

September 11, 2017
Project Number 03-221855

Ms. Suzanne Warner
U.S. Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP06-4)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

RE: Notice of Intent for Dewatering General Permit
Cumberland Farms Store #2280
115 Orange Street
Nantucket, MA 02554

Dear Ms. Warner:

ATC Group Services LLC (ATC) is pleased to provide supporting documentation for the Notice of Intent (NOI) for the Dewatering General Permit (DGP) on behalf of Cumberland Farms, Inc. (CFI), for the above-referenced property (the "Site"). This NOI is being submitted in order to obtain approval for the discharge of treated groundwater at the Site. The discharge and dewatering is necessary to allow for underground utility work in the roadway in front of the Site. A Site Locus is provided as Figure 1, and a Site Plan depicting the dewatering discharge location is provided as Figure 2. A copy of the NOI form is provided as Attachment I.

Pretreatment

The excavation will be dewatered by installing recovery wells using slotted pipe and well gravel around the screen to reduce solids. Pumps will be used so that collected groundwater from the excavation area will be pumped into a 10,000 gallon frac tank (to settle out solids) and then passed through bag filters prior to discharge to the nearby catch basin along Orange Street. The proposed discharge location for the groundwater is located approximately 100 feet northwest of the Site and is labeled "CB-1" (refer to Figure 2). This catch basin (CB-1) discharges to a storm water drainage system along Orange Street and the outfall is located in the wetlands area adjacent to the Site to the east near Goose Pond. Please refer to Figure 1 for a depiction of the wetlands located east of the Site.

Average flow rate of discharge of treated groundwater from the Site to the storm drainage line is expected to be approximately 150 gallons per minute (gpm). The design capacity of the groundwater treatment system is 250 gpm based upon data collected from comparable sites operated/designed by ATC.



Influent Sample Analysis

Groundwater samples were collected from raw water influent during June 2017 and were submitted to Spectrum/Eurofins Analytical, Inc. of Agawam, Massachusetts for laboratory analysis for the following parameters: total petroleum hydrocarbons (TPH) by EPA method 1664, volatile organic compounds (VOCs) by EPA Method 8260/624, semi-volatile organic compounds (SVOCs) by EPA method 625, PCBs by EPA method 8082, total metals by EPA Method 200.7, Cyanide, Ammonia, Flashpoint, pH, salinity, total residual chlorine (TRC), and total suspended solids (TSS) by SM2540D. A summary of the sampling data is provided on Table 1 and copies of the laboratory reports are included in Attachment IV.

Groundwater analytical results were compared to the Appendix III effluent limitations (www.epa.gov/region1/npdes/rgp.html). These results indicate that various parameters were detected in the samples, but not at concentrations that exceed the applicable EPA Appendix III effluent limitations. Total suspended solids and total iron are expected to be further reduced by pretreatment with settling and filtration.

Evaluation of Threatened or Endangered Species or Critical Habitat Located within Receiving Waters

According to Massachusetts Geographic Information Systems (MassGIS) online maps for the Natural Heritage Endangered Species Program (NHESP) (2008), no Priority Habitat of Rare Species or Estimated Habitats of Rare Wildlife are located within the work area. No NHESP Estimated Habitats of Rare Wildlife in Wetland Areas Protected Open Spaces are located within 500 feet of the Site. Based on this information, the potential discharge will not have an adverse affect on the NHESP Estimated Habitats of Rare Wildlife. A copy of the MassGIS Resource Priority and NHESP Maps of the Site area is included in Attachment II.

Review of National Register of Historic Places

Listings of Historic Places within the Town of Nantucket were obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database at <http://mhc-macris.net/towns.aspx> (accessed September 5, 2017). Copies of the MACRIS report are provided as Attachment III. The database indicated that there are no historic places located in close proximity to the Site and proposed discharge area. This project does not involve the demolition or rehabilitation of historic properties.

The proposed dewatering project is scheduled to start on October 10, 2017. However, due to the location of the Site and the logistics of delivering equipment to the Site, ATC requests that a review of this NOI be completed within 14 days in order to meet project schedules and contingencies. Should you have any questions or concerns regarding the contents of this letter or the NOI for the DGP, please do not hesitate to contact the undersigned at (508) 756-0151.



Sincerely,
ATC GROUP SERVICES LLC

A handwritten signature in blue ink, appearing to read 'Matthew J. Lyne'.

Matthew J. Lyne
Senior Project Manager

cc: Matthew Young, Cumberland Farms, Inc., 165 Flanders Road, Westborough, MA
Cathy Vakalopoulus, MassDEP, Surface Water Discharge Permit Program, One Winter
Street, 5th Floor, Boston, MA 02108
Town of Nantucket Department of Public Works-Charles Larson, 188 Madaket Road,
Nantucket, MA 02554
Town of Nantucket Conservation Commission, 2 Bathing Beach Road, Nantucket, MA

Attachments

Figure 1: Site Locus

Figure 2: Site Plan

Table 1: Summary of Influent Sampling Data

Attachment I: NOI for the DGP and MassDEP Payment Form

Attachment II: MassGIS Resource Priority, ACEC Map, and NHESP Map

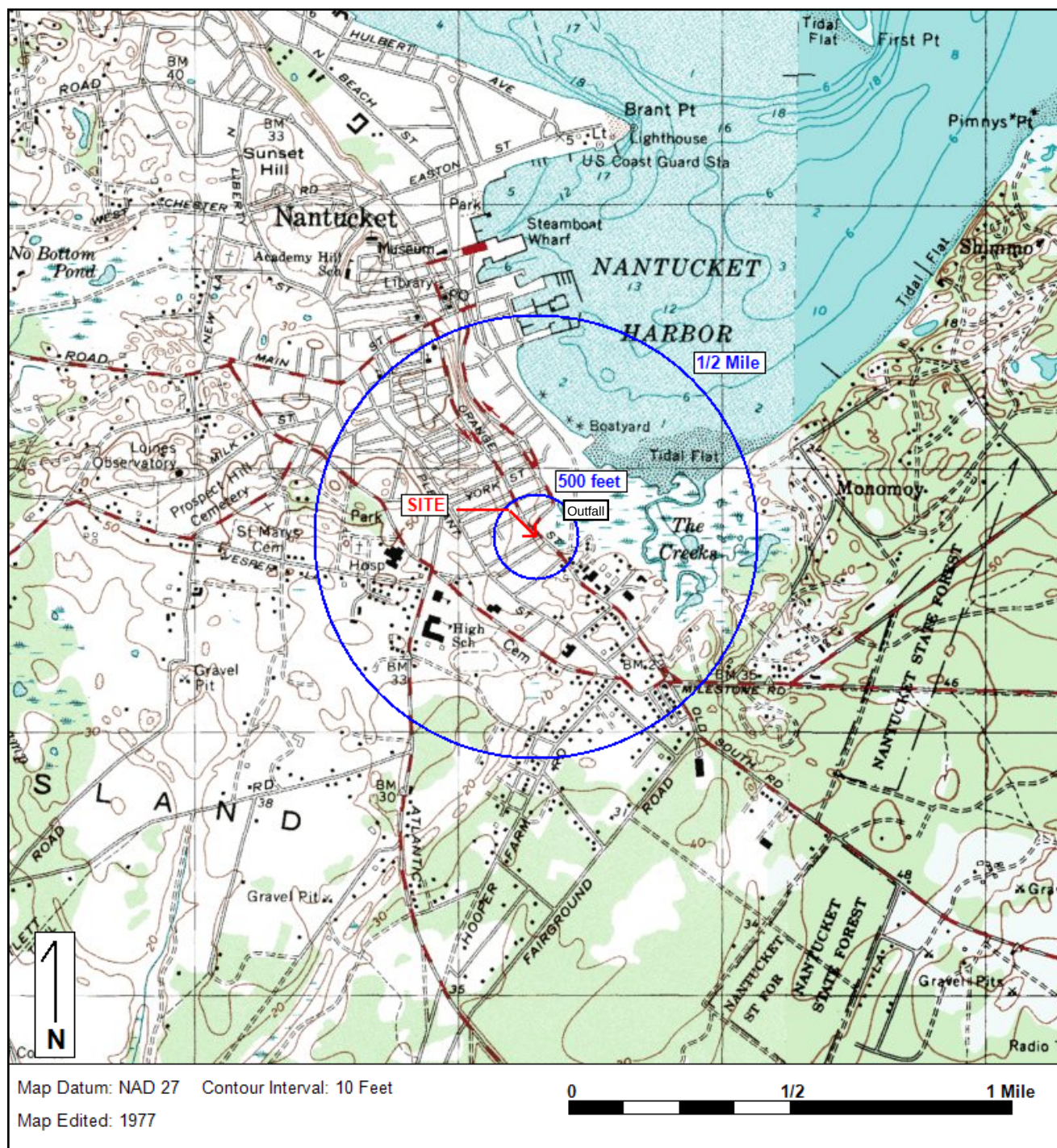
Attachment III: MACRIS Database Search Results, IPAC Report/NHESP Determination, PNF

Attachment IV: Laboratory Analytical Reports

FIGURES

MA-10105-Nantucket - 115 Orange Street
115 Orange Street
Nantucket, MA 02554

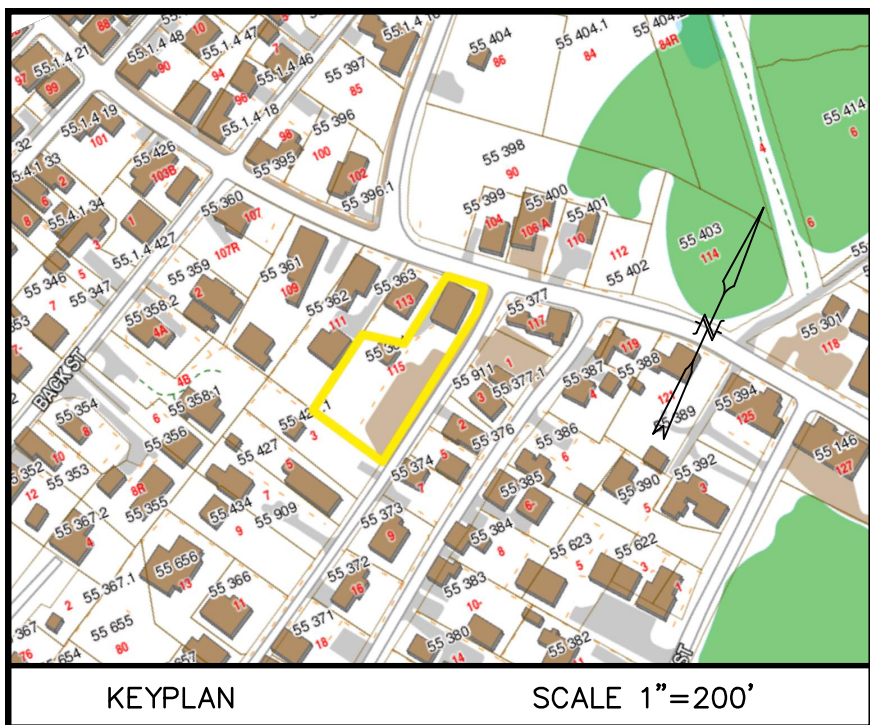
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Nantucket, MA

Lat/Lon: 41 16' 33.34" NORTH, 70 5' 39.89" WEST - UTM Coordinates: 19 408342.3 EAST / 4569965.9 NORTH

Generated By: Carol Farrington



ASSESSOR'S REFERENCE: TAX MAP 55 PARCEL 364
ZONING REFERENCE: RC (RESIDENTIAL COMMERCIAL)
DEED REFERENCE: BOOK 584 PAGE 248
PLAN REFERENCE: PLAN BK. 15, PG. 17
OWNER: GRACE J. ROSE, TRUSTEE ROSE NOMINEE TRUST

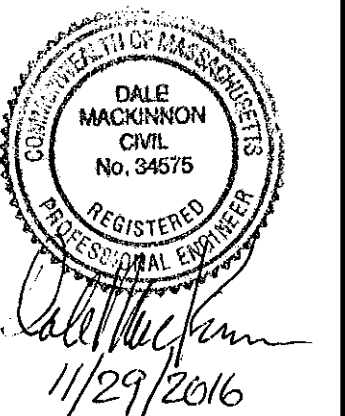
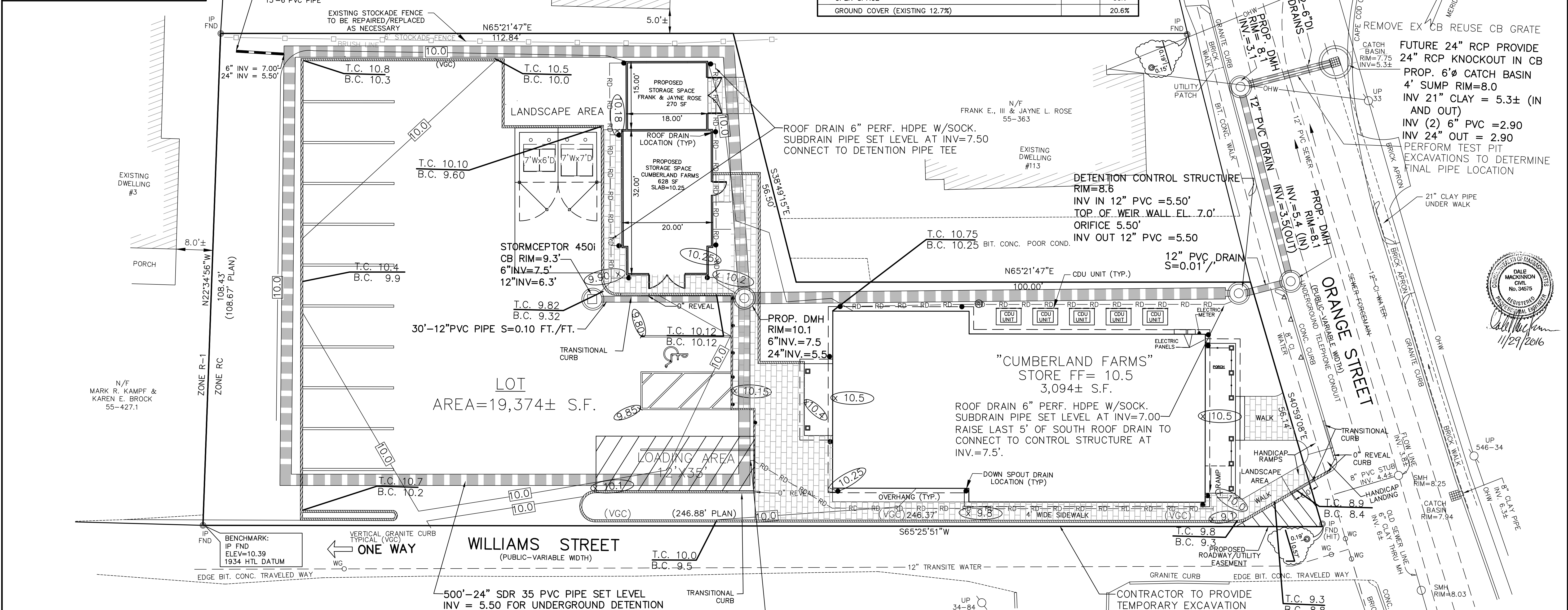
ZONING CLASSIFICATION: DISTRICT: RC (RESIDENTIAL COMMERCIAL)
OVERLAY DISTRICTS: MID-ISLAND PLANNED OVERLAY DISTRICT, TOWN OVERLAY DISTRICT
MINIMUM LOT SIZE = 5,000 S.F.
MINIMUM FRONTAGE = 40'
FRONT YARD SETBACK = NONE
SIDE & REAR LINE SETBACK = 5'
MAX. GROUND COVER RATIO = 50%

#115 ORANGE STREET		
RETAIL STORES AND SERVICES	NET SALES AREA 1,434 SF/200 SF	7
STORAGE SPACE	628 SF/0 SF	0
EMPLOYEES	3 EMPLOYEES X 1 SP/3 EMPLOYEES	1
TOTAL		8

PARKING SPACES REQUIRED/PROVIDED	REQUIRED	PROVIDED
STANDARD	8	14
ACCESSIBLE (1 PER 25)	1	1
TOTAL (NOTE SPACES 3 & 4 DESIGNATE FOR CONTRACTORS)	9	15

	PROPOSED
OPEN SPACE	33%
GROUND COVER (EXISTING 12.7%)	20.6%

BENCHMARK:
"X" CUT BONNET BOLT
FIRE HYDRANT INTERSECTION OF
ORANGE AND UNION STREETS
ELEV= 12.04 1934 HTL DATUM

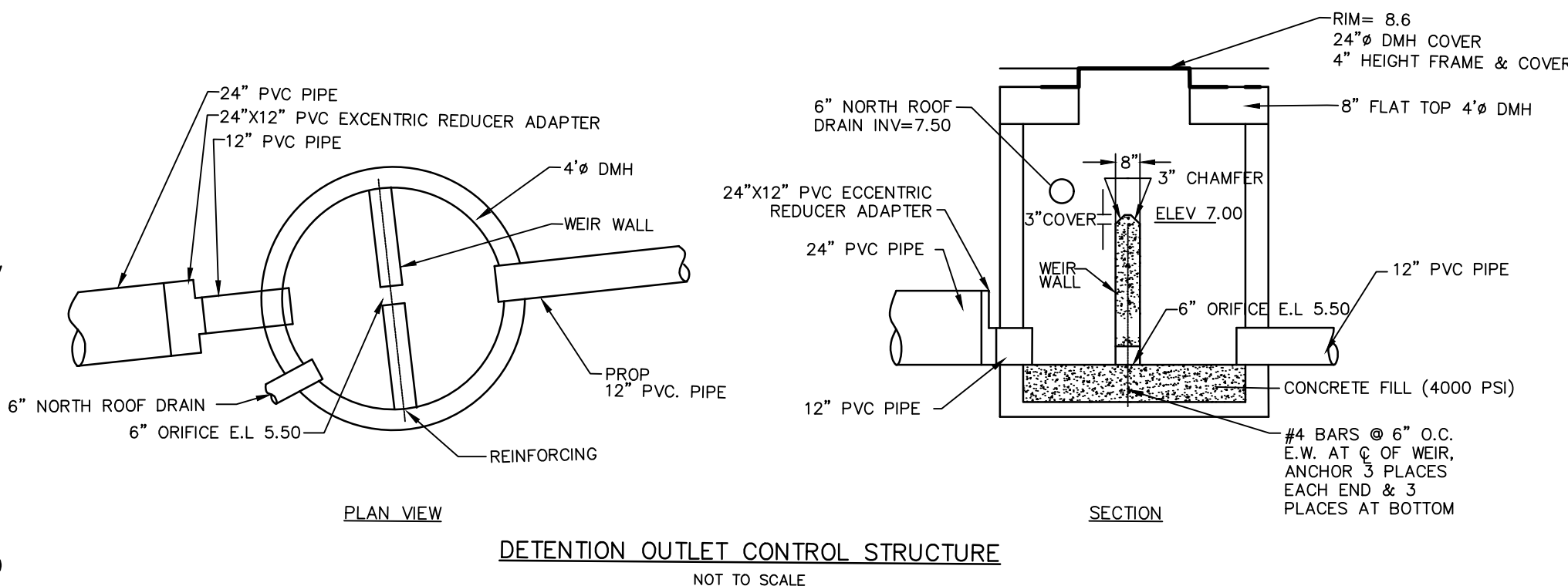
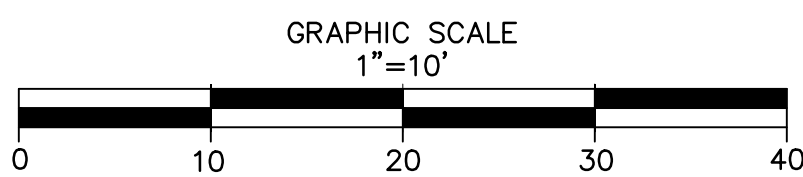


MINOR SITE PLAN

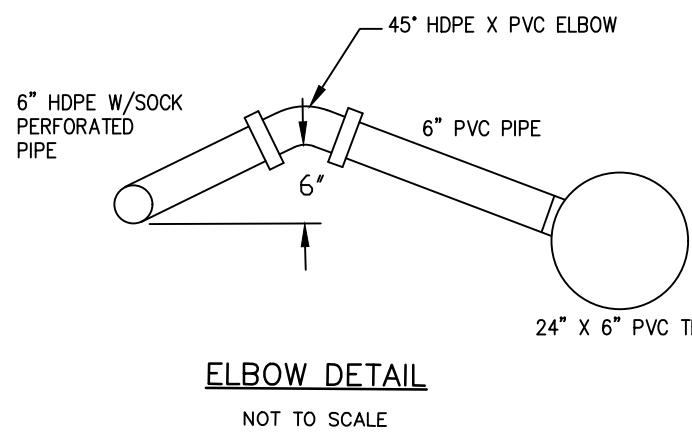
115 ORANGE STREET
NANTUCKET, MA

SITE DEVELOPMENT PLAN: GRADING & DRAINAGE

PREPARED FOR: CUMBERLAND FARMS, INC.
SCALE: 1" = 10' DATE: JULY 17, 2014
REV. 8/29/2014 DRAINAGE DESIGN
REV. 12/30/2014 BUILDING SIZE
REV. 9/14/2015 STORAGE UNIT/SITE REVISION
REV. 6/07/2016 CONSTRUCTION SET
REV. 11/29/2016 SITE DRAINAGE
NANTUCKET SURVEYORS LLC
5 WINDY WAY, NANTUCKET, MA 02554



ROOF DRAIN 6" PERF. HDPE W/ SOCK.
SUBDRAIN PIPE SET LEVEL AT INV=7.00
RAISE LAST 5' OF SOUTH ROOF DRAIN TO
CONNECT TO DETENTION PIPE TEE WITH
ELBOW INV.=7.5', SEE DETAIL BELOW.



TEST PIT LOGS

NOT TO SCALE DATE: 6/17/14 PERFORMED BY: PAUL J SANTOS, PLS, SE 2142	
TP #1 EL = 9.3' 0" (9.3') 8" (8.6') 30" (6.8') 60" (4.3') 78" (2.8')	TP #2 EL = 9.3' 0" (9.3') 3" (9.1') 24" (7.3') 48" (5.3')
Parking Area Processed Base M-C Sand+Gravel Fill Silt Loom Fine Sand Med-Corse Sand	Parking Area Processed Base M-C Sand+Gravel Fill Silt Loom Fine-Med. Sand
EST. SEAS. HGW EL. = 7.3±'	EST. SEAS. HGW EL. = 7.3±'

LEGEND

TC	TOP OF CURB
BC	BOTTOM OF CURB
TB	TOP OF CAPE COD BERM
BB	BOTTOM OF CAPE COD BERM
TW	TOP OF WALL
BW	BOTTOM OF WALL
→	FLOW DIRECTION ARROW
⊙	PROPOSED SEWER MANHOLE
—W—	PROPOSED WATER SERVICE
—S—	PROPOSED SEWER LINE
—RD—	PROPOSED ROOF DRAIN
—X—	PROPOSED SPOT GRADES
—X9.9—	EXISTING SPOT GRADE
—17—	EXISTING CONTOUR
—17—	PROPOSED CONTOUR
	VERTICAL GRANITE CURBING (VGC)

NANTUCKET PLANNING BOARD SPECIAL PERMIT

BARRY RECTOR, CHAIRMAN	
LINDA WILLIAMS, VICE-CHAIRWOMAN	
NATHANIEL LOWELL	
JOHN MC LAUGHLIN	
JOSEPH MARCKLINGER	
DATE APPROVED	
DATE SIGNED	
FILE NO.	#18-14 / #41-15

SEE ORDER OF CONDITIONS
SE 48-2709 D. BK. 1538 PG. 296-D.BK. 1598 PG. 312

TABLES

Table 1
Summary of Influent Sampling Data
CFI #2280/L0105
115 Orange Street
Nantucket, MA

	Influent	Influent	Sump	Minimum Lab ML	EPA DGP Discharge Limit
Sampling Date	6/15/17	6/20/17	6/29/17		
Depth to Groundwater (ft)	3.00	3.00	3.00		
VOCs by 624/8260 (µg/L)					
Benzene		< 1.0		5	5
Total BTEX		< 1.0		NS	100
MTBE		< 1.0		20	70
Acetone		< 10.0		7,970	7,970
Tert-amyl methyl ether (TAME)		< 1.0		90	90
Tert Butyl Alcohol (TBA)		< 10.0		120	120
Ethanol		< 200		400	NS
1,4 Dioxane		< 20.0		50	200
SVOCs by 625 SIM (µg/L)					
Naphthalene		< 0.05		20	20
Benzo(a)anthracene		< 0.05		0.1	NS
Acenaphthene		< 0.05		0.1	NS
Fluorene		< 0.05		0.1	NS
Phenanthrene		< 0.05		0.1	NS
Total Group 1 PAHs		< 0.05		1.0	1.0
Total Group 1I PAHs		< 0.05		100	100
Pentachlorophenol		< 1.0		1.0	1.0
Total Pthalates		< 5.32		190	290
TPH by EPA 1664 (mg/L)		1.4		5	15
PCBs by EPA 608 (mg/L)			< 0.000196	0.0005	0.064
PP13 Metals by 6010 (mg/L)					
Copper (Total)	0.00158			0.0031	0.242
Iron (Total)	0.839			1	5
Nickel (Total)	0.00129			0.0082	1.45
Lead (Total)	0.00039			0.0081	0.160
Zinc (Total)	0.00495			0.081	0.420
Chromium (Hex) by 7196A			< 0.005	0.050	0.323
Cyanide (mg/L)		< 0.010		0.005	178
Ammonia (mg/L)		0.21		0.1	NS
Flashpoint		> 150 F		NS	NS
pH		6.70		NS	6.3-8.5
Total Residual Chlorine (mg/L)		< 0.020		0.050	1
Salinity (ppt)		< 1.0		NS	NS
Total Suspended Solids (mg/L)	2.0			30	50

NOTE NA = Not Applicable. NS = No Sampled/No Standard.

EPA RGP Discharge Limit: Discharge Limits promulgated in 2017 RGP effective April 10, 2017.

BOLD: Concentration exceeds EPA Discharge Limit.

ATTACHMENT I

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility: Cumberland Farms Store #2280		Mailing Address for the Facility: 165 Flanders Road, Westborough, MA 01581	
b) Location Address of the Facility (if different from mailing address): 115 Orange Street, Nantucket, MA 02554	Facility Location longitude: 70.56648 latitude: 41.27600		Type of Business: Convenience Store Facility SIC codes: 5411
	c) Name of facility owner: Cumberland Farms, Inc. Owner's Tel #: (508) 270-1400 Address of owner (if different from facility address) Owner is (check one): 1. Federal _____ 2. State _____ 3. Private ☒ 4. Other _____ (Describe) _____		Owner's email: myoung@cumberlandfarms.com Owner's Fax #: (781) 459-0454
Legal name of Operator, if not owner: Cumberland Farms, Inc. Operator Contact Name: Matthew Young Operator Tel Number: (508) 270-1400 Fax Number: (781) 459-0454 Operator's email: myoung@cumberlandfarms.com Operator Address (if different from owner)			
d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? ☒			
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes ☒ No _____ If Yes, Permit Number: MAG910639 2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes _____ No ☒ 3. Is the facility covered by an individual NPDES permit? Yes _____ No ☒ If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes _____ No ☒ If Yes, date of submittal: _____			

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Goose Pond/The Creeks

State Water Quality Classification: Class SA

Freshwater: Marine Water: x

b) Describe the discharge activities for which the owner/applicant is seeking coverage:

- ✓ 1. Construction dewatering of groundwater intrusion and/or storm water accumulation.
- 2. Short-term or long-term dewatering of foundation sumps.
- 3. Other.

c) Number of outfalls 1

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 350,000 GPD
Average Monthly Flow 225,000 GPD

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.3 Min pH 6

f) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. See attached lab report.

g.) What treatment does the wastewater receive prior to discharge?

Well screen filter with filter stone. Solids settling through sedimentation tank/frac tank with bag filters prior to discharge.

h.) Is the discharge continuous? Yes ✓ No If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)

If (P), number of days or months per year of the discharge and the specific months of discharge ;

If (I), number of days/year there is a discharge

Is the discharge temporary? Yes ✓ No

If yes, approximate start date of dewatering 10/10/17 approximate end date of dewatering 11/23/17

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. 70.56648 lat. 41.27600; Outfall 2: long. lat. ; Outfall 3: long. lat. .

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations NA-Not Potable Water cfs
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

- k.) Does the discharge occur in an ACEC? Yes _____ No ☒
 If yes, provide the name of the ACEC: _____

See attached ACEC Map

3. Contaminant Information

- a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for aquatic organism(s)).
 b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

- a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met?
 b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

- a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No ☒ ; Question 2: No ☒ Yes _____
 b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No ☒ If yes, attach the results of the consultation(s).
 c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met?
 d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No ☒ If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Cumberland Farms Store #2280

Operator signature: 

Print Full Name and Title: BRIAN E. GUENON, II VP, GENERAL COUNSEL AND SECRETARY

Date: 09.07.2017

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.



Enter your transmittal number

X276198

Transmittal Number

Your unique Transmittal Number can be accessed online: <http://mass.gov/dep/service/online/trasmfrm.shtml>**Massachusetts Department of Environmental Protection****Transmittal Form for Permit Application and Payment**

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: DEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

MassDEP
P.O. Box 4062
Boston, MA
02211

* Note:
For BWSC Permits,
enter the LSP.

A. Permit Information

WM15

1. Permit Code: 4 to 7 character code from permit instructions

Construction Dewatering

3. Type of Project or Activity

General Discharge Permit NPDES NOI

2. Name of Permit Category

B. Applicant Information – Firm or Individual

Cumberland Farms, Inc.

1. Name of Firm - Or, if party needing this approval is an individual enter name below:

2. Last Name of Individual

165 Flanders Road

5. Street Address

Westborough

6. City/Town

Matthew Young

11. Contact Person

3. First Name of Individual

MA

7. State

01581

8. Zip Code

508-270-1400

9. Telephone #

4. MI

4477

10. Ext. #

myoung@cumberlandfarms.com

12. e-mail address

C. Facility, Site or Individual Requiring Approval

Cumberland Farms Store #2280

1. Name of Facility, Site Or Individual

115 Orange Street

2. Street Address

Nantucket

3. City/Town

MA

4. State

02554

5. Zip Code

508-228-7071

6. Telephone #

7. Ext. #

8. DEP Facility Number (if Known)

9. Federal I.D. Number (if Known)

10. BWSC Tracking # (if Known)

D. Application Prepared by (if different from Section B)*

ATC Group Services LLC

1. Name of Firm Or Individual

997 Millbury Street, Unite 6

2. Address

Worcester

3. City/Town

Matthew Lyne

8. Contact Person

MA

4. State

01607

5. Zip Code

508-756-0151

6. Telephone #

7. Ext. #

9. LSP Number (BWSC Permits only)

E. Permit - Project Coordination1. Is this project subject to MEPA review? ☐ yes ☒ no

If yes, enter the project's EOE file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

EOEA File Number

F. Amount Due**Special Provisions:**

- ☐ Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).
There are no fee exemptions for BWSC permits, regardless of applicant status.
- ☐ Hardship Request - payment extensions according to 310 CMR 4.04(3)(c).
- ☐ Alternative Schedule Project (according to 310 CMR 4.05 and 4.10).
- ☐ Homeowner (according to 310 CMR 4.02).

DEP Use Only

Permit No:

Rec'd Date:

Reviewer:

085394

Check Number

\$500.00

Dollar Amount

9-7-17

Date

Schedule of Permit Application Fees and Timelines

Program/Division: **WATERSHED MANAGEMENT**

BWR

Herbicide Applications

		<i>Presumptive Approval</i>	<i>Fee</i>	<i>Reviewing Office</i>
WM04	License To Apply Herbicides To Waters Of The Commonwealth	N	\$95	WMO

Timeline Type: Fee Reg-defined

Timeline Tasks

Required/Optional

Days Allowed

AR	ADMIN REVIEW	R	24
ARD	ADMIN REVIEW DEFICIENCY	O	14
AR2	ADMIN REVIEW 2	O	24
TR	TECHNICAL REVIEW	R	24
TRD	TECH REVIEW DEFICIENCY	O	14
TR2	TECH REVIEW 2	O	24

Surface Water NPDES General Permits & Plans

		<i>Presumptive Approval</i>	<i>Fee</i>	<i>Reviewing Office</i>
WM09	Stormwater Management Plan	N	\$890	HQ

Timeline Type: Fee Reg-defined

Timeline Tasks

Required/Optional

Days Allowed

AR	ADMIN REVIEW	R	24
ARD	ADMIN REVIEW DEFICIENCY	O	60
AR2	ADMIN REVIEW 2	O	24
TR	TECHNICAL REVIEW	R	48
TRD	TECH REVIEW DEFICIENCY	O	60
TR2	TECH REVIEW 2	O	48

WM15 General Permit Npdes Notice Of Intent

N

\$500

HQ

Timeline Type: Fee Reg-defined

Timeline Tasks

Required/Optional

Days Allowed

AR	ADMIN REVIEW	R	10
ARD	ADMIN REVIEW DEFICIENCY	O	60
AR2	ADMIN REVIEW 2	O	10
TR	TECHNICAL REVIEW	R	21
TRD	TECH REVIEW DEFICIENCY	O	60
TR2	TECH REVIEW 2	O	21

Surface Water NPDES Individual Permits

		<i>Presumptive Approval</i>	<i>Fee</i>	<i>Reviewing Office</i>
WM05	Initial/Renewal Major Npdes Permit	N	\$6,785	HQ

Timeline Type: Fee Reg-defined

Timeline Tasks

Required/Optional

Days Allowed

AR	ADMIN REVIEW	R	30
ARD	ADMIN REVIEW DEFICIENCY	O	200
AR2	ADMIN REVIEW 2	O	30
TR	TECHNICAL REVIEW	R	200
TRD	TECH REVIEW DEFICIENCY	O	200
TR2	TECH REVIEW 2	O	200
PN	PUBLIC NOTICE	R	20
PC1	DEP REVIEW OF PUBLIC COMMENTS 1	R	90



ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

997 Millbury Street • Unit 6
Worcester, MA 01607



9-11-17

MASS DEP
P.O. Box 4062
Boston, MA 02211

ATTACHMENT II

MassDEP - Bureau of Waste Site Cleanup

Site Information:

115 ORANGE STREET NANTUCKET, MA

NAD83 UTM Meters:

5053157mN, -7802877mE (Zone: 18)

August 1, 2017

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

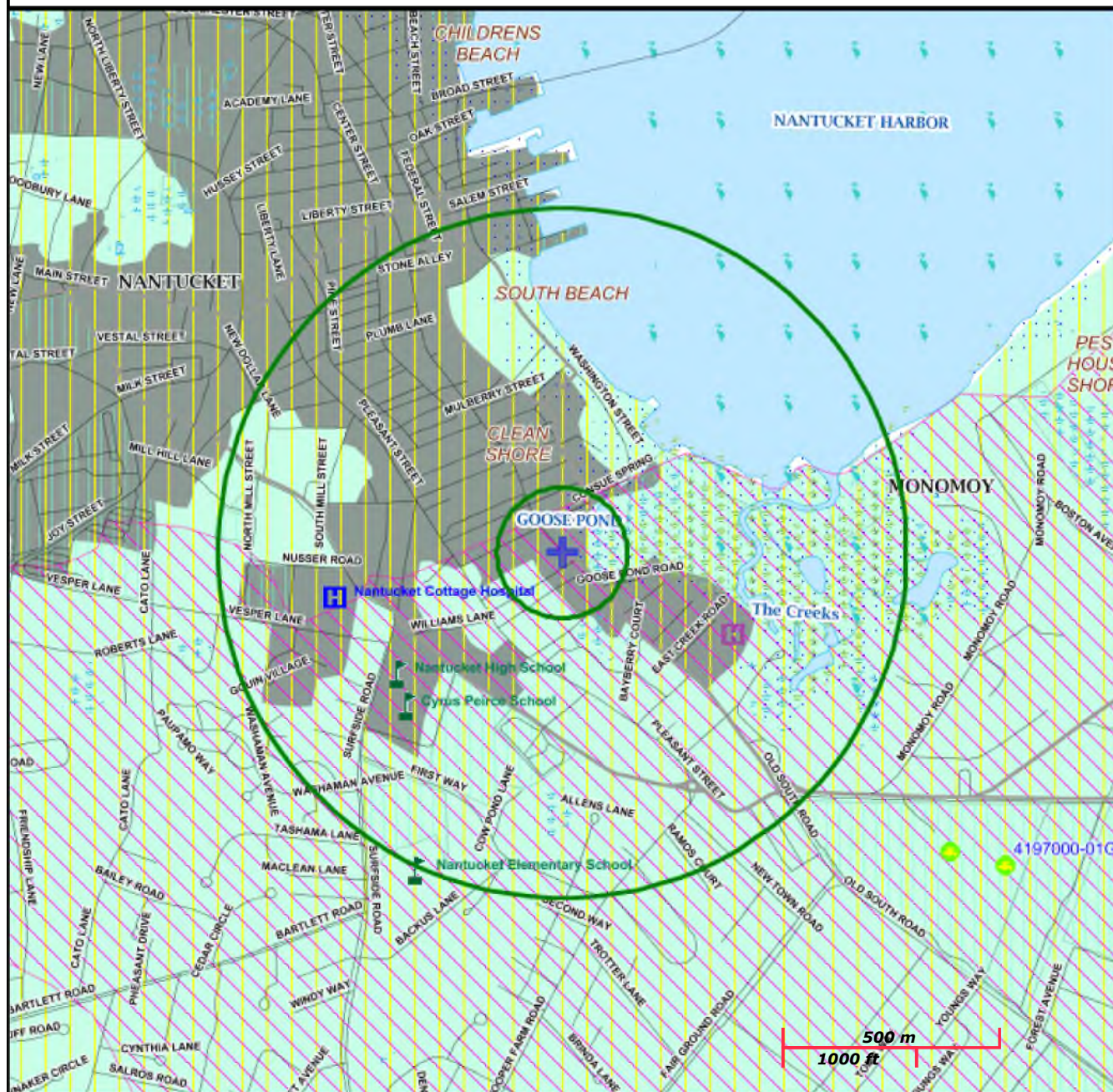
The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:

<http://www.mass.gov/mgis/>



MassDEP

Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

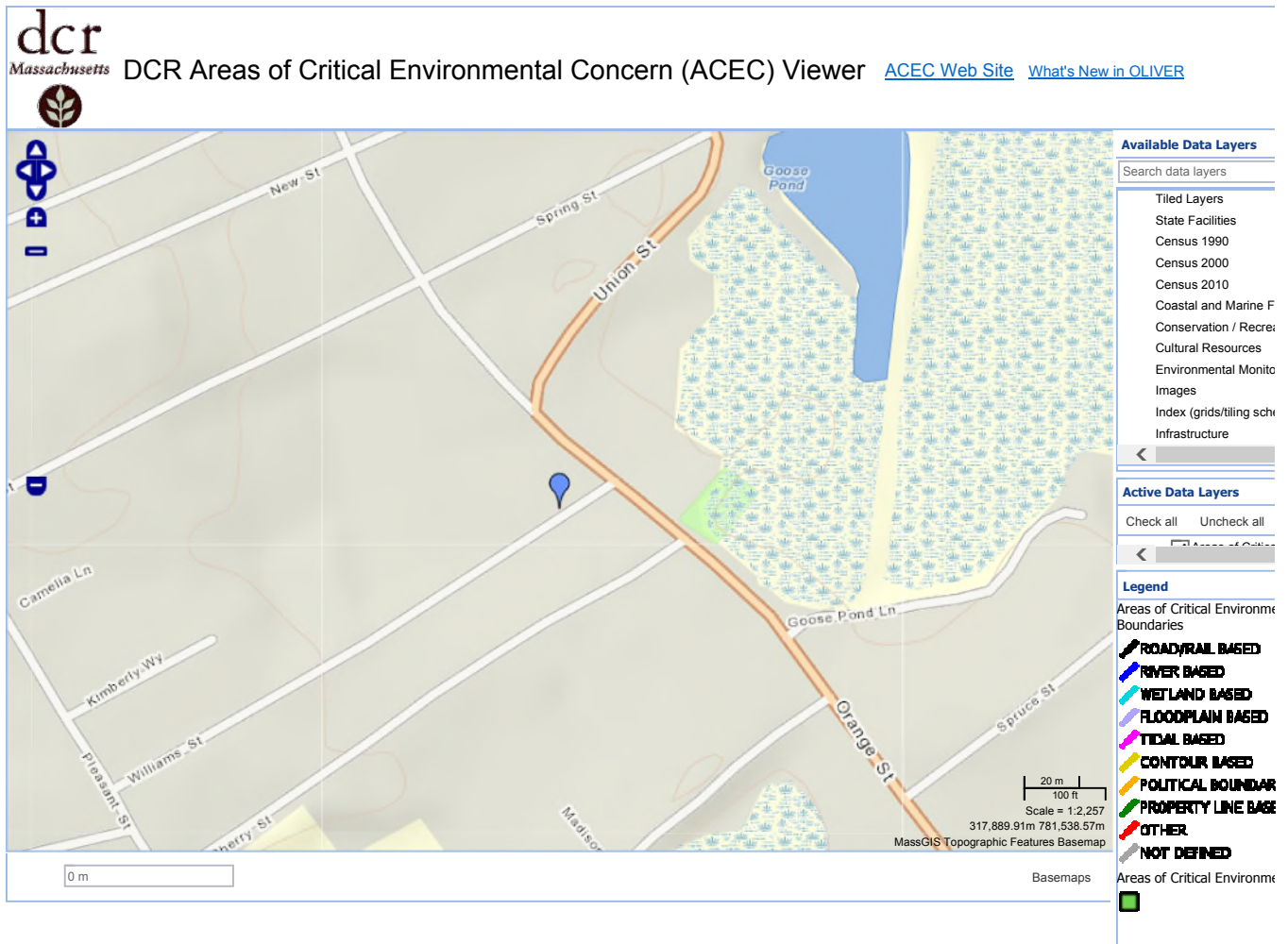
Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

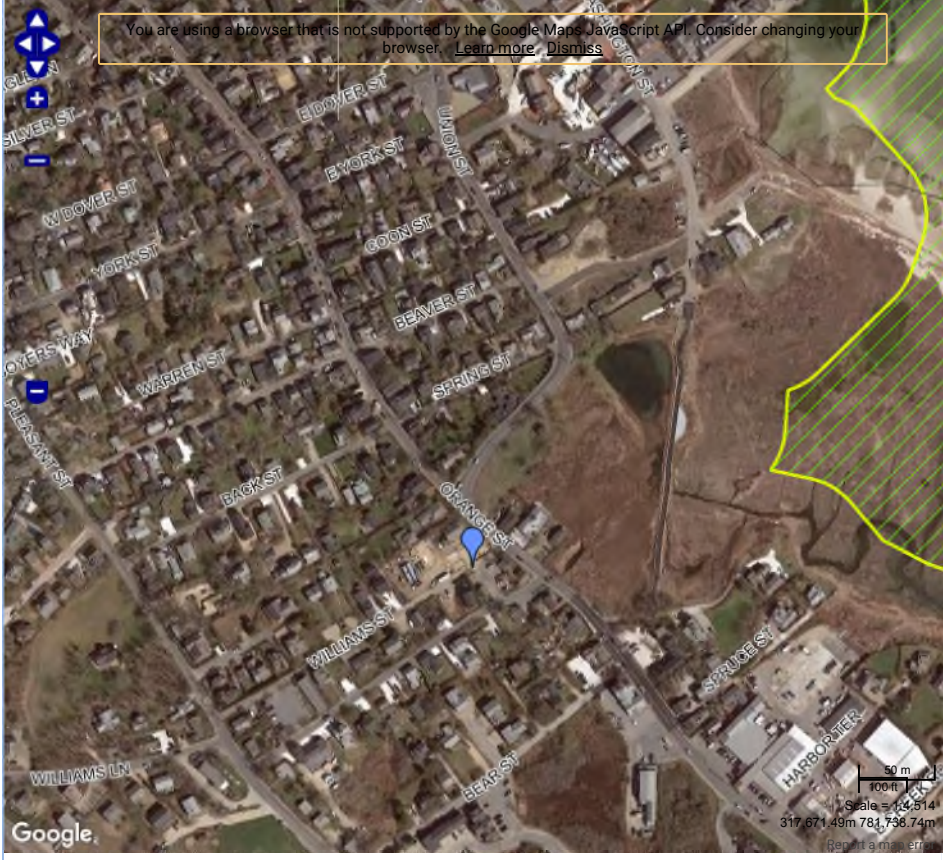
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.



 OLIVER: MassGIS's Online Mapping Tool [OLIVER Updates](#) **Please take the OLIVER survey!**

You are using a browser that is not supported by the Google Maps Javascript API. Consider changing your browser. [Learn more](#) [Dismiss](#)



Google

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Basemaps

Available Data Layers

Search data layers

Tiled Layers

- State Facilities
- Census 1990
- Census 2000
- Census 2010
- Coastal and Marine Features
- Conservation / Recreation
- Cultural Resources
- Environmental Monitoring (testing/monitoring sites)
- Images
- Index (grids/tiling schemes for certain layers)

Active Data Layers

Check all Uncheck all Remove all

- ☒ NavTeq MA Other Streets Names
- ☒ Major MassDOT Routes
- ☒ Massachusetts Towns
- ☒ NHESP Estimated Habitats of Rare Wildlife
- ☒ NHESP Priority Habitats of Rare Species

Legend

NavTeq MA Other Streets Names

Major MassDOT Routes

-  Interstate Highways
-  US Roads
-  State

Massachusetts Towns

- 

NHESP Estimated Habitats of Rare Wildlife

- 

NHESP Priority Habitats of Rare Species

- 
- 

ATTACHMENT III

APPENDIX I

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) IN MASSACHUSETTS

If the project is proposed in one of the communities listed in the following three pages (updated November 2013), the project may be located in an Area of Critical Environmental Concern (ACEC). Please see the Massachusetts Department of Conservation and Recreation (MADCR) webpage at <http://www.mass.gov/dcr/stewardship/acec/index.htm> for the most current listing of ACEC.

To confirm whether the project location is within an Area of Critical Environmental Concern (ACEC), call or contact the community's Conservation Commission of the Massachusetts Department of Conservation and Recreation (MADCR) program at:

MA DCR
251 Causeway Street
Suite 7000
Boston, MA 02114
(617) 626-1250

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog
(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills
(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed
(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp
(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag
(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay
(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River
(160 acres, 1980) Bourne

Rumney Marshes
(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit
(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

Weir River
(950 acres, 1986) Cohasset, Hingham, and Hull

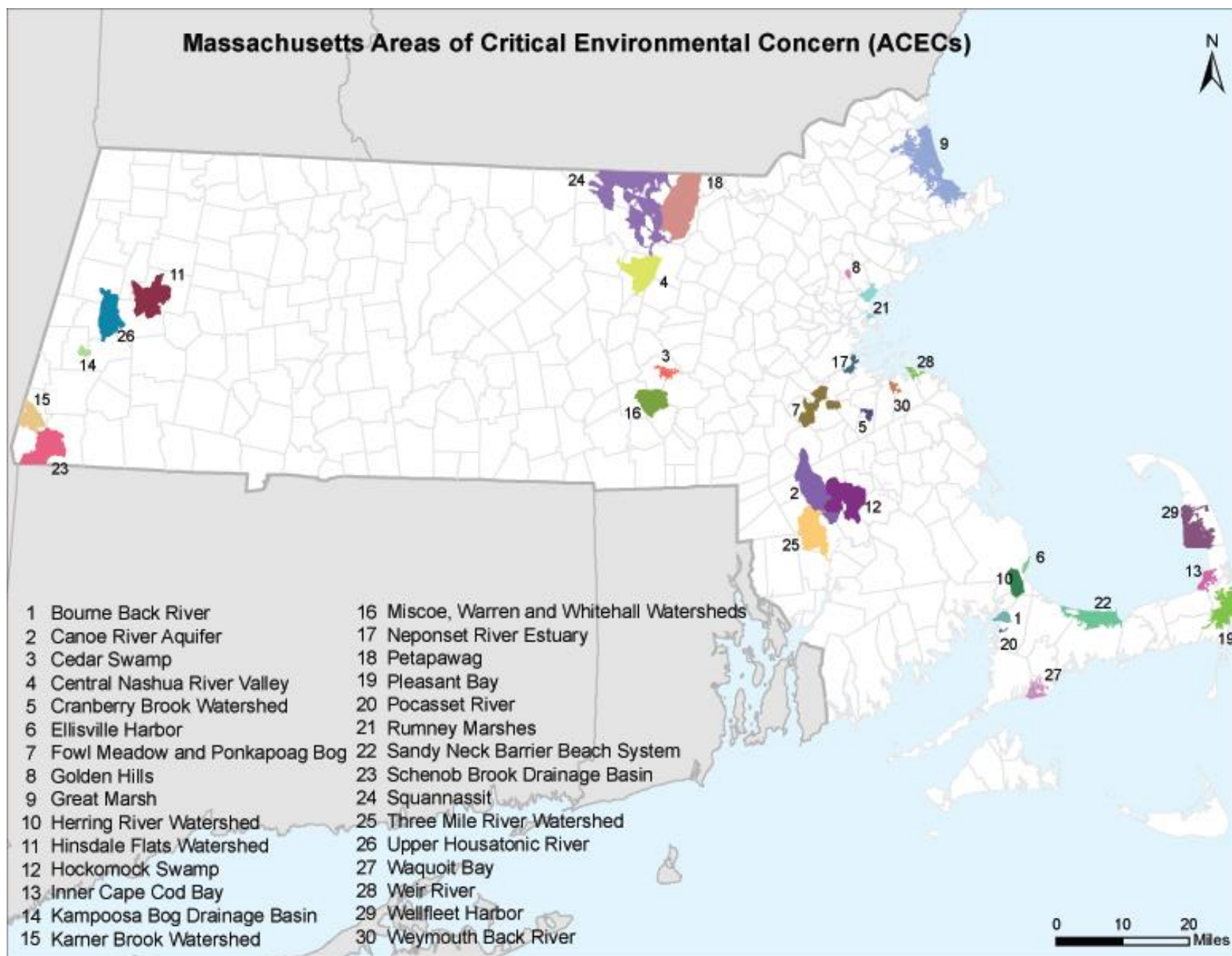
Wellfleet Harbor
(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, <http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm>.

Towns with ACECs within their Boundaries
November 2010

TOWN	ACEC	TOWN	ACEC
Ashby	Squannassit	Mt. Washington	Karner Brook Watershed
Ayer	Petapawag		Schenob Brook
	Squannassit	Newbury	Great Marsh
Barnstable	Sandy Neck Barrier Beach System	Norton	Hockomock Swamp
Bolton	Central Nashua River Valley		Canoe River Aquifer
Boston	Rumney Marshes		Three Mile River Watershed
	Fowl Meadow and Ponkapoag Bog	Norwood	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary	Orleans	Inner Cape Cod Bay
Bourne	Pocasset River		Pleasant Bay
	Bourne Back River	Pepperell	Petapawag
	Herring River Watershed		Squannassit
Braintree	Cranberry Brook Watershed	Peru	Hinsdale Flats Watershed
Brewster	Pleasant Bay	Pittsfield	Upper Housatonic River
	Inner Cape Cod Bay	Plymouth	Herring River Watershed
Bridgewater	Hockomock Swamp		Ellisville Harbor
Canton	Fowl Meadow and Ponkapoag Bog	Quincy	Neponset River Estuary
Chatham	Pleasant Bay	Randolph	Fowl Meadow and Ponkapoag Bog
Cohasset	Weir River	Raynham	Hockomock Swamp
Dalton	Hinsdale Flats Watershed	Revere	Rumney Marshes
Dedham	Fowl Meadow and Ponkapoag Bog	Rowley	Great Marsh
Dighton	Three Mile River Watershed	Sandwich	Sandy Neck Barrier Beach System
Dunstable	Petapawag	Saugus	Rumney Marshes
Eastham	Inner Cape Cod Bay		Golden Hills
	Wellfleet Harbor	Sharon	Canoe River Aquifer
Easton	Canoe River Aquifer		Fowl Meadow and Ponkapoag Bog
	Hockomock Swamp	Sheffield	Schenob Brook
Egremont	Karner Brook Watershed	Shirley	Squannassit
Essex	Great Marsh	Stockbridge	Kampoosa Bog Drainage Basin
Falmouth	Waquoit Bay	Taunton	Hockomock Swamp
Foxborough	Canoe River Aquifer		Canoe River Aquifer
Gloucester	Great Marsh		Three Mile River Watershed
Grafton	Miscoe-Warren-Whitehall Watersheds	Truro	Wellfleet Harbor
		Townsend	Squannassit
Groton	Petapawag	Tyngsborough	Petapawag
	Squannassit	Upton	Miscoe-Warren-Whitehall Watersheds
Harvard	Central Nashua River Valley		
	Squannassit	Wakefield	Golden Hills
Harwich	Pleasant Bay	Washington	Hinsdale Flats Watershed
Hingham	Weir River		Upper Housatonic River
	Weymouth Back River	Wellfleet	Wellfleet Harbor
Hinsdale	Hinsdale Flats Watershed	W Bridgewater	Hockomock Swamp
Holbrook	Cranberry Brook Watershed	Westborough	Cedar Swamp
Hopkinton	Miscoe-Warren-Whitehall Watersheds	Westwood	Fowl Meadow and Ponkapoag Bog
		Weymouth	Weymouth Back River
	Cedar Swamp	Winthrop	Rumney Marshes
Hull	Weir River		
Ipswich	Great Marsh		
Lancaster	Central Nashua River Valley		
	Squannassit		
Lee	Kampoosa Bog Drainage Basin		
	Upper Housatonic River		
Lenox	Upper Housatonic River		
Leominster	Central Nashua River Valley		
Lunenburg	Squannassit		
Lynn	Rumney Marshes		
Mansfield	Canoe River Aquifer		
Mashpee	Waquoit Bay		
Melrose	Golden Hills		
Milton	Fowl Meadow and Ponkapoag Bog		
	Neponset River Estuary		



Massachusetts Cultural Resource Information System

MACRIS

[MHC Home](#) | [MACRIS Home](#)

Results

[Get Results in Report Format](#)



PDF



Spreadsheet

Below are the results of your search, using the following search criteria:

Town(s): Nantucket

Street No: 115

Street Name: Orange St

Resource Type(s): Area, Building, Burial Ground, Object, Structure

For more information about this page and how to use it, [click here](#)

No Results Found.

[New Search](#)

[New Search — Same Town\(s\)](#)

[Previous](#)

[MHC Home](#) | [MACRIS Home](#)

Species determinations

For listed species¹ not covered by determination keys, an impact analysis should be performed to reach a conclusion about how this project will impact the species. These conclusions will result in *determinations* for each species, which will be used in consultation with the U.S. Fish and Wildlife Service.

Mammals

Northern Long-eared Bat	None
Myotis septentrionalis	

Birds

Red Knot	None
Calidris canutus rufa	

Insects

American Burying Beetle	None
Nicrophorus americanus	

Critical habitats

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

August 21, 2017
File No. 03-221855

Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: **Project Notification Form**
Cumberland Farms Store #2280
115 Orange Street
Nantucket, Massachusetts

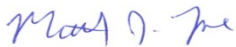
To whom it may concern:

On behalf of Cumberland Farms, Inc. (CFI), ATC Group Services LLC (ATC), is submitting this Project Notification Form (PNF) for the above referenced facility (i.e., the "Site"). CFI is proposing to perform utility connections in the roadway in front of the existing convenience store. Approval for dewatering through EPA is necessary and this PNF is required as part of the Notice of Intent process. A Site Locus map is included as Figure 1.

The subject property currently operates as a Cumberland Farms convenience store located at 115 Orange Street in Nantucket, Massachusetts. The Site is a rectangular shaped parcel of land consisting of approximately 0.5 acres and occupied by a convenience store. The building is of wood construction and is a slab on grade structure with no basement. Land use in the vicinity of the Site is mainly residential. Residences abut the Site to the north and west, Williams Street abuts the site to the south, and Orange Street abuts the site to the east. A Site Plan depicting the current setting of the property and surrounding area is included as Figures 2.

If there are any questions regarding this submittal, please do not hesitate to contact the undersigned or Mr. Matthew Young of Cumberland Farms, Inc. at (508) 270-1400.

Sincerely,
ATC Group Services LLC



Matthew Lyne
Senior Project Manager

cc: Matt Young, Cumberland Farms Inc, 165 Flanders Road, Westborough, MA 01581

Figure 1- Site Locus
Figure 2- Site Plan



ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

997 Millbury Street • Unit 6
Worcester, MA 01607



FOREVER



9-6-17

Wampanoag Tribe & Gay Head
Bettina Warkington, Tribal Historic Preservation Officer
20 Black Brook Road
Aquinnah, MA 02535



ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

997 Millbury Street • Unit 6
Worcester, MA 01607



FOREVER



9-6-17

Mashpee Wampanoag Tribe
Ramona Peters, Tribal Historic Preservation Officer
483 Great Neck Road S.
Mashpee, MA 02649



FOREVER



9-6-17

Narragansett Tribe
John Brown, Tribal Historic Preservation Officer
P.O. Box 268
Charlestown, RI 02813



ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

997 Millbury Street • Unit 6
Worcester, MA 01607

ATTACHMENT IV

Report Date:
22-Jun-17 14:09**Laboratory Report**
SC35925ATC Group Services, LLC
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Matt LyneProject: CFI #2280 - 115 Orange St - Nantucket, MA
Project #: 03221855

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393Authorized by:

Christina White
Laboratory Director

A handwritten signature in black ink that reads "Christina A. White".

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 14 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC35925
Project: CFI #2280 - 115 Orange St - Nantucket, MA
Project Number: 03221855

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC35925-01	Influent	Ground Water	15-Jun-17 11:15	16-Jun-17 10:33

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 03221855		
Project Location: CFI #2280 - 115 Orange St - Nantucket, MA			RTN:		
This form provides certifications for the following data set:			SC35925-01		
Matrices: Ground Water					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	✓ 6020 Metals CAM III D	8082 PCB CAM V A	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
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 ✓ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	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 No
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 No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
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 No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<i>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.</i>  Christina A. White Laboratory Director Date: 6/22/2017					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 20.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Duplicates:

1710116-DUP1 *Source: SC35925-01*

MRL raised to correlate to batch QC reporting limits.

Iron

Samples:

SC35925-01 *Influent*

MRL raised to correlate to batch QC reporting limits.

Iron

SW846 6020A

Duplicates:

1710115-DUP1 *Source: SC35925-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Antimony
Selenium
Thallium

MRL raised to correlate to batch QC reporting limits.

Antimony
Arsenic
Chromium
Selenium

SW846 6020A

Samples:

SC35925-01

Influent

MRL raised to correlate to batch QC reporting limits.

Antimony
Arsenic
Chromium
Selenium

Sample Acceptance Check Form

Client: ATC Group Services, LLC - Worcester, MA
Project: CFI #2280 - 115 Orange St - Nantucket, MA / 03221855
Work Order: SC35925
Sample(s) received on: 6/16/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☐	☒	☐
Were custody seals intact?	☐	☐	☒
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☐	☒	☐
Were samples cooled on ice upon transfer to laboratory representative?	☐	☒	☐
Were samples refrigerated upon transfer to laboratory representative?	☐	☒	☐
Were sample containers received intact?	☒	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
Were samples accompanied by a Chain of Custody document?	☒	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☒	☐	☐
Did sample container labels agree with Chain of Custody document?	☒	☐	☐
Were samples received within method-specific holding times?	☒	☐	☐

Summary of Hits

Lab ID: SC35925-01

Client ID: Influent

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Suspended Solids	2.0		2.0	mg/l	SM2540D (11)
Iron	0.839	R06	0.0800	mg/l	SW846 6010C
Copper	0.00158		0.00025	mg/l	SW846 6020A
Lead	0.00039		0.00025	mg/l	SW846 6020A
Nickel	0.00129		0.00025	mg/l	SW846 6020A
Zinc	0.00495		0.00250	mg/l	SW846 6020A

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification**Influent**

SC35925-01

Client Project #

03221855

Matrix

Ground Water

Collection Date/Time

15-Jun-17 11:15

Received

16-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

Total Metals by EPA 200/6000 Series MethodsPrepared by method General Prep-Metal

Preservation

Field
Preserved;
pH<2
confirmed

N/A

1

EPA 200/6000
methods

16-Jun-17

AAW

1710126

Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3005A

7440-22-4	Silver	< 0.00025		mg/l	0.00025	0.00003	1	SW846 6020A	17-Jun-17	21-Jun-17	TBC	1710115
7440-38-2	Arsenic	< 0.00070	R06	mg/l	0.00070	0.00004	1	"	"	22-Jun-17	"	"
7440-41-7	Beryllium	< 0.00025		mg/l	0.00025	0.00004	1	"	"	21-Jun-17	"	"
7440-43-9	Cadmium	< 0.000250		mg/l	0.000250	0.000027	1	"	"	22-Jun-17	"	"
7440-47-3	Chromium	< 0.00200	R06	mg/l	0.00200	0.00010	1	"	"	21-Jun-17	"	"
7440-50-8	Copper	0.00158		mg/l	0.00025	0.00003	1	"	"	"	"	"
7439-89-6	Iron	0.839	R06	mg/l	0.0800	0.0089	1	SW846 6010C	"	19-Jun-17	TBC	1710116
7440-02-0	Nickel	0.00129		mg/l	0.00025	0.00005	1	SW846 6020A	"	21-Jun-17	TBC	1710115
7439-92-1	Lead	0.00039		mg/l	0.00025	0.00004	1	"	"	"	"	"
7440-36-0	Antimony	< 0.000700	R06	mg/l	0.000700	0.000031	1	"	"	"	"	"
7782-49-2	Selenium	< 0.00110	R06	mg/l	0.00110	0.00009	1	"	"	"	"	"
7440-28-0	Thallium	< 0.00025		mg/l	0.00025	0.00003	1	"	"	"	"	"
7440-66-6	Zinc	0.00495		mg/l	0.00250	0.00066	1	"	"	22-Jun-17	"	"

Total Metals by EPA 200 Series Methods

7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00013	1	EPA 245.1/7470A	19-Jun-17	19-Jun-17	JLC	1710191	X
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General Chemistry Parameters

Total Suspended Solids	2.0			mg/l	2.0	0.9	1	SM2540D (11)	17-Jun-17	19-Jun-17	CMB	1710172	X
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1710116 - SW846 3005A										
<u>Blank (1710116-BLK1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	< 0.0800		mg/l	0.0800						
<u>LCS (1710116-BS1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	2.67		mg/l	0.0800	2.50		107	85-115		
<u>LCS Dup (1710116-BSD1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	2.67		mg/l	0.0800	2.50		107	85-115	0.1	20
<u>Duplicate (1710116-DUP1)</u>	<u>Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	0.846	R06	mg/l	0.0800		0.839			0.8	20
<u>Matrix Spike (1710116-MS1)</u>	<u>Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	3.51		mg/l	0.0800	2.50	0.839	107	75-125		
<u>Matrix Spike Dup (1710116-MSD1)</u>	<u>Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	3.50		mg/l	0.0800	2.50	0.839	106	75-125	0.4	20
<u>Post Spike (1710116-PS1)</u>	<u>Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>									
Iron	3.54		mg/l	0.0800	2.50	0.839	108	80-120		
<u>SW846 6020A</u>										
Batch 1710115 - SW846 3005A										
<u>Blank (1710115-BLK1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 21-Jun-17</u>									
Antimony	< 0.000700		mg/l	0.000700						
Zinc	< 0.00250		mg/l	0.00250						
Cadmium	< 0.000250		mg/l	0.000250						
Arsenic	< 0.00070		mg/l	0.00070						
Selenium	< 0.00110		mg/l	0.00110						
Lead	< 0.00025		mg/l	0.00025						
Copper	< 0.00025		mg/l	0.00025						
Chromium	< 0.00200		mg/l	0.00200						
Beryllium	< 0.00025		mg/l	0.00025						
Silver	< 0.00025		mg/l	0.00025						
Nickel	< 0.00025		mg/l	0.00025						
Thallium	< 0.00025		mg/l	0.00025						
<u>LCS (1710115-BS1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 21-Jun-17</u>									
Beryllium	0.115	D	mg/l	0.00250	0.100		115	85-115		
Arsenic	0.113	D	mg/l	0.00700	0.100		113	85-115		
Selenium	0.571	D	mg/l	0.0220	0.500		114	85-115		
Thallium	0.113	D	mg/l	0.00250	0.100		113	85-115		
Antimony	0.108	D	mg/l	0.00700	0.100		108	85-115		
Lead	0.110	D	mg/l	0.00250	0.100		110	85-115		
Nickel	0.0975	D	mg/l	0.00250	0.100		98	85-115		
Chromium	0.104	D	mg/l	0.0200	0.100		104	85-115		
Silver	0.102	D	mg/l	0.00250	0.100		102	85-115		
Cadmium	0.103	D	mg/l	0.00250	0.100		103	85-115		
Zinc	0.103	D	mg/l	0.0250	0.100		103	85-115		
Copper	0.103	D	mg/l	0.00250	0.100		103	85-115		
<u>LCS Dup (1710115-BSD1)</u>	<u>Prepared: 17-Jun-17 Analyzed: 21-Jun-17</u>									
Antimony	0.102	D	mg/l	0.00700	0.100		102	85-115	5	20
Silver	0.0977	D	mg/l	0.00250	0.100		98	85-115	5	20
Beryllium	0.108	D	mg/l	0.00250	0.100		108	85-115	7	20
Chromium	0.103	D	mg/l	0.0200	0.100		103	85-115	1	20
Copper	0.100	D	mg/l	0.00250	0.100		100	85-115	3	20
Lead	0.0982	D	mg/l	0.00250	0.100		98	85-115	11	20
Thallium	0.103	D	mg/l	0.00250	0.100		103	85-115	9	20

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6020A</u>										
Batch 1710115 - SW846 3005A										
<u>LCS Dup (1710115-BSD1)</u>					Prepared: 17-Jun-17 Analyzed: 21-Jun-17					
Selenium	0.554	D	mg/l	0.0220	0.500		111	85-115	3	20
Arsenic	0.112	D	mg/l	0.00700	0.100		112	85-115	0.8	20
Cadmium	0.105	D	mg/l	0.00250	0.100		105	85-115	2	20
Zinc	0.103	D	mg/l	0.0250	0.100		103	85-115	0.3	20
Nickel	0.0948	D	mg/l	0.00250	0.100		95	85-115	3	20
<u>Duplicate (1710115-DUP1)</u>					Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 22-Jun-17					
Arsenic	< 0.00070	R06	mg/l	0.00070		BRL				20
Zinc	0.00529		mg/l	0.00250		0.00495			7	20
Copper	0.00151		mg/l	0.00025		0.00158			4	20
Chromium	0.00190	J,R06	mg/l	0.00200		0.00179			6	20
Beryllium	< 0.00025		mg/l	0.00025		BRL				20
Nickel	0.00125		mg/l	0.00025		0.00129			3	20
Lead	0.00039		mg/l	0.00025		0.00039			0.1	20
Antimony	0.000454	J,QR8, R06	mg/l	0.000700		0.000560			21	20
Silver	< 0.00025		mg/l	0.00025		BRL				20
Thallium	0.00003	J,QR8	mg/l	0.00025		0.00004			25	20
Cadmium	< 0.000250		mg/l	0.000250		BRL				20
Selenium	0.00068	J,QR8, R06	mg/l	0.00110		0.00107			44	20
<u>Matrix Spike (1710115-MS1)</u>					Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 21-Jun-17					
Nickel	0.0961	D	mg/l	0.00250	0.100	0.00129	95	75-125		
Copper	0.101	D	mg/l	0.00250	0.100	0.00158	100	75-125		
Chromium	0.102	D	mg/l	0.0200	0.100	0.00179	101	75-125		
Beryllium	0.115	D	mg/l	0.00250	0.100	BRL	115	75-125		
Silver	0.101	D	mg/l	0.00250	0.100	BRL	101	75-125		
Cadmium	0.101	D	mg/l	0.00250	0.100	BRL	101	75-125		
Lead	0.108	D	mg/l	0.00250	0.100	0.00039	108	75-125		
Thallium	0.112	D	mg/l	0.00250	0.100	BRL	112	75-125		
Selenium	0.563	D	mg/l	0.0220	0.500	BRL	113	75-125		
Arsenic	0.111	D	mg/l	0.00700	0.100	BRL	111	75-125		
Zinc	0.103	D	mg/l	0.0250	0.100	BRL	103	75-125		
Antimony	0.109	D	mg/l	0.00700	0.100	0.000560	109	75-125		
<u>Matrix Spike Dup (1710115-MSD1)</u>					Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 21-Jun-17					
Antimony	0.108	D	mg/l	0.00700	0.100	0.000560	107	75-125	1	20
Lead	0.103	D	mg/l	0.00250	0.100	0.00039	103	75-125	5	20
Thallium	0.107	D	mg/l	0.00250	0.100	BRL	107	75-125	5	20
Arsenic	0.115	D	mg/l	0.00700	0.100	BRL	115	75-125	3	20
Cadmium	0.103	D	mg/l	0.00250	0.100	BRL	103	75-125	2	20
Zinc	0.108	D	mg/l	0.0250	0.100	BRL	108	75-125	4	20
Copper	0.104	D	mg/l	0.00250	0.100	0.00158	102	75-125	2	20
Chromium	0.106	D	mg/l	0.0200	0.100	0.00179	104	75-125	4	20
Beryllium	0.114	D	mg/l	0.00250	0.100	BRL	114	75-125	0.8	20
Silver	0.0989	D	mg/l	0.00250	0.100	BRL	99	75-125	2	20
Nickel	0.0991	D	mg/l	0.00250	0.100	0.00129	98	75-125	3	20
Selenium	0.614	D	mg/l	0.0220	0.500	BRL	123	75-125	9	20
<u>Post Spike (1710115-PS1)</u>					Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 21-Jun-17					
Copper	0.102	D	mg/l	0.00250	0.100	0.00158	100	75-125		
Cadmium	0.102	D	mg/l	0.00250	0.100	BRL	102	75-125		
Arsenic	0.112	D	mg/l	0.00700	0.100	BRL	112	75-125		
Selenium	0.587	D	mg/l	0.0220	0.500	BRL	117	75-125		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6020A</u>										
Batch 1710115 - SW846 3005A										
<u>Post Spike (1710115-PS1)</u>				<u>Source: SC35925-01</u>			<u>Prepared: 17-Jun-17</u>	<u>Analyzed: 21-Jun-17</u>		
Thallium	0.103	D	mg/l	0.00250	0.100	BRL	103	75-125		
Antimony	0.101	D	mg/l	0.00700	0.100	0.000560	100	75-125		
Nickel	0.0966	D	mg/l	0.00250	0.100	0.00129	95	75-125		
Chromium	0.106	D	mg/l	0.0200	0.100	0.00179	104	85-120		
Beryllium	0.110	D	mg/l	0.00250	0.100	BRL	110	80-120		
Silver	0.0976	D	mg/l	0.00250	0.100	BRL	98	75-125		
Zinc	0.107	D	mg/l	0.0250	0.100	BRL	107	75-125		
Lead	0.0981	D	mg/l	0.00250	0.100	0.00039	98	75-125		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>EPA 245.1/7470A</u>										
Batch 1710191 - EPA200/SW7000 Series										
<u>Blank (1710191-BLK1)</u>					<u>Prepared & Analyzed: 19-Jun-17</u>					
Mercury	< 0.00020		mg/l	0.00020						
<u>LCS (1710191-BS1)</u>					<u>Prepared & Analyzed: 19-Jun-17</u>					
Mercury	0.00444		mg/l	0.00020	0.00500		89	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540D (11)</u>										
Batch 1710172 - General Preparation										
<u>Blank (1710172-BLK1)</u>					<u>Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>					
Total Suspended Solids	< 0.5		mg/l	0.5						
<u>LCS (1710172-BS1)</u>					<u>Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>					
Total Suspended Solids	98.0		mg/l	10.0	100		98	90-110		
<u>Duplicate (1710172-DUP1)</u>					<u>Source: SC35925-01 Prepared: 17-Jun-17 Analyzed: 19-Jun-17</u>					
Total Suspended Solids	2.0		mg/l	2.0		2.0			0	5

Notes and Definitions

D	Data reported from a dilution
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
R06	MRL raised to correlate to batch QC reporting limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1Results By 6/19
Special Handling: SC35925☐ Standard TAT - 7 to 10 business days☒ Rush TAT - Date Needed 24 HR

All TATs subject to laboratory approval

Min. 24-hr notification needed for rushes

Samples disposed after 60 days unless otherwise instructed.

Report To: ATC WorcesterInvoice To: CFIProject No.: 03221855Site Name: Nantucket CFILocation: Orange St, Nantucket State: MASampler(s): Arden ChurnTelephone #: 508 756 0151Project Mgr: Matth LyneP.O No.: 263467 Quote #:F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= 12=

List Preservative Code below:

QA/QC Reporting Notes:

* additional charges may apply

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G= Grab

C=Compsite

Containers

Analysis

Check if chlorinated

MA DEP MCP CAM Report? ☒ Yes ☐ NoCT DPH RCP Report? ☐ Yes ☐ No☐ Standard ☐ No QC☐ DQA*☐ ASP A*☐ ASP B*☐ NJ Reduced*☐ NJ Full*☐ Tier II*☐ Tier IV*☐ Other:

State-specific reporting standards:

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	TSS	PP13 metals	Van 6020A	Check if chlorinated
SC35925-11A	Fluent	6/15/17	11:15	G	GW				2	X	X	X	☐
													☐
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Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:☒ E-mail to: Matthieu.Lyne@atcassociates.com

Observed

Correction Factor

Corrected

IR ID #

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken☒ Ambient ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Report Date:
26-Jul-17 17:36**Laboratory Report**
SC36162ATC Group Services, LLC
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Matt LyneProject: CFI #2280 - 115 Orange St - Nantucket, MA
Project #: 03-221855.00

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 35 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC36162
Project: CFI #2280 - 115 Orange St - Nantucket, MA
Project Number: 03-221855.00

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC36162-01	Influent	Ground Water	20-Jun-17 13:00	22-Jun-17 10:50
SC36162-02	Effluent	Ground Water	20-Jun-17 14:00	22-Jun-17 10:50
SC36162-03	Pond	Ground Water	20-Jun-17 15:00	22-Jun-17 10:50

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 03-221855.00		
Project Location: CFI #2280 - 115 Orange St - Nantucket, MA			RTN:		
This form provides certifications for the following data set:			SC36162-01 through SC36162-03		
Matrices: Ground Water					
CAM Protocol					
✓	8260 VOC CAM II A	✓	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B
	8270 SVOC CAM II B		7010 Metals CAM III C	MassDEP EPH CAM IV B	7196 Hex Cr CAM VI B
	6010 Metals CAM III A		6020 Metals CAM III D	8082 PCB CAM V A	8330 Explosives CAM VIII A
				9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
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 ✓ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	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 No
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 No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
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 No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				✓ Yes No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<i>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.</i>  Christina A. White Laboratory Director Date: 7/26/2017					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 16.5 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

July 7, 2017 Report Revision Case Narrative:

This report has been revised to include re-analysis of Cu per client request.

July 18, 2017 Report Revision Case Narrative:

This report has been revised to include analyses added as listed in the appendix at the end of this report.

July 26, 2017 Report Revision Case Narrative:

This report has been revised to modify the analyte list for 8260 and 625.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 300.0

Samples:

SC36162-01 *Influent*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

SC36162-02 *Effluent*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

EPA 624

EPA 624

Calibration:

1706080

Analyte quantified by quadratic equation type calibration.

1,1,2,2-Tetrachloroethane
2-Hexanone (MBK)
4-Methyl-2-pentanone (MIBK)
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
m,p-Xylene
o-Xylene
Styrene
trans-1,3-Dichloropropene

This affected the following samples:

1710789-BLK1
1710789-BS1
1710789-BSD1
Effluent
Influent
S705685-ICV1
S705769-CCV1

Samples:

SC36162-01 *Influent*

This compound is a common laboratory contaminant.

Chloromethane

EPA 625

Calibration:

1707039

Analyte quantified by quadratic equation type calibration.

2,4-Dinitrophenol
2,6-Dinitrotoluene
4,6-Dinitro-2-methylphenol
4-Nitrophenol
Benzidine
Bis(2-ethylhexyl)phthalate
Di-n-octyl phthalate

This affected the following samples:

Influent
S706393-ICV1
S706401-CCV1

Laboratory Control Samples:

1710695 BS/BSD

Benzidine percent recoveries (151/155) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

Influent

EPA 625

Samples:

S705865-CCV1

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Benzidine (49.6%)

This affected the following samples:

1710695-BLK1

1710695-BS1

1710695-BSD1

SC36162-01 *Influent*

Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl

Mod. EPA 625

Calibration:

1704025

Analyte quantified by quadratic equation type calibration.

Benzo (a) pyrene

Benzo (b) fluoranthene

Benzo (e) pyrene-d12

Benzo (g,h,i) perylene

Benzo (k) fluoranthene

Dibenzo (a,h) anthracene

Indeno (1,2,3-cd) pyrene

Pentachlorophenol

This affected the following samples:

1710695-BLK2

1710695-BS2

1710695-BSD2

Effluent

Influent

S703654-ICV1

S705870-CCV1

Laboratory Control Samples:

1710695 BSD

Benzo (a) anthracene RPD 23% (20%) is outside individual acceptance criteria.

Chrysene RPD 23% (20%) is outside individual acceptance criteria.

Indeno (1,2,3-cd) pyrene RPD 31% (20%) is outside individual acceptance criteria.

Samples:

S705870-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Phenanthrene (-20.3%)

Mod. EPA 625

Samples:

S705870-CCV1

This affected the following samples:

1710695-BLK2

1710695-BS2

1710695-BSD2

Effluent

Influent

SM2540D (11)

Samples:

SC36162-02 *Effluent*

The dried sample residue did not meet the minimum yield of 2.5 to 200 mg; however, sample volume of one liter was not available to meet method specifications. No bias is associated with the data based on MDL study conducted.

Total Suspended Solids

SM4500-Cl-G (11)

Spikes:

1711119-MS1 *Source: SC36162-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Total Residual Chlorine

1711119-MSD1 *Source: SC36162-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Total Residual Chlorine

Sample Acceptance Check Form

Client: ATC Group Services, LLC - Worcester, MA
Project: CFI #2280 - 115 Orange St - Nantucket, MA / 03-221855.00
Work Order: SC36162
Sample(s) received on: 6/22/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☒	☐	☐
Were custody seals intact?	☒	☐	☐
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☐	☒	☐
Were samples cooled on ice upon transfer to laboratory representative?	☐	☒	☐
Were samples refrigerated upon transfer to laboratory representative?	☐	☒	☐
Were sample containers received intact?	☐	☒	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
Were samples accompanied by a Chain of Custody document?	☒	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☒	☐	☐
Did sample container labels agree with Chain of Custody document?	☒	☐	☐
Were samples received within method-specific holding times?	☒	☐	☐

Summary of Hits

Lab ID: SC36162-01

Client ID: Influent

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Ammonia as Nitrogen	0.21		0.05	mg/L	E350.1
Non-polar material (SGT-HEM)	1.4		1.0	mg/l	EPA 1664B
Chloride	51.0	D, GS	12.00	mg/l	EPA 300.0

Lab ID: SC36162-02

Client ID: Effluent

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Non-polar material (SGT-HEM)	1.9		1.0	mg/l	EPA 1664B
Copper	0.0118		0.0050	mg/l	EPA 200.7
Iron	0.399		0.0150	mg/l	EPA 200.7
Zinc	0.0188		0.0050	mg/l	EPA 200.7
Chloride	49.5	D, GS	12.00	mg/l	EPA 300.0
Total Suspended Solids	1.4	TSSV	1.0	mg/l	SM2540D (11)

Lab ID: SC36162-02RE1

Client ID: Effluent

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Copper	0.0135		0.0100	mg/l	EPA 200.7

Lab ID: SC36162-03

Client ID: Pond

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Ammonia as Nitrogen	1.03		0.10	mg/L	E350.1
Salinity	7.74		1.00	ppt (1000)	SM 2520 (01)

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification**Influent**

SC36162-01

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 13:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Volatile Organic Compounds													
<u>Volatile Organic Compounds by GCMS</u>													
67-64-1	Acetone	< 10.0		µg/l	10.0	0.8	1	EPA 624	27-Jun-17	28-Jun-17	GMA	1710789	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	1.1	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 5.0		µg/l	5.0	0.4	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.0	O01	µg/l	2.0	0.4	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.5	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.5	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 10.0		µg/l	10.0	0.7	1	"	"	"	"	"	X
100-42-5	Styrene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1.0		µg/l	1.0	0.6	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
<u>Surrogate recoveries:</u>													
460-00-4	4-Bromofluorobenzene	95			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	101			70-130 %			"	"	"	"	"	

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Sample Identification**Influent**

SC36162-01

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 13:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Volatile Organic CompoundsVolatile Organic Compounds by GCMS

17060-07-0	1,2-Dichloroethane-d4	101			70-130 %			EPA 624	27-Jun-17	28-Jun-17	GMA	1710789	
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	"

Volatile Organic Compounds by SW846 8260Prepared by method SW846 5030 Water MS

994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	SW846 8260C	27-Jun-17	"	GMA	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	11.4	1	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	95			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	101			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	101			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	

Ethanol by SW846 8260

64-17-5	Ethanol	< 200		µg/l	200	30.9	1	"	"	"	"	"	
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Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	95			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	101			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	101			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	

Semivolatile Organic Compounds by GCMSPAHs by SIM

83-32-9	Acenaphthene	< 0.050		µg/l	0.050	0.030	1	Mod. EPA 625	26-Jun-17	27-Jun-17	MSL	1710695	
208-96-8	Acenaphthylene	< 0.050		µg/l	0.050	0.032	1	"	"	"	"	"	
90-12-0	1-Methylnaphthalene	< 0.050		µg/l	0.050	0.024	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.050		µg/l	0.050	0.024	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.050		µg/l	0.050	0.036	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.050		µg/l	0.050	0.035	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.050		µg/l	0.050	0.027	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.050		µg/l	0.050	0.028	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.050		µg/l	0.050	0.023	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.050		µg/l	0.050	0.020	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.050		µg/l	0.050	0.030	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.050		µg/l	0.050	0.022	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.050		µg/l	0.050	0.023	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.050		µg/l	0.050	0.027	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 1.00		µg/l	1.00	0.216	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.050		µg/l	0.050	0.022	1	"	"	"	"	"	

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	34			30-130 %			"	"	"	"	"	
1718-51-0	Terphenyl-d14	53			30-130 %			"	"	"	"	"	
205440-82-0	Benzo (e) pyrene-d12	51			30-130 %			"	"	"	"	"	

Semivolatile Organic Compounds*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification**Influent**

SC36162-01

Client Project #

03-221855-00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 13:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Semivolatile Organic Compounds by GCMS													
<u>Semivolatile Organic Compounds</u>													
83-32-9	Acenaphthene	< 5.32		µg/l	5.32	0.735	1	EPA 625	26-Jun-17	18-Jul-17	MSL	1710695	X
208-96-8	Acenaphthylene	< 5.32		µg/l	5.32	0.727	1	"	"	"	"	"	X
120-12-7	Anthracene	< 5.32		µg/l	5.32	0.647	1	"	"	"	"	"	X
92-87-5	Benzidine	< 5.32		µg/l	5.32	0.951	1	"	"	"	"	"	X
56-55-3	Benzo (a) anthracene	< 5.32		µg/l	5.32	0.570	1	"	"	"	"	"	X
50-32-8	Benzo (a) pyrene	< 5.32		µg/l	5.32	0.598	1	"	"	"	"	"	X
205-99-2	Benzo (b) fluoranthene	< 5.32		µg/l	5.32	0.465	1	"	"	"	"	"	X
191-24-2	Benzo (g,h,i) perylene	< 5.32		µg/l	5.32	0.564	1	"	"	"	"	"	X
207-08-9	Benzo (k) fluoranthene	< 5.32		µg/l	5.32	0.511	1	"	"	"	"	"	X
111-91-1	Bis(2-chloroethoxy)methane	< 5.32		µg/l	5.32	0.709	1	"	"	"	"	"	X
111-44-4	Bis(2-chloroethyl)ether	< 5.32		µg/l	5.32	0.781	1	"	"	"	"	"	X
108-60-1	Bis(2-chloroisopropyl)ether	< 5.32		µg/l	5.32	0.828	1	"	"	"	"	"	X
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.32		µg/l	5.32	0.679	1	"	"	"	"	"	X
101-55-3	4-Bromophenyl phenyl ether	< 5.32		µg/l	5.32	0.640	1	"	"	"	"	"	X
85-68-7	Butyl benzyl phthalate	< 5.32		µg/l	5.32	0.466	1	"	"	"	"	"	X
59-50-7	4-Chloro-3-methylphenol	< 5.32		µg/l	5.32	0.533	1	"	"	"	"	"	X
91-58-7	2-Chloronaphthalene	< 5.32		µg/l	5.32	0.628	1	"	"	"	"	"	X
95-57-8	2-Chlorophenol	< 5.32		µg/l	5.32	0.796	1	"	"	"	"	"	X
7005-72-3	4-Chlorophenyl phenyl ether	< 5.32		µg/l	5.32	0.641	1	"	"	"	"	"	X
218-01-9	Chrysene	< 5.32		µg/l	5.32	0.566	1	"	"	"	"	"	X
53-70-3	Dibenzo (a,h) anthracene	< 5.32		µg/l	5.32	0.479	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 5.32		µg/l	5.32	0.598	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 5.32		µg/l	5.32	0.688	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 5.32		µg/l	5.32	0.653	1	"	"	"	"	"	X
91-94-1	3,3'-Dichlorobenzidine	< 5.32		µg/l	5.32	0.616	1	"	"	"	"	"	X
120-83-2	2,4-Dichlorophenol	< 5.32		µg/l	5.32	0.564	1	"	"	"	"	"	X
84-66-2	Diethyl phthalate	< 5.32		µg/l	5.32	0.663	1	"	"	"	"	"	X
131-11-3	Dimethyl phthalate	< 5.32		µg/l	5.32	0.806	1	"	"	"	"	"	X
105-67-9	2,4-Dimethylphenol	< 5.32		µg/l	5.32	0.695	1	"	"	"	"	"	X
84-74-2	Di-n-butyl phthalate	< 5.32		µg/l	5.32	0.486	1	"	"	"	"	"	X
534-52-1	4,6-Dinitro-2-methylphenol	< 5.32		µg/l	5.32	0.339	1	"	"	"	"	"	X
51-28-5	2,4-Dinitrophenol	< 5.32		µg/l	5.32	0.597	1	"	"	"	"	"	X
121-14-2	2,4-Dinitrotoluene	< 5.32		µg/l	5.32	0.716	1	"	"	"	"	"	X
606-20-2	2,6-Dinitrotoluene	< 5.32		µg/l	5.32	0.631	1	"	"	"	"	"	X
117-84-0	Di-n-octyl phthalate	< 5.32		µg/l	5.32	0.432	1	"	"	"	"	"	X
206-44-0	Fluoranthene	< 5.32		µg/l	5.32	0.679	1	"	"	"	"	"	X
86-73-7	Fluorene	< 5.32		µg/l	5.32	0.651	1	"	"	"	"	"	X
118-74-1	Hexachlorobenzene	< 5.32		µg/l	5.32	0.607	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 5.32		µg/l	5.32	0.413	1	"	"	"	"	"	X
77-47-4	Hexachlorocyclopentadiene	< 5.32		µg/l	5.32	1.10	1	"	"	"	"	"	X
67-72-1	Hexachloroethane	< 5.32		µg/l	5.32	0.680	1	"	"	"	"	"	X
193-39-5	Indeno (1,2,3-cd) pyrene	< 5.32		µg/l	5.32	0.617	1	"	"	"	"	"	X

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Sample Identification**Influent**

SC36162-01

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 13:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCMSSemivolatile Organic Compounds

78-59-1	Isophorone	< 5.32		µg/l	5.32	0.623	1	EPA 625	26-Jun-17	18-Jul-17	MSL	1710695	X
91-20-3	Naphthalene	< 5.32		µg/l	5.32	0.729	1	"	"	"	"	"	X
98-95-3	Nitrobenzene	< 5.32		µg/l	5.32	0.734	1	"	"	"	"	"	X
88-75-5	2-Nitrophenol	< 5.32		µg/l	5.32	0.495	1	"	"	"	"	"	X
100-02-7	4-Nitrophenol	< 5.32		µg/l	5.32	0.891	1	"	"	"	"	"	X
62-75-9	N-Nitrosodimethylamine	< 5.32		µg/l	5.32	0.716	1	"	"	"	"	"	X
621-64-7	N-Nitrosodi-n-propylamine	< 5.32		µg/l	5.32	0.615	1	"	"	"	"	"	X
86-30-6	N-Nitrosodiphenylamine	< 5.32		µg/l	5.32	0.693	1	"	"	"	"	"	X
85-01-8	Phenanthrene	< 5.32		µg/l	5.32	0.623	1	"	"	"	"	"	X
108-95-2	Phenol	< 5.32		µg/l	5.32	0.686	1	"	"	"	"	"	X
129-00-0	Pyrene	< 5.32		µg/l	5.32	0.649	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 5.32		µg/l	5.32	0.731	1	"	"	"	"	"	X
88-06-2	2,4,6-Trichlorophenol	< 5.32		µg/l	5.32	0.551	1	"	"	"	"	"	X

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	23	SBN		30-130 %			"	"	"	"	"	
367-12-4	2-Fluorophenol	24			15-110 %			"	"	"	"	"	
4165-60-0	Nitrobenzene-d5	36			30-130 %			"	"	"	"	"	
4165-62-2	Phenol-d5	20			15-110 %			"	"	"	"	"	
1718-51-0	Terphenyl-d14	52			30-130 %			"	"	"	"	"	
118-79-6	2,4,6-Tribromophenol	45			15-110 %			"	"	"	"	"	

Extractable Petroleum HydrocarbonsPrepared by method SW846 3510C

	Non-polar material (SGT-HEM)	1.4		mg/l	1.0	0.9	1	EPA 1664B	05-Jul-17	05-Jul-17	KK	1711285	
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General Chemistry Parameters

	Flashpoint	>150		°F			1	SW846 1010A	05-Jul-17	05-Jul-17	BD	1711271	
7782-50-5	Total Residual Chlorine	< 0.020	CIHT	mg/l	0.020	0.006	1	SM4500-Cl-G (11)	30-Jun-17 09:38	05-Jul-17 11:24	RLT	1711119	X
16887-00-6	Chloride	51.0	D, GS1	mg/l	2.00	0.179	2	EPA 300.0	23-Jun-17	24-Jun-17	LNB	1710651	X
	pH	6.70	pH	pH Units			1	ASTM D 1293-99B	22-Jun-17 17:45	22-Jun-17 18:02	BD	1710599	X
	Salinity	< 1.00		ppt (1000)	1.00	0.144	1	SM 2520 (01)	23-Jun-17	23-Jun-17	BD	1710543	

Subcontracted AnalysesPrepared by method 391221-SW9010C/

Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007

57-12-5	Total Cyanide	< 0.010		mg/L	0.010	0.010	1	SW9010C/SW9 012B	23-Jun-17	26-Jun-17 13:56	MACT0	391221A	
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Subcontracted AnalysesPrepared by method 391348

Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007

7664-41-7	Ammonia as Nitrogen	0.21		mg/L	0.05	0.05	1	E350.1		27-Jun-17 09:38	MACT0	391348A	
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Sample Identification**Effluent**

SC36162-02

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 14:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Volatile Organic CompoundsVolatile Organic Compounds by GCMS

67-64-1	Acetone	< 10.0		µg/l	10.0	0.8	1	EPA 624	27-Jun-17	28-Jun-17	GMA	1710789	
71-43-2	Benzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
108-88-3	Toluene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	94			70-130 %			"	"	"	"	"	
2037-26-5	Toluene-d8	100			70-130 %			"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	103			70-130 %			"	"	"	"	"	
1868-53-7	Dibromofluoromethane	100			70-130 %			"	"	"	"	"	

Semivolatile Organic Compounds by GCMSPAHs by SIM

83-32-9	Acenaphthene	< 0.050		µg/l	0.050	0.030	1	Mod. EPA 625	26-Jun-17	27-Jun-17	MSL	1710695	
208-96-8	Acenaphthylene	< 0.050		µg/l	0.050	0.032	1	"	"	"	"	"	
90-12-0	1-Methylnaphthalene	< 0.050		µg/l	0.050	0.024	1	"	"	"	"	"	
120-12-7	Anthracene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	< 0.050		µg/l	0.050	0.024	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	< 0.050		µg/l	0.050	0.036	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	< 0.050		µg/l	0.050	0.035	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	< 0.050		µg/l	0.050	0.027	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	< 0.050		µg/l	0.050	0.028	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.050		µg/l	0.050	0.023	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
206-44-0	Fluoranthene	< 0.050		µg/l	0.050	0.020	1	"	"	"	"	"	
86-73-7	Fluorene	< 0.050		µg/l	0.050	0.030	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	< 0.050		µg/l	0.050	0.022	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 0.050		µg/l	0.050	0.023	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.050		µg/l	0.050	0.027	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	< 1.00		µg/l	1.00	0.216	1	"	"	"	"	"	
85-01-8	Phenanthrene	< 0.050		µg/l	0.050	0.026	1	"	"	"	"	"	
129-00-0	Pyrene	< 0.050		µg/l	0.050	0.022	1	"	"	"	"	"	

Surrogate recoveries:

321-60-8	2-Fluorobiphenyl	33			30-130 %			"	"	"	"	"	
1718-51-0	Terphenyl-d14	52			30-130 %			"	"	"	"	"	
205440-82-0	Benzo (e) pyrene-d12	58			30-130 %			"	"	"	"	"	

Extractable Petroleum HydrocarbonsPrepared by method SW846 3510C

Non-polar material (SGT-HEM)	1.9			mg/l	1.0	0.9	1	EPA 1664B	05-Jul-17	05-Jul-17	KK	1711285	
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Total Metals by EPA 200/6000 Series MethodsPrepared by method General Prep-Metal

Preservation	Field Preserved; pH<2 confirmed			N/A			1	EPA 200/6000 methods	22-Jun-17		AAW	1710613	
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Total Metals by EPA 200 Series Methods*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification**Effluent**

SC36162-02

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 14:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0035	1	EPA 200.7	27-Jun-17	29-Jun-17	edt	1710779	X
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0028	1	"	"	28-Jun-17	"	"	X
7440-41-7	Beryllium	< 0.0020		mg/l	0.0020	0.0002	1	"	"	"	"	"	X
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0004	1	"	"	"	"	"	X
7440-47-3	Chromium	< 0.0050		mg/l	0.0050	0.0019	1	"	"	29-Jun-17	"	"	X
Total Copper by ICP													
7440-50-8	Copper	0.0118		mg/l	0.0050	0.0029	1	"	"	"	"	"	X
Re-analysis of Total Copper by ICP													
7440-50-8	Copper	0.0135		mg/l	0.0100	0.0058	1	EPA 200.7	06-Jul-17	07-Jul-17	TBC	1711477	X
7439-89-6	Iron	0.399		mg/l	0.0150	0.0100	1	EPA 200.7	27-Jun-17	29-Jun-17	edt	1710779	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00013	1	EPA 245.1/7470A	"	28-Jun-17	LNB	1710781	X
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0010	1	EPA 200.7	"	28-Jun-17	EDT	1710779	X
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0034	1	"	"	"	"	"	X
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0026	1	"	"	"	"	"	X
7782-49-2	Selenium	< 0.0150		mg/l	0.0150	0.0072	1	"	"	"	"	"	X
7440-28-0	Thallium	< 0.0050		mg/l	0.0050	0.0024	1	"	"	"	"	"	X
7440-66-6	Zinc	0.0188		mg/l	0.0050	0.0027	1	"	"	29-Jun-17	"	"	X
General Chemistry Parameters													
16887-00-6	Chloride	49.5	D, GS1	mg/l	2.00	0.179	2	EPA 300.0	23-Jun-17	24-Jun-17	LNB	1710651	X
	pH	6.79	pH	pH Units			1	ASTM D 1293-99B	22-Jun-17 17:45	22-Jun-17 18:02	BD	1710599	X
	Total Suspended Solids	1.4	TSSV	mg/l	1.0	0.4	1	SM2540D (11)	23-Jun-17	27-Jun-17	CMB	1710620	X

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Sample Identification**Pond**

SC36162-03

Client Project #

03-221855.00

Matrix

Ground Water

Collection Date/Time

20-Jun-17 15:00

Received

22-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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General Chemistry Parameters

pH	7.04	pH	pH Units				1	ASTM D 1293-99B	22-Jun-17 17:45	22-Jun-17 18:02	BD	1710599	X
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Salinity	7.74		ppt (1000)	1.00	0.144		1	SM 2520 (01)	23-Jun-17	23-Jun-17	BD	1710543	
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Subcontracted AnalysesPrepared by method 391348*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*

7664-41-7	Ammonia as Nitrogen	1.03	mg/L	0.10	0.10		2	E350.1		27-Jun-17 10:08	MACT0	391348A	
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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 624										
Batch 1710789 - SW846 5030 Water MS										
Blank (1710789-BLK1)					<u>Prepared & Analyzed: 27-Jun-17</u>					
Acetone	< 10.0		µg/l	10.0						
Benzene	< 1.0		µg/l	1.0						
Bromodichloromethane	< 1.0		µg/l	1.0						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
Carbon disulfide	< 5.0		µg/l	5.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 1.0		µg/l	1.0						
Dibromomethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 1.0		µg/l	1.0						
trans-1,3-Dichloropropene	< 1.0		µg/l	1.0						
Ethylbenzene	< 1.0		µg/l	1.0						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Methyl tert-butyl ether	< 1.0		µg/l	1.0						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 10.0		µg/l	10.0						
Styrene	< 1.0		µg/l	1.0						
1,1,2,2-Tetrachloroethane	< 1.0		µg/l	1.0						
Tetrachloroethene	< 1.0		µg/l	1.0						
Toluene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
m,p-Xylene	< 2.0		µg/l	2.0						
o-Xylene	< 1.0		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	46.9		µg/l		50.0		94	70-130		
Surrogate: Toluene-d8	50.5		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.3		µg/l		50.0		105	70-130		
Surrogate: Dibromofluoromethane	50.6		µg/l		50.0		101	70-130		
LCS (1710789-BS1)					<u>Prepared & Analyzed: 27-Jun-17</u>					
Acetone	15.5		µg/l		20.0		78	70-130		
Benzene	20.3		µg/l		20.0		102	70-130		
Bromodichloromethane	20.6		µg/l		20.0		103	35-155		
Bromoform	20.2		µg/l		20.0		101	45-169		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 624										
Batch 1710789 - SW846 5030 Water MS										
LCS (1710789-BS1)					Prepared & Analyzed: 27-Jun-17					
Bromomethane	23.2		µg/l		20.0		116	1-242		
2-Butanone (MEK)	18.3		µg/l		20.0		92	70-130		
Carbon disulfide	20.1		µg/l		20.0		101	70-130		
Carbon tetrachloride	19.9		µg/l		20.0		100	70-140		
Chlorobenzene	20.4		µg/l		20.0		102	70-130		
Chloroethane	21.0		µg/l		20.0		105	14-230		
Chloroform	19.4		µg/l		20.0		97	51-138		
Chloromethane	19.1		µg/l		20.0		96	1-273		
Dibromochloromethane	19.8		µg/l		20.0		99	53-149		
Dibromomethane	19.9		µg/l		20.0		100	70-130		
1,2-Dichlorobenzene	20.3		µg/l		20.0		101	18-190		
1,3-Dichlorobenzene	21.1		µg/l		20.0		106	59-156		
1,4-Dichlorobenzene	19.3		µg/l		20.0		96	18-190		
1,1-Dichloroethane	18.9		µg/l		20.0		94	59-155		
1,2-Dichloroethane	19.1		µg/l		20.0		96	49-155		
1,1-Dichloroethene	20.0		µg/l		20.0		100	70-130		
cis-1,2-Dichloroethene	20.3		µg/l		20.0		102	70-130		
trans-1,2-Dichloroethene	19.7		µg/l		20.0		99	54-156		
1,2-Dichloropropane	19.3		µg/l		20.0		97	1-210		
cis-1,3-Dichloropropene	18.7		µg/l		20.0		93	1-227		
trans-1,3-Dichloropropene	18.3		µg/l		20.0		91	17-183		
Ethylbenzene	21.0		µg/l		20.0		105	37-162		
2-Hexanone (MBK)	16.8		µg/l		20.0		84	70-130		
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130		
4-Methyl-2-pentanone (MIBK)	18.2		µg/l		20.0		91	70-130		
Methylene chloride	19.2		µg/l		20.0		96	1-221		
Styrene	19.5		µg/l		20.0		98	70-130		
1,1,2,2-Tetrachloroethane	19.3		µg/l		20.0		97	46-157		
Tetrachloroethene	20.2		µg/l		20.0		101	64-148		
Toluene	20.2		µg/l		20.0		101	70-130		
1,1,1-Trichloroethane	20.2		µg/l		20.0		101	52-162		
1,1,2-Trichloroethane	20.2		µg/l		20.0		101	52-150		
Trichloroethene	18.6		µg/l		20.0		93	71-157		
Trichlorofluoromethane (Freon 11)	20.6		µg/l		20.0		103	17-181		
Vinyl chloride	20.7		µg/l		20.0		103	1-251		
m,p-Xylene	19.9		µg/l		20.0		99	70-130		
o-Xylene	19.9		µg/l		20.0		99	70-130		
Surrogate: 4-Bromofluorobenzene	51.9		µg/l		50.0		104	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.0		µg/l		50.0		96	70-130		
Surrogate: Dibromofluoromethane	50.4		µg/l		50.0		101	70-130		
LCS Dup (1710789-BSD1)					Prepared & Analyzed: 27-Jun-17					
Acetone	18.6		µg/l		20.0		93	70-130	18	30
Benzene	20.6		µg/l		20.0		103	70-130	1	30
Bromodichloromethane	20.8		µg/l		20.0		104	35-155	0.9	30
Bromoform	20.7		µg/l		20.0		103	45-169	3	30
Bromomethane	21.4		µg/l		20.0		107	1-242	8	30
2-Butanone (MEK)	19.0		µg/l		20.0		95	70-130	3	30
Carbon disulfide	20.0		µg/l		20.0		100	70-130	0.8	30
Carbon tetrachloride	20.3		µg/l		20.0		101	70-140	2	30

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 624										
Batch 1710789 - SW846 5030 Water MS										
<u>LCS Dup (1710789-BSD1)</u>					<u>Prepared & Analyzed: 27-Jun-17</u>					
Chlorobenzene	20.8		µg/l		20.0		104	70-130	2	30
Chloroethane	20.2		µg/l		20.0		101	14-230	4	30
Chloroform	19.6		µg/l		20.0		98	51-138	0.6	30
Chloromethane	19.6		µg/l		20.0		98	1-273	2	30
Dibromochloromethane	20.2		µg/l		20.0		101	53-149	2	30
Dibromomethane	20.1		µg/l		20.0		100	70-130	0.8	25
1,2-Dichlorobenzene	20.8		µg/l		20.0		104	18-190	3	30
1,3-Dichlorobenzene	21.5		µg/l		20.0		108	59-156	2	30
1,4-Dichlorobenzene	19.8		µg/l		20.0		99	18-190	3	30
1,1-Dichloroethane	19.0		µg/l		20.0		95	59-155	0.4	30
1,2-Dichloroethane	19.4		µg/l		20.0		97	49-155	1	30
1,1-Dichloroethene	20.2		µg/l		20.0		101	70-130	1	30
cis-1,2-Dichloroethene	20.7		µg/l		20.0		103	70-130	2	30
trans-1,2-Dichloroethene	19.5		µg/l		20.0		98	54-156	1	30
1,2-Dichloropropane	19.5		µg/l		20.0		98	1-210	1	30
cis-1,3-Dichloropropene	18.8		µg/l		20.0		94	1-227	0.6	30
trans-1,3-Dichloropropene	18.5		µg/l		20.0		92	17-183	1	30
Ethylbenzene	21.7		µg/l		20.0		108	37-162	3	30
2-Hexanone (MBK)	17.6		µg/l		20.0		88	70-130	5	30
Methyl tert-butyl ether	18.8		µg/l		20.0		94	70-130	6	30
4-Methyl-2-pentanone (MIBK)	18.0		µg/l		20.0		90	70-130	0.8	30
Methylene chloride	19.1		µg/l		20.0		96	1-221	0.4	30
Styrene	20.3		µg/l		20.0		102	70-130	4	30
1,1,2,2-Tetrachloroethane	20.1		µg/l		20.0		100	46-157	4	30
Tetrachloroethene	20.6		µg/l		20.0		103	64-148	2	30
Toluene	20.2		µg/l		20.0		101	70-130	0	30
1,1,1-Trichloroethane	20.6		µg/l		20.0		103	52-162	2	30
1,1,2-Trichloroethane	20.2		µg/l		20.0		101	52-150	0.1	30
Trichloroethene	18.8		µg/l		20.0		94	71-157	1	30
Trichlorofluoromethane (Freon 11)	20.6		µg/l		20.0		103	17-181	0.2	30
Vinyl chloride	19.8		µg/l		20.0		99	1-251	4	30
m,p-Xylene	20.6		µg/l		20.0		103	70-130	3	30
o-Xylene	20.4		µg/l		20.0		102	70-130	3	30
Surrogate: 4-Bromofluorobenzene	51.6		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	49.5		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	47.7		µg/l		50.0		95	70-130		
Surrogate: Dibromofluoromethane	50.1		µg/l		50.0		100	70-130		
<u>SW846 8260C</u>										
Batch 1710789 - SW846 5030 Water MS										
<u>Blank (1710789-BLK1)</u>					<u>Prepared & Analyzed: 27-Jun-17</u>					
Acetone	< 10.0		µg/l	10.0						
Benzene	< 1.00		µg/l	1.00						
Ethylbenzene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Ethanol	< 200		µg/l	200						
Surrogate: 4-Bromofluorobenzene	46.9		µg/l		50.0		94	70-130		

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8260C										
Batch 1710789 - SW846 5030 Water MS										
Blank (1710789-BLK1)					Prepared & Analyzed: 27-Jun-17					
Surrogate: 4-Bromofluorobenzene	46.9		µg/l		50.0		94	70-130		
Surrogate: Toluene-d8	50.5		µg/l		50.0		101	70-130		
Surrogate: Toluene-d8	50.5		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.3		µg/l		50.0		105	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.3		µg/l		50.0		105	70-130		
Surrogate: Dibromofluoromethane	50.6		µg/l		50.0		101	70-130		
Surrogate: Dibromofluoromethane	50.6		µg/l		50.0		101	70-130		
LCS (1710789-BS1)					Prepared & Analyzed: 27-Jun-17					
Acetone	15.5		µg/l		20.0		78	70-130		
Benzene	20.3		µg/l		20.0		102	70-130		
Ethylbenzene	21.0		µg/l		20.0		105	70-130		
Methyl tert-butyl ether	20.0		µg/l		20.0		100	70-130		
Toluene	20.2		µg/l		20.0		101	70-130		
m,p-Xylene	19.9		µg/l		20.0		99	70-130		
o-Xylene	19.9		µg/l		20.0		99	70-130		
Ethanol	369		µg/l		400		92	70-130		
Surrogate: 4-Bromofluorobenzene	51.9		µg/l		50.0		104	70-130		
Surrogate: 4-Bromofluorobenzene	51.9		µg/l		50.0		104	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.0		µg/l		50.0		96	70-130		
Surrogate: 1,2-Dichloroethane-d4	48.0		µg/l		50.0		96	70-130		
Surrogate: Dibromofluoromethane	50.4		µg/l		50.0		101	70-130		
Surrogate: Dibromofluoromethane	50.4		µg/l		50.0		101	70-130		
LCS Dup (1710789-BSD1)					Prepared & Analyzed: 27-Jun-17					
Acetone	18.6		µg/l		20.0		93	70-130	18	20
Benzene	20.6		µg/l		20.0		103	70-130	1	20
Ethylbenzene	21.7		µg/l		20.0		108	70-130	3	20
Methyl tert-butyl ether	18.8		µg/l		20.0		94	70-130	6	20
Toluene	20.2		µg/l		20.0		101	70-130	0	20
m,p-Xylene	20.6		µg/l		20.0		103	70-130	3	20
o-Xylene	20.4		µg/l		20.0		102	70-130	3	20
Ethanol	356		µg/l		400		89	70-130	4	20
Surrogate: 4-Bromofluorobenzene	51.6		µg/l		50.0		103	70-130		
Surrogate: 4-Bromofluorobenzene	51.6		µg/l		50.0		103	70-130		
Surrogate: Toluene-d8	49.5		µg/l		50.0		99	70-130		
Surrogate: Toluene-d8	49.5		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	47.7		µg/l		50.0		95	70-130		
Surrogate: 1,2-Dichloroethane-d4	47.7		µg/l		50.0		95	70-130		
Surrogate: Dibromofluoromethane	50.1		µg/l		50.0		100	70-130		
Surrogate: Dibromofluoromethane	50.1		µg/l		50.0		100	70-130		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 625										
Batch 1710695 - SW846 3510C										
Blank (1710695-BLK1)	Prepared: 26-Jun-17 Analyzed: 28-Jun-17									
Acenaphthene	< 5.00		µg/l	5.00						
Acenaphthylene	< 5.00		µg/l	5.00						
Anthracene	< 5.00		µg/l	5.00						
Benzidine	< 5.00		µg/l	5.00						
Benzo (a) anthracene	< 5.00		µg/l	5.00						
Benzo (a) pyrene	< 5.00		µg/l	5.00						
Benzo (b) fluoranthene	< 5.00		µg/l	5.00						
Benzo (g,h,i) perylene	< 5.00		µg/l	5.00						
Benzo (k) fluoranthene	< 5.00		µg/l	5.00						
Bis(2-chloroethoxy)methane	< 5.00		µg/l	5.00						
Bis(2-chloroethyl)ether	< 5.00		µg/l	5.00						
Bis(2-chloroisopropyl)ether	< 5.00		µg/l	5.00						
Bis(2-ethylhexyl)phthalate	< 5.00		µg/l	5.00						
4-Bromophenyl phenyl ether	< 5.00		µg/l	5.00						
Butyl benzyl phthalate	< 5.00		µg/l	5.00						
4-Chloro-3-methylphenol	< 5.00		µg/l	5.00						
2-Chloronaphthalene	< 5.00		µg/l	5.00						
2-Chlorophenol	< 5.00		µg/l	5.00						
4-Chlorophenyl phenyl ether	< 5.00		µg/l	5.00						
Chrysene	< 5.00		µg/l	5.00						
Dibenzo (a,h) anthracene	< 5.00		µg/l	5.00						
1,2-Dichlorobenzene	< 5.00		µg/l	5.00						
1,3-Dichlorobenzene	< 5.00		µg/l	5.00						
1,4-Dichlorobenzene	< 5.00		µg/l	5.00						
3,3'-Dichlorobenzidine	< 5.00		µg/l	5.00						
2,4-Dichlorophenol	< 5.00		µg/l	5.00						
Diethyl phthalate	< 5.00		µg/l	5.00						
Dimethyl phthalate	< 5.00		µg/l	5.00						
2,4-Dimethylphenol	< 5.00		µg/l	5.00						
Di-n-butyl phthalate	< 5.00		µg/l	5.00						
4,6-Dinitro-2-methylphenol	< 5.00		µg/l	5.00						
2,4-Dinitrophenol	< 5.00		µg/l	5.00						
2,4-Dinitrotoluene	< 5.00		µg/l	5.00						
2,6-Dinitrotoluene	< 5.00		µg/l	5.00						
Di-n-octyl phthalate	< 5.00		µg/l	5.00						
Fluoranthene	< 5.00		µg/l	5.00						
Fluorene	< 5.00		µg/l	5.00						
Hexachlorobenzene	< 5.00		µg/l	5.00						
Hexachlorobutadiene	< 5.00		µg/l	5.00						
Hexachlorocyclopentadiene	< 5.00		µg/l	5.00						
Hexachloroethane	< 5.00		µg/l	5.00						
Indeno (1,2,3-cd) pyrene	< 5.00		µg/l	5.00						
Isophorone	< 5.00		µg/l	5.00						
Naphthalene	< 5.00		µg/l	5.00						
Nitrobenzene	< 5.00		µg/l	5.00						
2-Nitrophenol	< 5.00		µg/l	5.00						
4-Nitrophenol	< 5.00		µg/l	5.00						
N-Nitrosodimethylamine	< 5.00		µg/l	5.00						
N-Nitrosodi-n-propylamine	< 5.00		µg/l	5.00						
N-Nitrosodiphenylamine	< 5.00		µg/l	5.00						

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 625										
Batch 1710695 - SW846 3510C										
Blank (1710695-BLK1)					<u>Prepared: 26-Jun-17 Analyzed: 28-Jun-17</u>					
Pentachlorophenol	< 5.00		µg/l	5.00						
Phenanthrene	< 5.00		µg/l	5.00						
Phenol	< 5.00		µg/l	5.00						
Pyrene	< 5.00		µg/l	5.00						
1,2,4-Trichlorobenzene	< 5.00		µg/l	5.00						
2,4,6-Trichlorophenol	< 5.00		µg/l	5.00						
Surrogate: 2-Fluorobiphenyl	32.6		µg/l		50.0		65	30-130		
Surrogate: 2-Fluorophenol	39.1		µg/l		50.0		78	15-110		
Surrogate: Nitrobenzene-d5	33.7		µg/l		50.0		67	30-130		
Surrogate: Phenol-d5	40.1		µg/l		50.0		80	15-110		
Surrogate: Terphenyl-d14	39.6		µg/l		50.0		79	30-130		
Surrogate: 2,4,6-Tribromophenol	34.3		µg/l		50.0		69	15-110		
LCS (1710695-BS1)					<u>Prepared: 26-Jun-17 Analyzed: 28-Jun-17</u>					
Acenaphthene	34.1		µg/l	5.00	50.0		68	47-145		
Acenaphthylene	37.8		µg/l	5.00	50.0		76	33-145		
Anthracene	36.7		µg/l	5.00	50.0		73	27-133		
Benzidine	75.5	QC2	µg/l	5.00	50.0		151	40-140		
Benzo (a) anthracene	36.6		µg/l	5.00	50.0		73	33-143		
Benzo (a) pyrene	38.0		µg/l	5.00	50.0		76	17-163		
Benzo (b) fluoranthene	35.5		µg/l	5.00	50.0		71	24-159		
Benzo (g,h,i) perylene	35.1		µg/l	5.00	50.0		70	1-219		
Benzo (k) fluoranthene	39.2		µg/l	5.00	50.0		78	11-162		
Bis(2-chloroethoxy)methane	33.0		µg/l	5.00	50.0		66	33-184		
Bis(2-chloroethyl)ether	33.1		µg/l	5.00	50.0		66	12-158		
Bis(2-chloroisopropyl)ether	30.0		µg/l	5.00	50.0		60	36-166		
Bis(2-ethylhexyl)phthalate	35.8		µg/l	5.00	50.0		72	8-158		
4-Bromophenyl phenyl ether	37.6		µg/l	5.00	50.0		75	53-127		
Butyl benzyl phthalate	35.1		µg/l	5.00	50.0		70	1-152		
4-Chloro-3-methylphenol	33.0		µg/l	5.00	50.0		66	22-147		
2-Chloronaphthalene	42.6		µg/l	5.00	50.0		85	60-118		
2-Chlorophenol	36.8		µg/l	5.00	50.0		74	23-134		
4-Chlorophenyl phenyl ether	34.4		µg/l	5.00	50.0		69	25-158		
Chrysene	37.2		µg/l	5.00	50.0		74	17-168		
Dibenzo (a,h) anthracene	37.5		µg/l	5.00	50.0		75	1-227		
1,2-Dichlorobenzene	42.8		µg/l	5.00	50.0		86	32-129		
1,3-Dichlorobenzene	42.9		µg/l	5.00	50.0		86	1-172		
1,4-Dichlorobenzene	43.3		µg/l	5.00	50.0		87	20-124		
3,3'-Dichlorobenzidine	43.8		µg/l	5.00	50.0		88	1-262		
2,4-Dichlorophenol	38.2		µg/l	5.00	50.0		76	39-135		
Diethyl phthalate	33.5		µg/l	5.00	50.0		67	1-114		
Dimethyl phthalate	35.0		µg/l	5.00	50.0		70	1-112		
2,4-Dimethylphenol	34.5		µg/l	5.00	50.0		69	32-119		
Di-n-butyl phthalate	37.8		µg/l	5.00	50.0		76	1-118		
4,6-Dinitro-2-methylphenol	40.6		µg/l	5.00	50.0		81	1-181		
2,4-Dinitrophenol	29.2		µg/l	5.00	50.0		58	1-191		
2,4-Dinitrotoluene	49.7		µg/l	5.00	50.0		99	39-139		
2,6-Dinitrotoluene	47.5		µg/l	5.00	50.0		95	50-158		
Di-n-octyl phthalate	34.3		µg/l	5.00	50.0		69	4-146		
Fluoranthene	39.0		µg/l	5.00	50.0		78	26-137		
Fluorene	35.3		µg/l	5.00	50.0		71	59-121		

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 625										
Batch 1710695 - SW846 3510C										
LCS (1710695-BS1)					Prepared: 26-Jun-17 Analyzed: 28-Jun-17					
Hexachlorobenzene	49.8		µg/l	5.00	50.0		100	1-152		
Hexachlorobutadiene	39.3		µg/l	5.00	50.0		79	24-116		
Hexachlorocyclopentadiene	51.8		µg/l	5.00	50.0		104	40-140		
Hexachloroethane	43.7		µg/l	5.00	50.0		87	40-113		
Indeno (1,2,3-cd) pyrene	36.6		µg/l	5.00	50.0		73	1-171		
Isophorone	36.6		µg/l	5.00	50.0		73	21-196		
Naphthalene	35.0		µg/l	5.00	50.0		70	21-133		
Nitrobenzene	41.5		µg/l	5.00	50.0		83	35-180		
2-Nitrophenol	37.2		µg/l	5.00	50.0		74	29-182		
4-Nitrophenol	36.8		µg/l	5.00	50.0		74	1-132		
N-Nitrosodimethylamine	38.8		µg/l	5.00	50.0		78	40-140		
N-Nitrosodi-n-propylamine	34.8		µg/l	5.00	50.0		70	1-230		
N-Nitrosodiphenylamine	42.8		µg/l	5.00	50.0		86	40-140		
Pentachlorophenol	31.8		µg/l	5.00	50.0		64	14-176		
Phenanthrene	34.6		µg/l	5.00	50.0		69	54-120		
Phenol	36.3		µg/l	5.00	50.0		73	5-112		
Pyrene	36.6		µg/l	5.00	50.0		73	52-115		
1,2,4-Trichlorobenzene	44.6		µg/l	5.00	50.0		89	44-142		
2,4,6-Trichlorophenol	35.3		µg/l	5.00	50.0		71	37-144		
Surrogate: 2-Fluorobiphenyl	35.8		µg/l		50.0		72	30-130		
Surrogate: 2-Fluorophenol	37.8		µg/l		50.0		76	15-110		
Surrogate: Nitrobenzene-d5	37.5		µg/l		50.0		75	30-130		
Surrogate: Phenol-d5	39.7		µg/l		50.0		79	15-110		
Surrogate: Terphenyl-d14	40.5		µg/l		50.0		81	30-130		
Surrogate: 2,4,6-Tribromophenol	50.3		µg/l		50.0		101	15-110		
LCS Dup (1710695-BSD1)					Prepared: 26-Jun-17 Analyzed: 28-Jun-17					
Acenaphthene	36.2		µg/l	5.00	50.0		72	47-145	6	20
Acenaphthylene	39.0		µg/l	5.00	50.0		78	33-145	3	20
Anthracene	36.6		µg/l	5.00	50.0		73	27-133	0.2	20
Benzidine	77.6	QC2	µg/l	5.00	50.0		155	40-140	3	20
Benzo (a) anthracene	36.9		µg/l	5.00	50.0		74	33-143	1	20
Benzo (a) pyrene	37.6		µg/l	5.00	50.0		75	17-163	1	20
Benzo (b) fluoranthene	37.6		µg/l	5.00	50.0		75	24-159	6	20
Benzo (g,h,i) perylene	34.4		µg/l	5.00	50.0		69	1-219	2	20
Benzo (k) fluoranthene	33.5		µg/l	5.00	50.0		67	11-162	16	20
Bis(2-chloroethoxy)methane	30.6		µg/l	5.00	50.0		61	33-184	8	20
Bis(2-chloroethyl)ether	31.2		µg/l	5.00	50.0		62	12-158	6	20
Bis(2-chloroisopropyl)ether	29.3		µg/l	5.00	50.0		59	36-166	2	20
Bis(2-ethylhexyl)phthalate	36.0		µg/l	5.00	50.0		72	8-158	0.5	20
4-Bromophenyl phenyl ether	36.3		µg/l	5.00	50.0		73	53-127	3	20
Butyl benzyl phthalate	35.8		µg/l	5.00	50.0		72	1-152	2	20
4-Chloro-3-methylphenol	33.0		µg/l	5.00	50.0		66	22-147	0.2	20
2-Chloronaphthalene	43.8		µg/l	5.00	50.0		88	60-118	3	20
2-Chlorophenol	37.2		µg/l	5.00	50.0		74	23-134	1	20
4-Chlorophenyl phenyl ether	34.8		µg/l	5.00	50.0		70	25-158	1	20
Chrysene	36.1		µg/l	5.00	50.0		72	17-168	3	20
Dibenzo (a,h) anthracene	37.4		µg/l	5.00	50.0		75	1-227	0.3	20
1,2-Dichlorobenzene	44.1		µg/l	5.00	50.0		88	32-129	3	20
1,3-Dichlorobenzene	43.6		µg/l	5.00	50.0		87	1-172	2	20
1,4-Dichlorobenzene	42.3		µg/l	5.00	50.0		85	20-124	2	20

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 625										
Batch 1710695 - SW846 3510C										
LCS Dup (1710695-BSD1)					Prepared: 26-Jun-17 Analyzed: 28-Jun-17					
3,3'-Dichlorobenzidine	43.9		µg/l	5.00	50.0		88	1-262	0.05	20
2,4-Dichlorophenol	37.8		µg/l	5.00	50.0		76	39-135	1	20
Diethyl phthalate	33.8		µg/l	5.00	50.0		68	1-114	1	20
Dimethyl phthalate	36.8		µg/l	5.00	50.0		74	1-112	5	20
2,4-Dimethylphenol	32.0		µg/l	5.00	50.0		64	32-119	7	20
Di-n-butyl phthalate	35.9		µg/l	5.00	50.0		72	1-118	5	20
4,6-Dinitro-2-methylphenol	38.1		µg/l	5.00	50.0		76	1-181	6	20
2,4-Dinitrophenol	31.6		µg/l	5.00	50.0		63	1-191	8	20
2,4-Dinitrotoluene	52.0		µg/l	5.00	50.0		104	39-139	4	20
2,6-Dinitrotoluene	48.8		µg/l	5.00	50.0		98	50-158	3	20
Di-n-octyl phthalate	33.5		µg/l	5.00	50.0		67	4-146	2	20
Fluoranthene	37.4		µg/l	5.00	50.0		75	26-137	4	20
Fluorene	37.2		µg/l	5.00	50.0		74	59-121	5	20
Hexachlorobenzene	50.2		µg/l	5.00	50.0		100	1-152	0.8	20
Hexachlorobutadiene	38.2		µg/l	5.00	50.0		76	24-116	3	20
Hexachlorocyclopentadiene	54.0		µg/l	5.00	50.0		108	40-140	4	20
Hexachloroethane	44.0		µg/l	5.00	50.0		88	40-113	0.6	20
Indeno (1,2,3-cd) pyrene	34.6		µg/l	5.00	50.0		69	1-171	5	20
Isophorone	33.8		µg/l	5.00	50.0		68	21-196	8	20
Naphthalene	33.0		µg/l	5.00	50.0		66	21-133	6	20
Nitrobenzene	41.2		µg/l	5.00	50.0		82	35-180	0.8	20
2-Nitrophenol	35.9		µg/l	5.00	50.0		72	29-182	3	20
4-Nitrophenol	38.8		µg/l	5.00	50.0		78	1-132	5	20
N-Nitrosodimethylamine	39.7		µg/l	5.00	50.0		79	40-140	2	20
N-Nitrosodi-n-propylamine	35.6		µg/l	5.00	50.0		71	1-230	2	20
N-Nitrosodiphenylamine	40.4		µg/l	5.00	50.0		81	40-140	6	20
Pentachlorophenol	31.8		µg/l	5.00	50.0		64	14-176	0.2	20
Phenanthrene	33.8		µg/l	5.00	50.0		68	54-120	2	20
Phenol	36.2		µg/l	5.00	50.0		72	5-112	0.3	20
Pyrene	37.5		µg/l	5.00	50.0		75	52-115	2	20
1,2,4-Trichlorobenzene	43.3		µg/l	5.00	50.0		87	44-142	3	20
2,4,6-Trichlorophenol	36.4		µg/l	5.00	50.0		73	37-144	3	20
Surrogate: 2-Fluorobiphenyl	36.8		µg/l		50.0		74	30-130		
Surrogate: 2-Fluorophenol	38.5		µg/l		50.0		77	15-110		
Surrogate: Nitrobenzene-d5	36.8		µg/l		50.0		74	30-130		
Surrogate: Phenol-d5	41.0		µg/l		50.0		82	15-110		
Surrogate: Terphenyl-dl4	41.0		µg/l		50.0		82	30-130		
Surrogate: 2,4,6-Tribromophenol	48.8		µg/l		50.0		98	15-110		

Mod. EPA 625

Batch 1710695 - SW846 3510C

Prepared: 26-Jun-17 Analyzed: 27-Jun-17

Blank (1710695-BLK2)

Acenaphthene	< 0.050	µg/l	0.050
Acenaphthylene	< 0.050	µg/l	0.050
1-Methylnaphthalene	< 0.050	µg/l	0.050
Anthracene	< 0.050	µg/l	0.050
Benzo (a) anthracene	< 0.050	µg/l	0.050
Benzo (a) pyrene	< 0.050	µg/l	0.050
Benzo (b) fluoranthene	< 0.050	µg/l	0.050
Benzo (g,h,i) perylene	< 0.050	µg/l	0.050
Benzo (k) fluoranthene	< 0.050	µg/l	0.050

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Mod. EPA 625										
Batch 1710695 - SW846 3510C										
Blank (1710695-BLK2)					<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>					
Chrysene	< 0.050		µg/l	0.050						
Dibenzo (a,h) anthracene	< 0.050		µg/l	0.050						
Fluoranthene	< 0.050		µg/l	0.050						
Fluorene	< 0.050		µg/l	0.050						
Indeno (1,2,3-cd) pyrene	< 0.050		µg/l	0.050						
2-Methylnaphthalene	< 0.050		µg/l	0.050						
Naphthalene	< 0.050		µg/l	0.050						
Phenanthrene	< 0.050		µg/l	0.050						
Pyrene	< 0.050		µg/l	0.050						
Surrogate: 2-Fluorobiphenyl	32.1		µg/l		50.0		64	30-130		
Surrogate: Terphenyl-d14	39.2		µg/l		50.0		78	30-130		
Surrogate: Benzo (e) pyrene-d12	0.730		µg/l		1.00		73	30-130		
LCS (1710695-BS2)					<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>					
Acenaphthene	0.889		µg/l	0.050	1.00		89	40-140		
Acenaphthylene	0.899		µg/l	0.050	1.00		90	40-140		
1-Methylnaphthalene	0.905		µg/l	0.050	1.00		90	40-140		
Anthracene	0.823		µg/l	0.050	1.00		82	40-140		
Benzo (a) anthracene	0.854		µg/l	0.050	1.00		85	40-140		
Benzo (a) pyrene	0.731		µg/l	0.050	1.00		73	40-140		
Benzo (b) fluoranthene	0.683		µg/l	0.050	1.00		68	40-140		
Benzo (g,h,i) perylene	0.680		µg/l	0.050	1.00		68	40-140		
Benzo (k) fluoranthene	0.959		µg/l	0.050	1.00		96	40-140		
Chrysene	0.833		µg/l	0.050	1.00		83	40-140		
Dibenzo (a,h) anthracene	0.733		µg/l	0.050	1.00		73	40-140		
Fluoranthene	0.824		µg/l	0.050	1.00		82	40-140		
Fluorene	0.862		µg/l	0.050	1.00		86	40-140		
Indeno (1,2,3-cd) pyrene	0.612		µg/l	0.050	1.00		61	40-140		
2-Methylnaphthalene	0.973		µg/l	0.050	1.00		97	40-140		
Naphthalene	0.844		µg/l	0.050	1.00		84	40-140		
Phenanthrene	0.697		µg/l	0.050	1.00		70	40-140		
Pyrene	0.853		µg/l	0.050	1.00		85	40-140		
Surrogate: 2-Fluorobiphenyl	36.7		µg/l		50.0		73	30-130		
Surrogate: Terphenyl-d14	44.9		µg/l		50.0		90	30-130		
Surrogate: Benzo (e) pyrene-d12	0.830		µg/l		1.00		83	30-130		
LCS Dup (1710695-BS2)					<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>					
Acenaphthene	0.789		µg/l	0.050	1.00		79	40-140	12	20
Acenaphthylene	0.769		µg/l	0.050	1.00		77	40-140	16	20
1-Methylnaphthalene	0.845		µg/l	0.050	1.00		84	40-140	7	20
Anthracene	0.747		µg/l	0.050	1.00		75	40-140	10	20
Benzo (a) anthracene	0.677	QR2	µg/l	0.050	1.00		68	40-140	23	20
Benzo (a) pyrene	0.634		µg/l	0.050	1.00		63	40-140	14	20
Benzo (b) fluoranthene	0.592		µg/l	0.050	1.00		59	40-140	14	20
Benzo (g,h,i) perylene	0.599		µg/l	0.050	1.00		60	40-140	13	20
Benzo (k) fluoranthene	0.853		µg/l	0.050	1.00		85	40-140	12	20
Chrysene	0.660	QR2	µg/l	0.050	1.00		66	40-140	23	20
Dibenzo (a,h) anthracene	0.612		µg/l	0.050	1.00		61	40-140	18	20
Fluoranthene	0.724		µg/l	0.050	1.00		72	40-140	13	20
Fluorene	0.771		µg/l	0.050	1.00		77	40-140	11	20
Indeno (1,2,3-cd) pyrene	0.449	QR2	µg/l	0.050	1.00		45	40-140	31	20
2-Methylnaphthalene	0.883		µg/l	0.050	1.00		88	40-140	10	20

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Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Mod. EPA 625										
Batch 1710695 - SW846 3510C										
LCS Dup (1710695-BSD2)					Prepared: 26-Jun-17 Analyzed: 27-Jun-17					
Naphthalene	0.751		µg/l	0.050	1.00		75	40-140	12	20
Phenanthrene	0.579		µg/l	0.050	1.00		58	40-140	18	20
Pyrene	0.715		µg/l	0.050	1.00		72	40-140	18	20
Surrogate: 2-Fluorobiphenyl	32.6		µg/l		50.0		65	30-130		
Surrogate: Terphenyl-d14	36.8		µg/l		50.0		74	30-130		
Surrogate: Benzo (e) pyrene-d12	0.740		µg/l		1.00		74	30-130		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>EPA 1664B</u>										
Batch 1711285 - SW846 3510C										
<u>Blank (1711285-BLK1)</u>					<u>Prepared & Analyzed: 05-Jul-17</u>					
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
<u>LCS (1711285-BS1)</u>					<u>Prepared & Analyzed: 05-Jul-17</u>					
Non-polar material (SGT-HEM)	35.9		mg/l	1.0	39.7		90	64-132		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>EPA 200.7</u>										
Batch 1710779 - EPA 200 Series										
<u>Blank (1710779-BLK1)</u>					<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>					
Thallium	< 0.0050		mg/l	0.0050						
Selenium	< 0.0150		mg/l	0.0150						
Iron	< 0.0150		mg/l	0.0150						
Antimony	< 0.0060		mg/l	0.0060						
Zinc	< 0.0050		mg/l	0.0050						
Copper	< 0.0050		mg/l	0.0050						
Silver	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Lead	< 0.0075		mg/l	0.0075						
Nickel	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Beryllium	< 0.0020		mg/l	0.0020						
Chromium	< 0.0050		mg/l	0.0050						
<u>LCS (1710779-BS1)</u>					<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>					
Antimony	1.22		mg/l	0.0060	1.25		97	85-115		
Selenium	1.27		mg/l	0.0150	1.25		102	85-115		
Iron	1.24		mg/l	0.0150	1.25		99	85-115		
Thallium	1.23		mg/l	0.0050	1.25		99	85-115		
Nickel	1.25		mg/l	0.0050	1.25		100	85-115		
Arsenic	1.27		mg/l	0.0040	1.25		102	85-115		
Beryllium	1.30		mg/l	0.0020	1.25		104	85-115		
Lead	1.26		mg/l	0.0075	1.25		100	85-115		
Copper	1.31		mg/l	0.0050	1.25		105	85-115		
Silver	1.25		mg/l	0.0050	1.25		100	85-115		
Zinc	1.24		mg/l	0.0050	1.25		99	85-115		
Cadmium	1.19		mg/l	0.0025	1.25		96	85-115		
Chromium	1.29		mg/l	0.0050	1.25		104	85-115		
<u>Duplicate (1710779-DUP1)</u>				<u>Source: SC36162-02</u>		<u>Prepared: 27-Jun-17 Analyzed: 29-Jun-17</u>				
Iron	0.356		mg/l	0.0150		0.399			11	20
Thallium	< 0.0050		mg/l	0.0050		BRL				20
Antimony	< 0.0060		mg/l	0.0060		BRL				20
Selenium	< 0.0150		mg/l	0.0150		BRL				20
Beryllium	< 0.0020		mg/l	0.0020		BRL				20
Arsenic	< 0.0040		mg/l	0.0040		BRL				20
Zinc	0.0178		mg/l	0.0050		0.0188			6	20
Copper	0.0116		mg/l	0.0050		0.0118			2	20
Chromium	0.0028	J	mg/l	0.0050		0.0031			8	20
Silver	< 0.0050		mg/l	0.0050		BRL				20
Lead	< 0.0075		mg/l	0.0075		BRL				20
Cadmium	< 0.0025		mg/l	0.0025		BRL				20
Nickel	0.0016	J	mg/l	0.0050		0.0015			6	20
<u>Matrix Spike (1710779-MS1)</u>				<u>Source: SC36162-02</u>		<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>				
Selenium	1.23		mg/l	0.0150	1.25	BRL	98	70-130		
Thallium	1.24		mg/l	0.0050	1.25	BRL	99	70-130		
Antimony	1.17		mg/l	0.0060	1.25	BRL	94	70-130		
Iron	1.50		mg/l	0.0150	1.25	0.399	89	70-130		
Chromium	1.20		mg/l	0.0050	1.25	0.0031	96	70-130		
Silver	1.20		mg/l	0.0050	1.25	BRL	96	70-130		
Copper	1.27		mg/l	0.0050	1.25	0.0118	101	70-130		
Zinc	1.16		mg/l	0.0050	1.25	0.0188	91	70-130		

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Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>EPA 200.7</u>										
Batch 1710779 - EPA 200 Series										
<u>Matrix Spike (1710779-MS1)</u>										
				<u>Source: SC36162-02</u>			<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>			
Cadmium	1.22		mg/l	0.0025	1.25	BRL	98	70-130		
Beryllium	1.37		mg/l	0.0020	1.25	BRL	110	70-130		
Arsenic	1.26		mg/l	0.0040	1.25	BRL	100	70-130		
Lead	1.23		mg/l	0.0075	1.25	BRL	98.6	70-130		
Nickel	1.22		mg/l	0.0050	1.25	0.0015	97	70-130		
<u>Post Spike (1710779-PS1)</u>										
				<u>Source: SC36162-02</u>			<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>			
Antimony	1.20		mg/l	0.0060	1.25	BRL	96	85-115		
Thallium	1.24		mg/l	0.0050	1.25	BRL	99	85-115		
Selenium	1.26		mg/l	0.0150	1.25	BRL	101	85-115		
Zinc	1.15		mg/l	0.0050	1.25	0.0188	91	85-115		
Copper	1.28		mg/l	0.0050	1.25	0.0118	102	85-115		
Chromium	1.21		mg/l	0.0050	1.25	0.0031	97	85-115		
Silver	1.16		mg/l	0.0050	1.25	BRL	93	85-115		
Nickel	1.23		mg/l	0.0050	1.25	0.0015	99	85-115		
Cadmium	1.22		mg/l	0.0025	1.25	BRL	97	85-115		
Beryllium	1.33		mg/l	0.0020	1.25	BRL	106	85-115		
Arsenic	1.28		mg/l	0.0040	1.25	BRL	103	85-115		
Lead	1.25		mg/l	0.0075	1.25	BRL	99.8	85-115		
Batch 1711477 - EPA 200 Series										
<u>Blank (1711477-BLK1)</u>							<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>			
Copper	< 0.0100		mg/l	0.0100						
<u>LCS (1711477-BS1)</u>							<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>			
Copper	2.68		mg/l	0.0100	2.50		107	85-115		
<u>Duplicate (1711477-DUP1)</u>							<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>			
Copper	0.0133		mg/l	0.0100		0.0135			1	20
<u>Matrix Spike (1711477-MS1)</u>							<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>			
Copper	2.79		mg/l	0.0100	2.50	0.0135	111	70-130		
<u>Post Spike (1711477-PS1)</u>							<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>			
Copper	2.73		mg/l	0.0100	2.50	0.0135	109	85-115		
<u>EPA 245.1/7470A</u>										
Batch 1710781 - EPA200/SW7000 Series										
<u>Blank (1710781-BLK1)</u>							<u>Prepared: 27-Jun-17 Analyzed: 28-Jun-17</u>			
Mercury	< 0.00020		mg/l	0.00020						
<u>LCS (1710781-BS1)</u>							<u>Prepared: 27-Jun-17 Analyzed: 29-Jun-17</u>			
Mercury	0.00439		mg/l	0.00020	0.00500		88	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>ASTM D 1293-99B</u>										
Batch 1710599 - General Preparation										
<u>Reference (1710599-SRM1)</u>					<u>Prepared & Analyzed: 22-Jun-17</u>					
pH	6.02		pH Units		6.00		100	97.5-102.5		
<u>Reference (1710599-SRM2)</u>					<u>Prepared & Analyzed: 22-Jun-17</u>					
pH	6.01		pH Units		6.00		100	97.5-102.5		
<u>EPA 300.0</u>										
Batch 1710651 - General Preparation										
<u>Blank (1710651-BLK1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	< 1.00		mg/l	1.00						
<u>LCS (1710651-BS1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	20.0		mg/l	1.00	20.0		100	90-110		
<u>Calibration Blank (1710651-CCB1)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Chloride	0.349		mg/l							
<u>Calibration Blank (1710651-CCB2)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Chloride	0.361		mg/l							
<u>Calibration Blank (1710651-CCB3)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	0.401		mg/l							
<u>Calibration Blank (1710651-CCB4)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	0.336		mg/l							
<u>Calibration Blank (1710651-CCB5)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	0.337		mg/l							
<u>Calibration Blank (1710651-CCB6)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	0.355		mg/l							
<u>Calibration Check (1710651-CCV1)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Chloride	20.1		mg/l	1.00	20.0		100	90-110		
<u>Calibration Check (1710651-CCV2)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Chloride	20.2		mg/l	1.00	20.0		101	90-110		
<u>Calibration Check (1710651-CCV3)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	20.4		mg/l	1.00	20.0		102	90-110		
<u>Calibration Check (1710651-CCV4)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	20.0		mg/l	1.00	20.0		100	90-110		
<u>Calibration Check (1710651-CCV5)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	20.1		mg/l	1.00	20.0		101	90-110		
<u>Calibration Check (1710651-CCV6)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	20.2		mg/l	1.00	20.0		101	90-110		
<u>Reference (1710651-SRM1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 24-Jun-17</u>					
Chloride	27.6		mg/l	1.00	25.0		110	90-110		
<u>SM 2520 (01)</u>										
Batch 1710543 - General Preparation										
<u>Reference (1710543-SRM1)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Salinity	10.2		ppt (1000)	1.00	10.0		102	90-110		
<u>Reference (1710543-SRM2)</u>					<u>Prepared & Analyzed: 23-Jun-17</u>					
Salinity	10.3		ppt (1000)	1.00	10.0		103	90-110		
<u>SM2540D (11)</u>										
Batch 1710620 - General Preparation										
<u>Blank (1710620-BLK1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 27-Jun-17</u>					
Total Suspended Solids	< 0.5		mg/l	0.5						
<u>LCS (1710620-BS1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 27-Jun-17</u>					

This laboratory report is not valid without an authorized signature on the cover page.

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540D (11)</u>										
Batch 1710620 - General Preparation										
<u>LCS (1710620-BS1)</u>					<u>Prepared: 23-Jun-17 Analyzed: 27-Jun-17</u>					
Total Suspended Solids	96.0		mg/l	10.0	100		96	90-110		
<u>SM4500-Cl-G (11)</u>										
Batch 1711119 - General Preparation										
<u>Blank (1711119-BLK1)</u>					<u>Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	< 0.020		mg/l	0.020						
<u>LCS (1711119-BS1)</u>					<u>Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	0.048		mg/l	0.020	0.0500		95	90-110		
<u>Duplicate (1711119-DUP1)</u>					<u>Source: SC36162-01 Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	0.007	J	mg/l	0.020		0.007			1	20
<u>Matrix Spike (1711119-MS1)</u>					<u>Source: SC36162-01 Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	0.040	QM9	mg/l	0.020	0.0500	0.007	66	80-120		
<u>Matrix Spike Dup (1711119-MSD1)</u>					<u>Source: SC36162-01 Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	0.040	QM9	mg/l	0.020	0.0500	0.007	66	80-120	0.3	200
<u>Reference (1711119-SRM1)</u>					<u>Prepared: 30-Jun-17 Analyzed: 05-Jul-17</u>					
Total Residual Chlorine	0.111		mg/l	0.020	0.105		106	85-115		
<u>SW846 1010A</u>										
Batch 1711271 - General Preparation										
<u>Reference (1711271-SRM1)</u>					<u>Prepared & Analyzed: 05-Jul-17</u>					
Flashpoint	81		°F		81.0		100	95-105		

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW9010C/SW9012B</u>										
Batch 391221A - 391221-SW9010C/										
<u>BLK (BY44735-BLK)</u>	<u>Prepared: 23-Jun-17 Analyzed: 26-Jun-17</u>									
Total Cyanide	< 0.01		mg/L	0.01				-		
<u>DUP (BY44735-DUP)</u>	<u>Prepared: 23-Jun-17 Analyzed: 26-Jun-17</u>									
Total Cyanide	< 0.01		mg/L	0.01				-	NC	30
<u>LCS (BY44735-LCS)</u>	<u>Prepared: 23-Jun-17 Analyzed: 26-Jun-17</u>									
Total Cyanide	0.4600		mg/L	0.01	0.4855		94.7	90-110		30
<u>MS (BY44735-MS)</u>	<u>Prepared: 23-Jun-17 Analyzed: 26-Jun-17</u>									
Total Cyanide	0.1980		mg/L	0.01	100000298		99.0	90-110		30

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>E350.1</u>										
Batch 391348A - 391348										
<u>BLK (BY45706-BLK)</u>	<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>									
Ammonia as Nitrogen	< 0.05		mg/L	0.05				-		
<u>DUP (BY45706-DUP)</u>	<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>									
Ammonia as Nitrogen	0.20		mg/L	0.05				-	NC	20
<u>LCS (BY45706-LCS)</u>	<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>									
Ammonia as Nitrogen	3.800		mg/L	0.05	3.74		102	90-110		20
<u>MS (BY45706-MS)</u>	<u>Prepared: 26-Jun-17 Analyzed: 27-Jun-17</u>									
Ammonia as Nitrogen	2.230		mg/L	0.05	2		101	90-110		20

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
O01	This compound is a common laboratory contaminant.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
SBN	Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.
TSSV	The dried sample residue did not meet the minimum yield of 2.5 to 200 mg; however, sample volume of one liter was not available to meet method specifications. No bias is associated with the data based on MDL study conducted.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
CIHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 3

Special Handling:

☒ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval

Min. 24-hr notification needed for rushes

Samples disposed after 30 days unless otherwise instructed.

Report To: ATC Worcester

Invoice To: CFI

Project No: 03 21855 00

Site Name: Nantucket CFI #2280

Location: 115 Orange St, Nantucket State: MA

Sampler(s): Andrew Carn

Telephone #: 508 756 9151

Project Mgr: Matt Lyne

P.O No.: 263467 Quote #: _____

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= _____ 12= _____

List Preservative Code below:

3 5 2 1 2 1

QA/QC Reporting Notes:

* additional charges may apply

MA DEP MCP CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☒ No

☐ Standard ☐ No QC

☐ DQA*

☐ ASP A* ☐ ASP B*

☐ NJ Reduced* ☐ NJ Full*

☐ Tier II* ☐ Tier IV*

☐ Other: _____
State-specific reporting standards:

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

Containers

Analysis

Check if chlorinated

G= Grab

C=Composite

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Lab ID:

Sample ID:

Date:

Time:

SC3600201161617

6/20/17

1:00

G

GW

3

2

5

Chloride +

Ammonia

Cyanide

DTX +

Acetone-624

PAH 5-625

PCBs-625

TPH w/1664

PH

For metals +

PAH's

Request minimum

level for test

methods

(metals/PAH's)

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:

☒ E-mail to:

Matthew.Lyne@crataassociates.com

Condition upon receipt: Custody Seals: ☐ Present ☒ Intact ☐ Broken

☒ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page

3 of 3

Special Handling:

☒ Standard TAT - 7 to 10 business days☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval

Min. 24-hr notification needed for rushes

Samples disposed after 30 days unless otherwise instructed.

Report To:

ATC Worcester

Invoice To:

CFI

Project No:

03-221855 on

Site Name:

Northchot CFI #2280

Location:

115 Orange St, Northchot State: MA

Sampler(s):

Andrew Clavin

Telephone #:

508 256 0151

Project Mgr:

Matt Lyne

P.O No.:

263467

Quote #:

F=Field Filtered 1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₃PO₄ 11= 12=

List Preservative Code below:

3

QA/QC Reporting Notes:

* additional charges may apply

MA DEP MCP CAM Report? ☒ Yes ☐ NoCT DPH RCP Report? ☐ Yes ☐ No☐ Standard ☐ No QC☐ DQA*☐ ASP A*☐ ASP B*☐ NJ Reduced*☐ NJ Full*☐ Tier II*☐ Tier IV*☐ Other:

State-specific reporting standards:

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1=

X2=

X3=

G= Grab

C=Composite

Containers

Analysis

Check if chlorinated

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Substrate, pH	Ammonia								
SC36162-03	PQND	6/29/17	3:00	G	GW				2	X	X								

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format:☒ E-mail to: Matthew.Lynce@atcassociates.com

Observed

Correction Factor

Corrected

IR ID #

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Report Date:
10-Jul-17 12:41**Laboratory Report**
SC36574ATC Group Services, LLC
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Matt LyneProject: CFI #2280 - 115 Orange St - Nantucket, MA
Project #: 03-221855

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393Authorized by:

Christina White
Laboratory Director

A handwritten signature in black ink that reads "Christina A. White".

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 9 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC36574
Project: CFI #2280 - 115 Orange St - Nantucket, MA
Project Number: 03-221855

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC36574-01	Sump-Raw Water	Ground Water	29-Jun-17 10:00	30-Jun-17 16:00

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 4.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SM3500-Cr-B (11)/7196A**Samples:**

SC36574-01 *Sump-Raw Water*

This sample was analyzed outside the EPA recommended holding time per client request.

Hexavalent Chromium

Sample Acceptance Check Form

Client: ATC Group Services, LLC - Worcester, MA
Project: CFI #2280 - 115 Orange St - Nantucket, MA / 03-221855
Work Order: SC36574
Sample(s) received on: 6/30/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	☐	☒	☐
Were custody seals intact?	☐	☐	☒
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	☒	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☒	☐	☐
Were sample containers received intact?	☒	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☒	☐	☐
Were samples accompanied by a Chain of Custody document?	☒	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☒	☐	☐
Did sample container labels agree with Chain of Custody document?	☒	☐	☐
Were samples received within method-specific holding times?	☐	☒	☐

Summary of Hits

Lab ID:

Client ID:

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
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No hits detected.

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses , this summary does not include hits from these analyses if included in this work order .

Sample Identification**Sump-Raw Water**

SC36574-01

Client Project #

03-221855

Matrix

Ground Water

Collection Date/Time

29-Jun-17 10:00

Received

30-Jun-17

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Semivolatile Organic Compounds by GCPolychlorinated BiphenylsPrepared by method SW846 3510C

12674-11-2	Aroclor-1016	< 0.196		µg/l	0.196	0.102	1	SW846 8082A	06-Jul-17	07-Jul-17	EAB	1711389	
11104-28-2	Aroclor-1221	< 0.196		µg/l	0.196	0.113	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 0.196		µg/l	0.196	0.109	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 0.196		µg/l	0.196	0.105	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 0.196		µg/l	0.196	0.133	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 0.196		µg/l	0.196	0.114	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 0.196		µg/l	0.196	0.0834	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 0.196		µg/l	0.196	0.0878	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.196		µg/l	0.196	0.0897	1	"	"	"	"	"	

Surrogate recoveries:

10386-84-2	4,4-DB-Octafluorobiphenyl (Sr)	65			30-150 %			"	"	"	"	"	
10386-84-2	4,4-DB-Octafluorobiphenyl (Sr) [2C]	65			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr)	65			30-150 %			"	"	"	"	"	
2051-24-3	Decachlorobiphenyl (Sr) [2C]	65			30-150 %			"	"	"	"	"	

General Chemistry Parameters

18540-29-9	Hexavalent Chromium	< 0.005	O09	mg/l	0.005	0.002	1	SM3500-Cr-B (11)/7196A	06-Jul-17 13:53	06-Jul-17 16:03	RLT	1711453	
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Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 8082A										
Batch 1711389 - SW846 3510C										
Blank (1711389-BLK1)					<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>					
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.170		µg/l		0.200		85	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.190		µg/l		0.200		95	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.180		µg/l		0.200		90	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.170		µg/l		0.200		85	30-150		
LCS (1711389-BS1)					<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>					
Aroclor-1016	2.39		µg/l	0.200	2.50		96	40-140		
Aroclor-1016 [2C]	2.85		µg/l	0.200	2.50		114	40-140		
Aroclor-1260	2.37		µg/l	0.200	2.50		95	40-140		
Aroclor-1260 [2C]	2.26		µg/l	0.200	2.50		90	40-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.190		µg/l		0.200		95	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.210		µg/l		0.200		105	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.200		µg/l		0.200		100	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.180		µg/l		0.200		90	30-150		
LCS Dup (1711389-BSD1)					<u>Prepared: 06-Jul-17 Analyzed: 07-Jul-17</u>					
Aroclor-1016	2.53		µg/l	0.200	2.50		101	40-140	6	20
Aroclor-1016 [2C]	2.71		µg/l	0.200	2.50		108	40-140	5	20
Aroclor-1260	2.31		µg/l	0.200	2.50		92	40-140	3	20
Aroclor-1260 [2C]	2.20		µg/l	0.200	2.50		88	40-140	3	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	0.200		µg/l		0.200		100	30-150		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	0.210		µg/l		0.200		105	30-150		
Surrogate: Decachlorobiphenyl (Sr)	0.200		µg/l		0.200		100	30-150		
Surrogate: Decachlorobiphenyl (Sr) [2C]	0.200		µg/l		0.200		100	30-150		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM3500-Cr-B (11)/7196A</u>										
Batch 1711453 - General Preparation										
<u>Blank (1711453-BLK1)</u>					<u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	< 0.005		mg/l	0.005						
<u>LCS (1711453-BS1)</u>					<u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	0.051		mg/l	0.005	0.0500		103	90-111		
<u>Duplicate (1711453-DUP1)</u>					<u>Source: SC36574-01</u> <u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	0.002	J	mg/l	0.005		0.002				20
<u>Matrix Spike (1711453-MS1)</u>					<u>Source: SC36574-01</u> <u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	0.056		mg/l	0.005	0.0500	0.002	107	85-115		
<u>Matrix Spike Dup (1711453-MSD1)</u>					<u>Source: SC36574-01</u> <u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	0.057		mg/l	0.005	0.0500	0.002	109	85-115	2	20
<u>Reference (1711453-SRM1)</u>					<u>Prepared & Analyzed: 06-Jul-17</u>					
Hexavalent Chromium	0.026		mg/l	0.005	0.0250		104	85-115		

Notes and Definitions

O09	This sample was analyzed outside the EPA recommended holding time per client request.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

