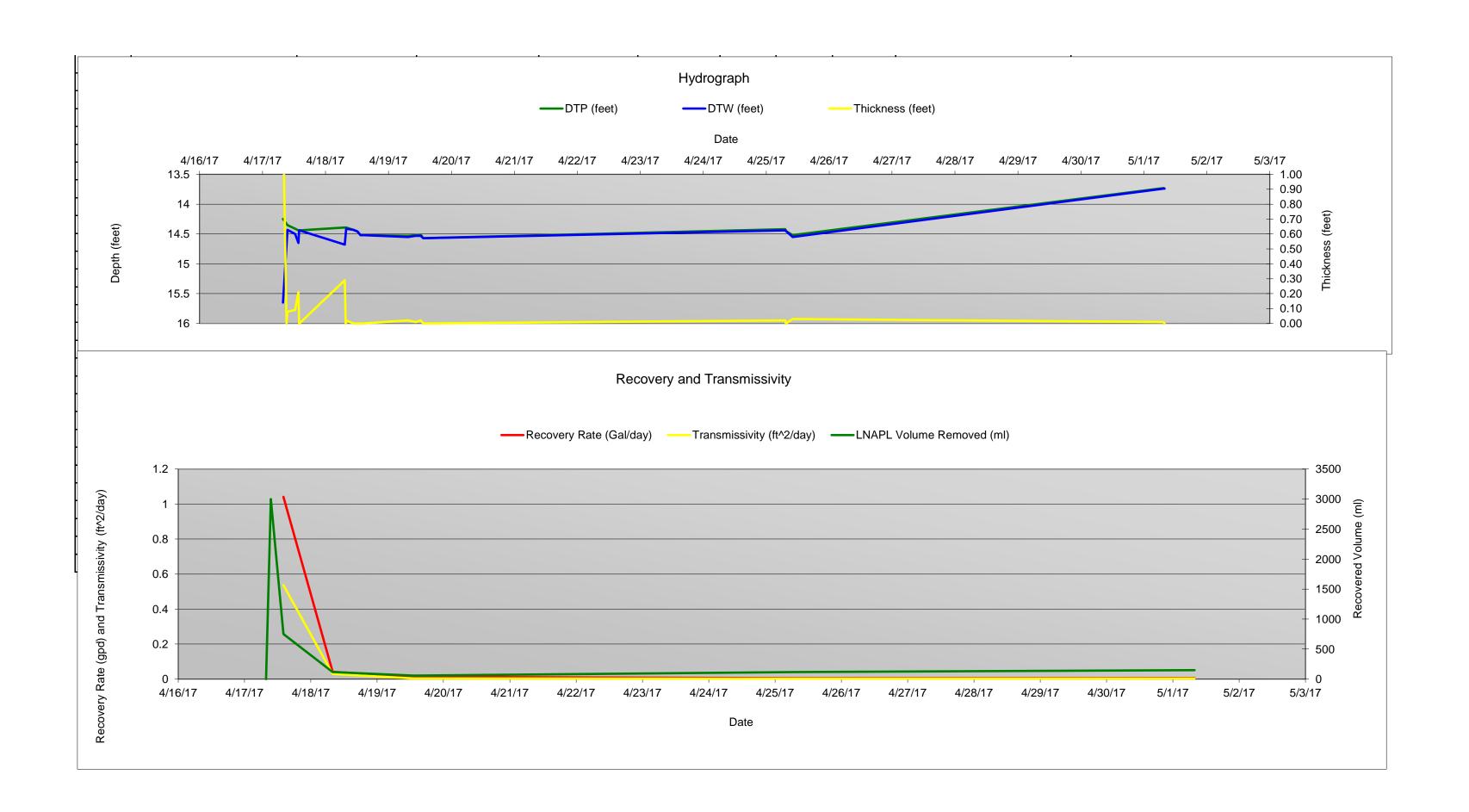
Well Informa	tion	LNAPL Information					
Casing Diameter (inches):	4	Fluid Type:	Weathered, sticky, viscous No. 2 fuel oil				
Total Double (foot)	23	Valores Barrage d (rel)	See below				
Total Depth (feet):		Volume Removed (ml)					
Depth to Top of Screen (feet):	8	Initial Volume (ml)	3000				
Screen Length (feet):	15	ROI Ratio	10 estimate				

^{*}Note all lenth measurements in feet, all volume measurements in ml unless noted

	Borhole Diameter (inches):
	9
	Porosity:
	0.05
	0.35
	LNAPL Saturation:
	0.5
	Effective Well Diameter (ft)
	Effective Well Diameter (ft)
	Effective Well Diameter (ft)
	Effective Well Diameter (ft) 0.22
ft^3	0.22
ft^3 gal	0.22 LNAPL Volume Per Foot
	0.22 LNAPL Volume Per Foot 0.149307463

Т -		\mathbf{Q}_n	ln	$\frac{\mathbf{R}_{oi}}{\mathbf{r}_w}$
1_{n}	_	2.	πS	n

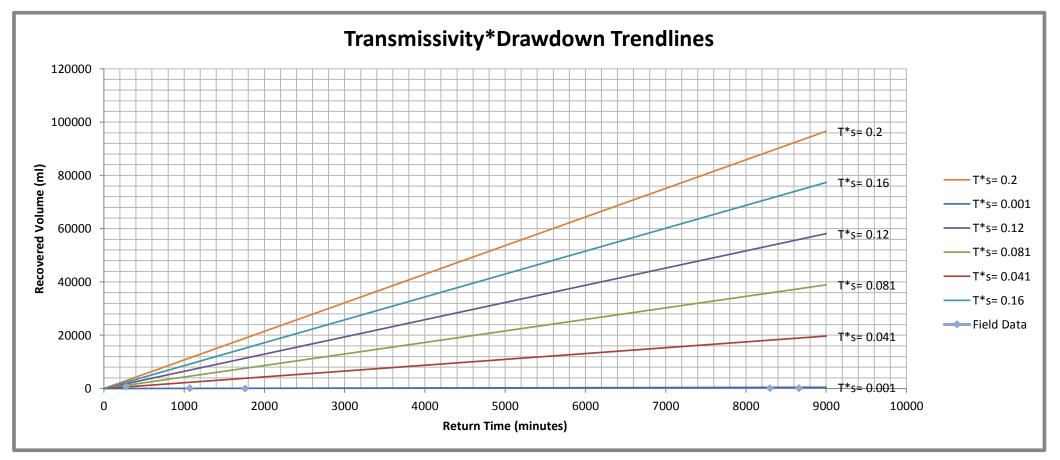
		Time	ŀ	Time		Recovery Time	LNAPL Volume	H2O Volume Removed	DTP					Recovery Rate	Transmissivity
Pump	Date	Hour	•	Minute	Elapsed Time (min)	(min)	Removed (ml)	(ml)	(feet)	DTW (feet)	Thickness (feet)	Comments	Drawdown	(Gal/day)	(ft^2/day)
Static	4/17/2017	7	:	47	0.00		0	0	14.25	15.65	1.40				
Pump On	4/17/2017	9	:	10	83.00						0.00				
Pump Off	4/17/2017	9	:	30	103.00		3000	8000	14.35	14.43	0.08	Test starts.			
Pump Off	4/17/2017	12	:	26	279.00				14.41	14.50	0.09				
Pump Off	4/17/2017	13	:	40	353.00				14.44	14.65	0.21				
Pump On	4/17/2017	13	:	58	371.00				14.44	14.44	0.00				
Pump Off	4/17/2017	14	:	4	377.00	274.000	750	3250	14.44	14.44	0.00		0.19	1.041	0.5370
Pump Off	4/18/2017	7	:	22	1415.00				14.39	14.68	0.29				
Pump On	4/18/2017	7	:	44	1437.00						0.00				
Pump Off	4/18/2017	7	:	53	1446.00	1069.000	118	11000	14.39	14.41	0.02		0.14	0.04	0.0294
Pump Off	4/18/2017	10	:	44	1617.00				14.43	14.43	0.00				
Pump Off	4/18/2017	12	:	15	1708.00				14.46	14.46	0.00				
Pump Off	4/18/2017	13	:	21	1774.00				14.52	14.52	0.00				
Pump Off	4/18/2017	14	:	16	1829.00				14.52	14.52	0.00				
Pump Off	4/19/2017	7	:	28	2861.00				14.53	14.55	0.02				
Pump Off	4/19/2017	10	:	22	3035.00				14.52	14.53	0.01				
Pump Off	4/19/2017	12	:	20	3153.00				14.51	14.53	0.02				
Pump On	4/19/2017	13	:	12	3205.00				14.57	14.57	0.00				
Pump Off	4/19/2017	13	:	14	3207.00	1761.000	59	2070	14.57	14.57	0.00		0.32	0.01	0.0039
Pump Off	4/25/2017	7	:	17	11490.00				14.42	14.44	0.02				
Pump On	4/25/2017	7	:	30	11503.00						0.00				
Pump Off	4/25/2017	7	1:	32	11505.00	8298.00	118	2366	14.45	14.45	0.00		0.2	0.01	0.0027
Pump Off	4/25/2017	10	:	7	11660.00				14.52	14.55	0.03				
Pump Off	5/1/2017	7	:	30	20143.00				13.73	13.74	0.01				
Pump On	5/1/2017	7	:	50	20163.00						0				
Pump Off	5/1/2017	7	:	52	20165.00	8660.00	148	1750	13.74	13.74	0		0.2	0.01	0.0032



Transmissivity Trendlines Field Data Plotting

Trendline Inputs (Update inputs befo	re field event for e trendlines be	stimated site conditions and plot data as collected on elow)	Minimum	Maximum
Ratio (recovery radius/well radius)	10	Estimated LNAPL Thickness (ft)	0.01	1
Estimated LNAPL Density (g/cc)	0.9785	Estimated Drawdown Range (ft)	0.01	0.2
Maximum Removal Interval (min)	9000	Estimated Transmissivity Range (ft^2/day)	0.1	1

Transmissivity*Drawdown Trendlines								I
Trendline Title	Return Time Trendline Start (min)	Return Time (minutes)	Recovered Volume Trendline Start (ml)	Recovered Volume (ml)	Recovery Rate (ml/min)	Transmissivity (ft^2/day)*drawdow n (ft)	Estimated Drawdown (ft)	Transmissivity (ft^2/day)
T*s= 0.001	0	9000	0	483	0.05	0.001	0.2	0.005
T*s= 0.041	0	9000	0	19702	2.19	0.041	0.2	0.204
T*s= 0.081	0	9000	0	38922	4.32	0.081	0.2	0.403
T*s= 0.12	0	9000	0	58141	6.46	0.120	0.2	0.602
T*s= 0.16	0	9000	0	77361	8.60	0.160	0.2	0.801
T*s= 0.2	0	9000	0	96580	10.73	0.200	0.2	1



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