January 6, 2015

United States Environmental Protection Agency
RGP – NOI Processing
1 Congress Street
Boston, Massachusetts 02114-2023

Re: Remediation General Permit – Notice of Intent
Speedway Station #2418
Former Hess Station #21223
231 Main Street
North Reading, Massachusetts 01864-3104
MassDEP RTN 3-24466

To Whom It May Concern:

At the request of Hess Retail Operations LLC (HRO), EnviroTrac Ltd (EnviroTrac) is submitting the attached Remediation General Permit (RGP) – Notice of Intent (NOI) for the above-referenced location, referred to as the Site. The RGP-NOI form is included as **Appendix A**. The Site is a Hess-branded petroleum retail station. Temporary construction dewatering will be required to facilitate the upgrade of the piping and spill bucket systems of the existing 10,000-gallon capacity, double-wall fiberglass gasoline underground storage tank (UST), 8,000-gallon capacity double-wall fiberglass gasoline UST, and 5,000-gallon capacity, double-wall fiberglass diesel UST. Based on gauging of a tank pad well at the Site, the depth to groundwater is approximately two feet below ground surface (bgs). Excavation to approximately four to five feet bgs will be required for the UST upgrade. The locations of the site and discharge receiving waters are depicted on **Figure 1**. Also attached is a Discharge Location Plan (**Figure 2**) which depicts site features and the proposed discharge point.

During construction dewatering, groundwater will be pumped from the excavation into a fractionation tank for settlement, then treated through two bag filters arranged in series, two 3,000-pound liquid phase carbon units arranged in series, and cartridge filters (as a final process to remove suspended sediments). A schematic of the proposed treatment system is included as **Figure 3**. The treated effluent will be discharged via the catch basin located within the Site property, which discharges to an outfall at Rapier Brook, which ultimately discharges to the Ipswich River approximately 7,700 feet southeast of the Site. The design flow of the treatment system is 150 gallons per minute (gpm), and the average discharge rate of treated groundwater is anticipated to be 150 gpm.

On December 29, 2014, groundwater samples were obtained from a tank pad well (TP-1) in the proposed excavation area. Based on analytical data, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons-diesel range organics, metals, chloride, total residual chlorine, and total suspended solids (TSS) were detected in groundwater. Concentrations of PAHs, TSS, and metals exceeded the applicable Effluent Limitations listed in Appendix III of the RGP under

the National Pollutant Discharge Elimination System for Discharges in Massachusetts. A dilution factor of 2.23 was calculated for all metals which exceeded applicable Effluent Limitations (refer to **Appendix A**). Based on a Dilution Factor Range of 1 to 5, concentrations of arsenic, copper, iron, lead, and zinc exceeded applicable Total Recoverable Metal Limitations published in Appendix IV of the RGP. Two additional samples, however, were obtained from tank pad well TP-1 and separately filtered using a 0.45-micron and a 5-micron filter, respectively. Analytical results of these filtered samples are pending, but it is anticipated that both samples will contain concentrations of arsenic, copper, iron, lead, and zinc below the applicable RGP Appendix IV discharge limitations for the calculated dilution factor of 2.23. In addition, it is anticipated that a large portion of the total metals detected are associated with sediment contained in the unfiltered sample. The proposed treatment system incorporates significant sediment removal processes, including a fractionation settling tank, bag filters, and cartridge filters. Therefore, it is unlikely that the discharge will exceed the arsenic, copper, iron, lead, and zinc discharge limits. Analytical data are summarized in **Table 1**. The laboratory analytical report supporting this NOI is included as **Appendix B**.

According to the National Park Service's National Register Information System (NRIS) (http://www.nps.gov/history), two historical sites are located in North Reading, Massachusetts. The nearest listed historical site is the Reverend Daniel Putnam House, located at 27 Bow Street, approximately 1.6 miles southeast of the Site. In addition, the Massachusetts Historical Commission's Massachusetts Cultural Resource Information System (MACRIS) (http://www.sec.state.ma.us/mhc/) listed more than 216 sites in North Reading. The nearest Massachusetts-listed site, Pleasure Lanes Bowling Alley, is located approximately 2,000 feet south of the Site. Based on the distances to the Site, the discharge will not likely adversely affect federal or state-listed historical sites. Copies of the NRIS and MACRIS listings are included in **Appendix C**.

Based on a review of Appendices II and VII of the RGP and the New England Listed Species shown on the U.S. Fish and Wildlife Service (FWS) New England Field Office web site, (http://www.fws.gov/newengland/EndangeredSpec-NEListedSpecies.htm), the Site is not located within the U.S. Fish and Wildlife Service (FWS) listing of federally endangered and threatened species for counties in Massachusetts. According to the Massachusetts Division of Fisheries and Wildlife (http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/), the Site is not located with a Natural Heritage Endangered Species Program (NHESP) Estimated or Priority Habitat. Based on a review of the Massachusetts Department of Conservation and Recreation Area of Critical Environmental Concern (ACEC) Program web site (http://www.mass.gov/dcr/stewardship/acec/index.htm), the Site is not located within an ACEC. However, all discharges from the Site will flow into the Ipswich River, which runs through the Great Marsh ACEC. A Massachusetts Contingency Plan (MCP) Priority Resource Map depicting the location of the Site in relation to natural resources is attached as **Figure 4**.

The excavation and dewatering will be conducted as a Post-Response Action Outcome (RAO) Response Action pursuant to post-RAO provisions of the Massachusetts Contingency Plan as set forth at 310 CMR 40.1067(4)(b). Therefore, completion and submittal of Massachusetts Application Form BRPWM 12 or payment of a state fee are not required.

If you have any questions or require further information, please contact the undersigned at (781) 793-0074.

Sincerely,
EnviroTrac Ltd.

Jesse Krawiec
Senior Project Manager

cc.: MassDEP Northeast Regional Office
Town of North Reading Board of Selectmen
Town of North Reading Conservation Commission
Michael Matri, Hess Retail Operations LLC

FIGURES

Legend

- Perennial Stream
- Intermittent Stream
- Shoreline
- Intermittent Shoreline
- Manmade Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Submerged Wetland
- Cranberry Bog
- Tidal Flat
- Inundated Area
- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Highway
- Major Road, Collector
- Towns
- Interstate
- Coast

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs.

0 250 500 1,000 Feet

SCALE: 1 inch=750 feet

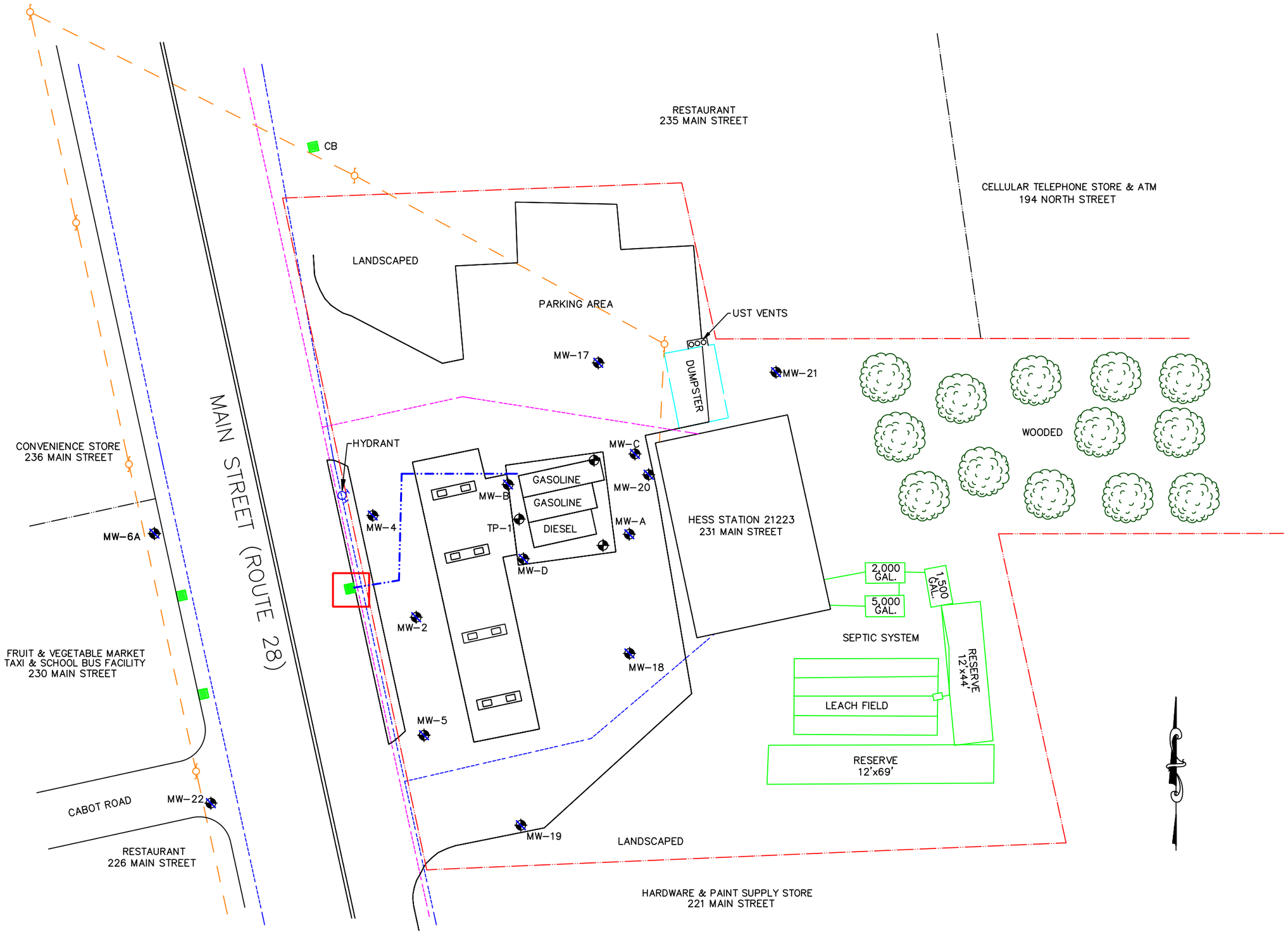
REVISED BY: DT
REVISION DATE:: 1/6/2015

FIGURE
1

DEWATERING DISCHARGE MAP

SPEEDWAY #2481
FORMER HESS #21223
231 MAIN STREET
NORTH READING, MASSACHUSETTS

EnviroTrac
Environmental Services



ALL LOCATIONS APPROXIMATE.
NOT FOR CONSTRUCTION PURPOSES.

BASED ON FIGURE ENTITLED "SITE PLAN,"
DELTA ENVIRONMENTAL CONSULTANTS, 10/21/2007.

LEGEND

- PROPERTY LINE (APPROX.)
- UNDERGROUND GAS LINE (APPROX.)
- UNDERGROUND WATER LINE (APPROX.)
- OVERHEAD ELECTRIC/TEL. LINES (APPROX.)
- FENCE (APPROX.)
- DISCHARGE PATH
- DEWATERING DISCHARGE POINT
- CATCH BASIN
- UTILITY POLE
- FORMER MONITORING WELL
- TANK PAD MONITORING WELL

0 15' 30'

APPROX. GRAPHIC SCALE: 1" = 30'

DRAWN BY: BSM
DRAWING DATE: 01/05/2015

FIGURE
2

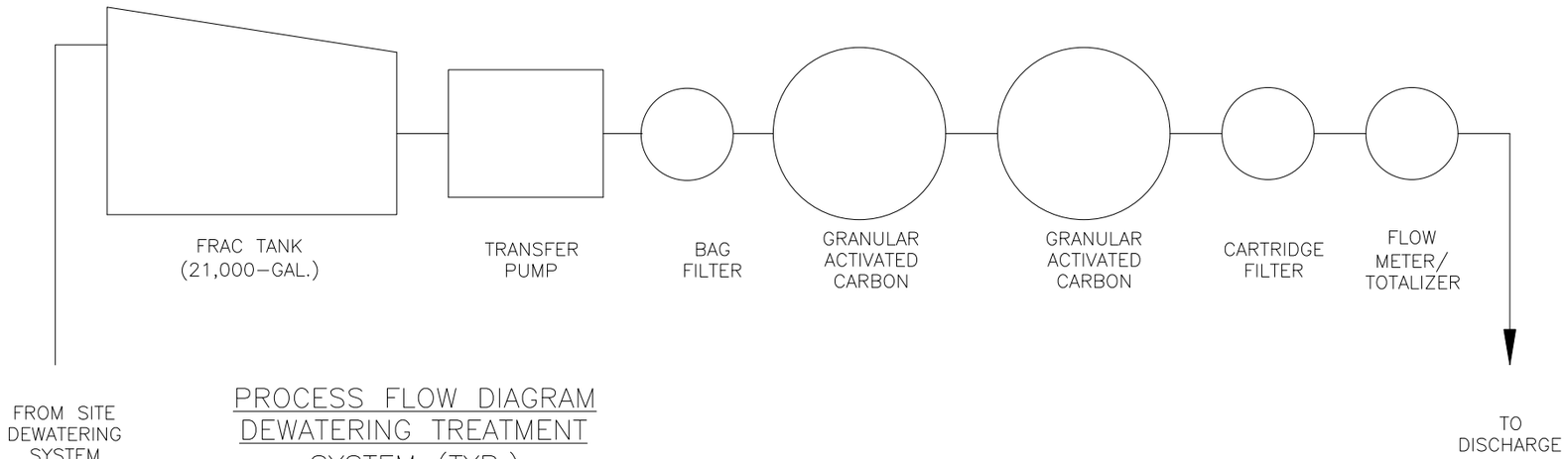
DRAWING TITLE

DISCHARGE LOCATION PLAN

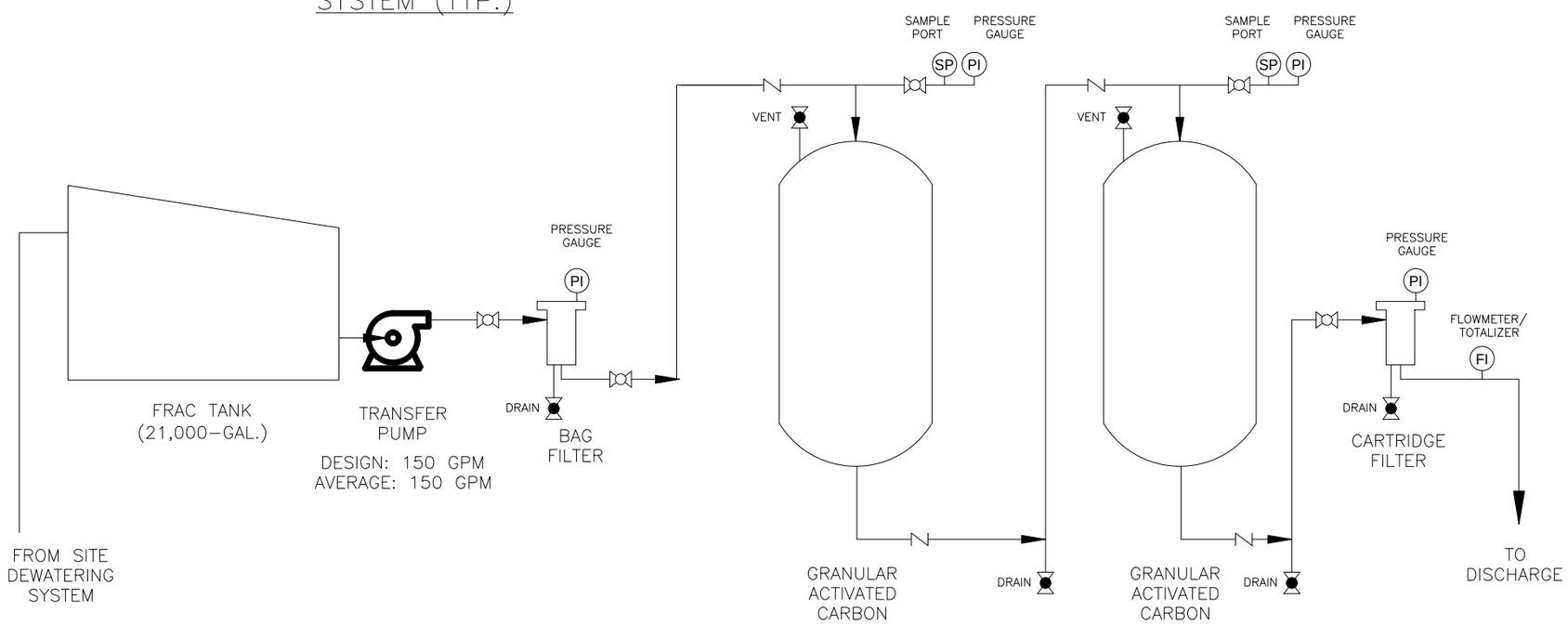
PREPARED FOR

SPEEDWAY #2418
FORMER HESS #21223
231 MAIN STREET
NORTH READING, MA

EnviroTrac
ENVIRONMENTAL SERVICES
2 MERCHANT STREET, SUITE 2, SHARON, MA
PHONE: (781) 793-0074 FAX: (781) 793-7877



PROCESS FLOW DIAGRAM
DEWATERING TREATMENT
SYSTEM (TYP.)



DRAWN BY: BSM
DRAWING DATE: 01/05/2015

FIGURE
3

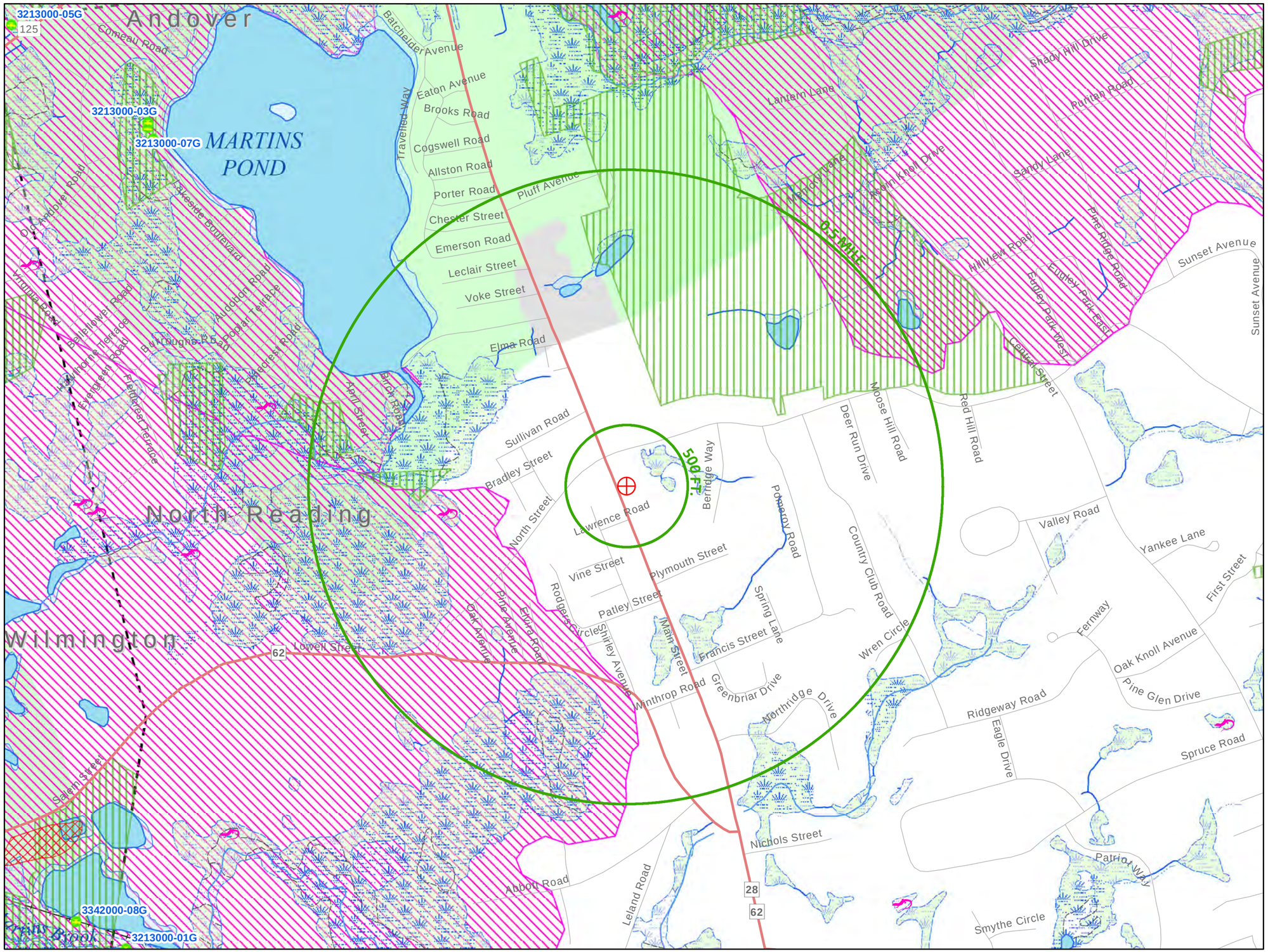
DRAWING TITLE

PROCESS FLOW DIAGRAM

PREPARED FOR

SPEEDWAY #2418
FORMER HESS #21223
231 MAIN STREET
NORTH READING, MA

EnviroTrac
ENVIRONMENTAL SERVICES
2 MERCHANT STREET, SUITE 2, SHARON, MA
PHONE: (781) 793-0074 FAX: (781) 793-7877



LEGEND

- Railroads
- Pipeline
- Solid Waste Landfills
- EPA Sole Source Aquifer
- NHESP Priority Habitats of Rare Species
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- ACECs
- Protected Open Space
- School
- Institution

Roads
- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Highway
- Major Road, Collector
- Minor Road, Arterial

USGS Hydrography
- Perennial Stream
- Intermittent Stream
- Shoreline
- Ditch/Canal
- Aqueduct
- Dam

DEP Wetlands
- Marsh/Bog
- Wooded Marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune

Public Water Supplies
- Community Groundwater Source
- Surface Water Intake
- Non-Community Groundwater Source
- Emergency Surface Water
- DEP Approved Zone IIs
- Interim Wellhead Protection Areas
- Surface Water Supply Zone A

Non-Potential Drinking Water Source Areas
- High-Yield
- Medium-Yield

Potentially Productive Aquifers
- High-Yield
- Medium-Yield

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Information Technology Division.

0 800 1,600 Feet

SCALE: 1 inch=800 feet

REVISED BY: DT
REVISION DATE: 1/5/2015

FIGURE 4

MCP PRIORITY RESOURCE MAP
500 foot and 0.5 mile Radii

SPEEDWAY #2481
FORMER HESS #21223
231 MAIN STREET
NORTH READING, MASSACHUSETTS

EnviroTrac
Environmental Services

TABLE

TABLE 1
SUMMARY OF RGP GROUNDWATER ANALYTICAL DATA

Speedway #2418
Former Hess Station #21223
231 Main Street
North Reading, MA

Sample ID Sample Date	TP-1 12/29/2014		RGP Appendix III Effluent Limits	RGP Appendix IV Effluent Limits Dilution Factor Range 1-5
VOLATILE ORGANIC COMPOUNDS (µg/L)				
All VOCs	ND		NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (µg/L)				
Total Group I PAHs	39.1		10	NA
Benzo(a)pyrene	7.7		0.0038	NA
Benzo(b)fluoranthene	9.0		0.0038	NA
Benzo(k)fluoranthene	6.3		0.0038	NA
Chrysene	8.1		0.0038	NA
Indeno(1,2,3-cd)pyrene	8.0		0.0038	NA
Total Group II PAHs	*32.0*		100	NA
Fluoranthene	*14.3*		NE	NA
Pyrene	*10.2*		NE	NA
Benzo(g,h,i)perylene	*7.5*		NE	NA
All other PAHs	ND		NA	NA
TOTAL PETROLEUM HYDROCARBONS (mg/L)				
Gasoline Range Organics	<0.10		5.0 (total)	NA
Diesel Range Organics	*0.25*		5.0 (total)	NA
METALS (µg/L)	Dissolved	Total		
Antimony	PENDING	<6.0	5.6	5.6
Arsenic	PENDING	13.4	10.0	10.0
Cadmium	PENDING	<4.0	0.2	0.2
Chromium III	PENDING	<0.020	48.8	48.8
Chromium VI	PENDING	<0.010	11.4	11.4
Copper	PENDING	232	5.2	5.2
Iron	PENDING	9,360	1,000	1,000
Lead	PENDING	21.7	1.3	1.3
Mercury	PENDING	<0.20	0.9	0.9
Nickel	PENDING	<40	29.0	29.0
Selenium	PENDING	<10	5.0	5.0
Silver	PENDING	<5.0	1.2	1.2
Zinc	PENDING	1,030	66.6	66.6
GENERAL CHEMISTRY (mg/L)				
Chloride	*120*		Monitor only	Monitor only
Total Residual Chlorine	*0.10*		11.0	NA
Total Suspended Solids	85.0		30.0	NA
HEM Oil and Grease	<4.4		NE	NA

NOTES:

-- is not sampled or not applicable
RGP is Remediation General Permit
mg/L is milligrams per liter
µg/L is micrograms per liter
ND is not detected
NA is not applicable
NE is not established
VOC is volatile organic compound
PAH is polycyclic aromatic hydrocarbon
MTBE is methyl tert butyl ether

< Indicates that the compound was not detected at the laboratory detection limit listed
ITALICS indicates concentrations above the method reporting limit
BOLD indicates concentrations greater than RGP Appendix III effluent limits
RED indicates concentrations greater than RGP Appendix IV effluent limits
A Dilution Factor of 2.23 was calculated based on the following equation:
(Maximum Flow Rate of Discharge + 7Q10 of receiving water) / (Maximum Flow Rate of Discharge)
= (0.41 cfs + 0.334 cfs) / 0.334 cfs = 2.23, where cfs is cubic feet per second
For metals, the Dilution Factor was used to determine the RGP Appendix IV effluent limits

EnviroTrac Environmental Services

APPENDIX A

Remediation General Permit – Notice of Intent
Maximum Daily Value and Dilution Factor Calculations

Maximum Daily Value

To calculate the maximum daily value in kilograms of each parameter believed to be present, the following formula was used:

951,000 L/day * concentration of parameter in kg/L = kg

Example:

Total Suspended Solids:

951,000 L/day * 0.00085 kg/L = 80.9 kg

Dilution Factor

According to the USGS StreamStats Data-Collection Station Report (included in **Appendix D**), the 7Q10 value for USGS Station Number 01101500 (Ipswich River at South Middleton) is **0.41 cf/s**.

To calculate the dilution factor, the following formula was used:

DF = (7Q10 + System Design Flow) / System Design Flow

DF = (0.41 cfs + 0.334 cfs) / 0.334 cfs = 2.23

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of **facility/site**: Speedway #2418		**Facility/site** mailing address:			
Location of **facility/site**: longitude: -71.115316 latitude: 42.588567	Facility SIC code(s):	Street: 231 Main Street			
b) Name of **facility/site owner:**		Town: North Reading			
Email address of facility/site owner: mmatri@speedway.com		State: MA	Zip: 01864-3104	County: Middlesex	
Telephone no. of facility/site **owner**: (750) 732-6432					
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal___ 2. State/Tribal___ 3. Private ☉ 4. Other ___ if so, describe:			
Address of **owner** (if different from site):					
Street: 1 Hess Plaza					
Town: Woodbridge	State: NJ	Zip: 07095	County:		
c) Legal name of **operator**: EnviroTrac Ltd.	**Operator** telephone no: (781) 793-0074				
	Operator fax no.: 781-793-7877	**Operator** email: bsmurphy51@gmail.com			
Operator contact name and title: Brendan Murphy, Project Scientist					
Address of **operator** (if different from owner):	Street: 2 Merchant Street, Suite 2				
Town: Sharon	State: MA	Zip: 02067	County: Norfolk		

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y___ N___, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y___ N___, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y___ N___
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y___ N___

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___
If Y, please list:
1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y___ N___,
if Y, number:
2. Final Dewatering General Permit? Y___ N___,
if Y, number:
3. EPA Construction General Permit? Y___ N___,
if Y, number:
4. Individual NPDES permit? Y___ N___,
if Y, number:
5. any other water quality related individual or general permit? Y___ N___, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y___ N___

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ___ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ___ C. Petroleum Sites with Additional Contamination ___
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ___ B. VOC Sites with Additional Contamination ___ C. Primarily Heavy Metal Sites ___
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ___ B. Known Contaminated Sites ___

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

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

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

Temporary construction dewatering in order to facilitate the upgrade of the UST piping system.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 150 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 150 Is average flow a design value or estimate? Design

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat 42.588567	long -71.115316	pt.2: lat.	long. ;
pt.3: lat	long	pt.4: lat.	long. ;
pt.5: lat	long	pt.6: lat.	long. ;
pt.7: lat	long	pt.8: lat.	long. ; etc.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent ○ or seasonal ○ ?
Is discharge ongoing? Y ○ N ○

c) Expected dates of discharge (mm/dd/yy): start 01/19/2015 end 03/12/2015

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	1	Grab	2540D-11	4.0	85,000	80.9	85,000	80.9
2. Total Residual Chlorine (TRC)		☐	☒	1	Grab	4500CL F	0.050	100	95.1	100	95.1
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	1	Grab	8015/3510C	0.10	250	237.8	250	237.8
4. Cyanide (CN)	57125	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
5. Benzene (B)	71432	☒	☐	1	Grab	8260B	0.50	0	0	0	0
6. Toluene (T)	108883	☒	☐	1	Grab	8260B	0.50	0	0	0	0
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	8260B	0.50	0	0	0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	Grab	8260B	0.50	0	0	0	0
9. Total BTEX [2]	n/a	☒	☐	1	N/A	N/A	N/A	0	0	0	0
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	Grab	8260B	0.50	0	0	0	0
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0

***** Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
14. Naphthalene	91203	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
15. Carbon Tetrachloride	56235	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
18a. Total dichlorobenzene		☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
23. Methylene Chloride	75092	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
24. Tetrachloroethene (PCE)	127184	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
27. Trichloroethene (TCE)	79016	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
29. Acetone	67641	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
30. 1,4 Dioxane	123911	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
31. Total Phenols	108952	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
32. Pentachlorophenol (PCP)	87865	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
33. Total Phthalates (Phthalate esters) [4]		☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	N/A	N/A	EPA 625	N/A	39.1	37.2	39.1	37.2
a. Benzo(a) Anthracene	56553	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
b. Benzo(a) Pyrene	50328	☐	☒	1	Grab	EPA 625	6.0	7.7	7.3	7.7	7.3
c. Benzo(b)Fluoranthene	205992	☐	☒	1	Grab	EPA 625	6.0	9.0	8.6	9.0	8.6
d. Benzo(k)Fluoranthene	207089	☐	☒	1	Grab	EPA 625	6.0	6.3	6.0	6.3	6.0
e. Chrysene	21801	☐	☒	1	Grab	EPA 625	6.0	8.1	7.7	8.1	7.7
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
g. Indeno(1,2,3-cd) Pyrene	193395	☐	☒	1	Grab	EPA 625	6.0	8.0	7.6	8.0	7.6
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	N/A	N/A	EPA 625	N/A	24.5	23.3	24.5	23.3

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
i. Acenaphthylene	208968	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
j. Anthracene	120127	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
k. Benzo(ghi) Perylene	191242	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
l. Fluoranthene	206440	☐	☒	1	Grab	EPA 625	6.0	14.3	13.6	14.3	13.6
m. Fluorene	86737	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
n. Naphthalene	91203	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
o. Phenanthrene	85018	☒	☐	1	Grab	EPA 625	6.0	0	0	0	0
p. Pyrene	129000	☐	☒	1	Grab	EPA 625	6.0	10.2	9.7	10.2	9.7
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
38. Chloride	16887006	☐	☒	1	Grab	4500 CL C-11	10	120,000	114,120	120,000	114,120
39. Antimony	7440360	☒	☐	1	Grab	EPA 200.7	6.0	0	0	0	0
40. Arsenic	7440382	☐	☒	1	Grab	EPA 200.7	4.0	13.7	13.0	13.7	13.0
41. Cadmium	7440439	☒	☐	1	Grab	EPA 200.7	4.0	0	0	0	0
42. Chromium III (trivalent)	16065831	☒	☐	1	Grab	6010/7196A	0.020	0	0	0	0
43. Chromium VI (hexavalent)	18540299	☒	☐	1	Grab	7196A	0.010	0	0	0	0
44. Copper	7440508	☐	☒	1	Grab	EPA 200.7	25	232	221	232	221
45. Lead	7439921	☐	☒	1	Grab	EPA 200.7	5.0	21.7	20.6	21.7	20.6
46. Mercury	7439976	☒	☐	1	Grab	EPA 200.7	0.20	0	0	0	0
47. Nickel	7440020	☒	☐	1	Grab	EPA 200.7	40	0	0	0	0
48. Selenium	7782492	☒	☐	1	Grab	EPA 200.7	10	0	0	0	0
49. Silver	7440224	☒	☐	1	Grab	EPA 200.7	5.0	0	0	0	0
50. Zinc	7440666	☐	☒	1	Grab	EPA 200.7	20	1,030	979	1,030	979
51. Iron	7439896	☐	☒	1	Grab	EPA 200.7	100	9,360	8,901	9,360	8,901
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
HEM Oil and Grease		☒	☐	1	Grab	EPA 1664A	4.4	0	0	0	0
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y_◉_ N_○_	If yes, which metals? As, Cu, Fe, Pb, Zn
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: As, Cu, Fe, Pb, Zn DF: 2.23 Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y_◉_ N_○_ If Y, list which metals: As, Cu, Fe, Pb, Zn

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

See NOI and attached Figure 3.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☒
	Chlorination ☐	De-chlorination ☐	Other (please describe):	Cartridge filters will also be used.		

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 150 gpm Maximum flow rate of treatment system 150 gpm
Design flow rate of treatment system 150 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

No chemical additives will be used.

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
The on-site storm drain discharges to Raper's Brook, which in turn discharges to the Ipswich River.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water Class B/SA

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.41 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ◉ N ○ If yes, for which pollutant(s)?
Flow alteration, metals, nutrients, organic enrichment/low DO
Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ___ B ___ C ___ D ___ E ___ F ___

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y___ N___ Underway___

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y___ N___

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ___ 2 ___ 3 ___

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. 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.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, 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/Site Name:	Speedway #2418
Operator signature:	
Printed Name &Title:	Brendan Murphy, Project Scientist
Date:	01/06/2015

APPENDIX B

New England ACCUTEST LABORATORIES

01/06/15

Technical Report for

EnviroTrac

Hess:#21223, 231 Main Street, North Reading, MA

Accutest Job Number: MC36155

Sampling Date: 12/29/14

Report to:

EnviroTrac

brendanm@envirotrac.com

ATTN: Brendan S. Murphy

Total number of pages in report: **21**

NELAP ACCREDITED TNI LABORATORY

Reza Tand
Lab Director

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Matthew Morrell 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

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Accutest LabLink@155240 10:49 06-Jan-2015

Sample Summary

EnviroTrac

Job No: MC36155

Hess:#21223, 231 Main Street, North Reading, MA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC36155-1	12/29/14	12:00	BM	12/29/14	AQ	Ground Water	TP-1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EnviroTrac	**Job No**	MC36155
Site:	Hess:#21223, 231 Main Street, North Reading, MA	**Report Date**	1/5/2015 5:36:36 PM

1 Sample was collected on 12/29/2014 and were received at Accutest on 12/29/2014 properly preserved, at 0.3 Deg. C and intact. These Samples received an Accutest job number of MC36155. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method EPA 524.2 REV 4.1

Matrix AQ **Batch ID:** MST1276

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 1,2-Dibromo-3-chloropropane, 1,2-Dichloroethane, Bromoform, Carbon tetrachloride are outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method EPA 625

Matrix AQ **Batch ID:** OP41459

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8015

Matrix AQ **Batch ID:** GBD3252

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846-8015

Matrix AQ **Batch ID:** OP41446

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method EPA 200.7

Matrix AQ **Batch ID:** MP24100

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC36155-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Cadmium are outside control limits for sample MP24100-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Only selected metals requested.

Metals By Method EPA 245.1

Matrix	AQ	Batch ID:	MP24108

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method 6010/7196A M/200.7

Matrix	AQ	Batch ID:	R36105

- MC36155-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method EPA 1664A

Matrix	AQ	Batch ID:	GP18669

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM 2540D-11

Matrix	AQ	Batch ID:	GN49570

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM 4500 CL C-11

Matrix	AQ	Batch ID:	GN49571

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM21 4500CL F

Matrix	AQ	Batch ID:	GN49540

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC36155-1 for Total Residual Chlorine: Analysis performed past the required 15 minutes of collection time/holding time.

Wet Chemistry By Method SW846 7196A

Matrix	AQ	Batch ID:	GN49539

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC36155).

Summary of Hits

Job Number: MC36155
Account: EnviroTrac
Project: Hess:#21223, 231 Main Street, North Reading, MA
Collected: 12/29/14

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC36155-1	**TP-1**					
Benzo(a)pyrene		7.7	6.0		ug/l	EPA 625
Benzo(b)fluoranthene		9.0	6.0		ug/l	EPA 625
Benzo(g,h,i)perylene		7.5	6.0		ug/l	EPA 625
Benzo(k)fluoranthene		6.3	6.0		ug/l	EPA 625
Chrysene		8.1	6.0		ug/l	EPA 625
Fluoranthene		14.3	6.0		ug/l	EPA 625
Indeno(1,2,3-cd)pyrene		8.0	6.0		ug/l	EPA 625
Pyrene		10.2	6.0		ug/l	EPA 625
TPH-DRO (Semi-VOA)		0.250	0.24		mg/l	SW846-8015
Arsenic		13.4	4.0		ug/l	EPA 200.7
Copper		232	25		ug/l	EPA 200.7
Iron		9360	100		ug/l	EPA 200.7
Lead		21.7	5.0		ug/l	EPA 200.7
Zinc		1030	20		ug/l	EPA 200.7
Chloride		120	10		mg/l	SM 4500 CL C-11
Solids, Total Suspended		85.0	4.0		mg/l	SM 2540D-11
Total Residual Chlorine [a]		0.10	0.050		mg/l	SM21 4500CL F

(a) Analysis performed past the required 15 minutes of collection time/holding time.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T36744.D	1	01/01/15	AMY	n/a	n/a	MST1276
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	0.50	ug/l	
74-97-5	Bromochloromethane	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
75-25-2	Bromoform	ND	0.50	ug/l	
74-83-9	Bromomethane	ND	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	0.50	ug/l	
108-90-7	Chlorobenzene	ND	0.50	ug/l	
75-00-3	Chloroethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
74-87-3	Chloromethane	ND	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	0.50	ug/l	
74-95-3	Dibromomethane	ND	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	0.50	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

VOA List

CAS No.	Compound	Result	RL	Units	Q
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	0.50	ug/l	
75-09-2	Methylene chloride	ND	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	ug/l	
91-20-3	Naphthalene	ND	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	0.50	ug/l	
100-42-5	Styrene	ND	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	0.50	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
	m,p-Xylene	ND	0.50	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	EPA 625 EPA 625	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F79075.D	1	01/03/15	KD	12/30/14	OP41459	MSF3444
Run #2	F79085.D	1	01/05/15	KD	12/30/14	OP41459	MSF3445

	Initial Volume	Final Volume
Run #1	830 ml	1.0 ml
Run #2	830 ml	1.0 ml

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	6.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	12	ug/l	
120-83-2	2,4-Dichlorophenol	ND	12	ug/l	
105-67-9	2,4-Dimethylphenol	ND	12	ug/l	
51-28-5	2,4-Dinitrophenol	ND [a]	12	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND [a]	12	ug/l	
88-75-5	2-Nitrophenol	ND	12	ug/l	
100-02-7	4-Nitrophenol	ND	12	ug/l	
87-86-5	Pentachlorophenol	ND	12	ug/l	
108-95-2	Phenol	ND	6.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	12	ug/l	
83-32-9	Acenaphthene	ND	6.0	ug/l	
208-96-8	Acenaphthylene	ND	6.0	ug/l	
120-12-7	Anthracene	ND	6.0	ug/l	
92-87-5	Benzidine	ND	12	ug/l	
56-55-3	Benzo(a)anthracene	ND	6.0	ug/l	
50-32-8	Benzo(a)pyrene	7.7	6.0	ug/l	
205-99-2	Benzo(b)fluoranthene	9.0	6.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	7.5	6.0	ug/l	
207-08-9	Benzo(k)fluoranthene	6.3	6.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	6.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	6.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	6.0	ug/l	
106-47-8	4-Chloroaniline	ND	12	ug/l	
218-01-9	Chrysene	8.1	6.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	6.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	6.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	6.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	6.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	6.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	6.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	EPA 625 EPA 625	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	6.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	12	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	12	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	6.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	6.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	6.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	6.0	ug/l	
84-66-2	Diethyl phthalate	ND	6.0	ug/l	
131-11-3	Dimethyl phthalate	ND	6.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.4	ug/l	
206-44-0	Fluoranthene	14.3	6.0	ug/l	
86-73-7	Fluorene	ND	6.0	ug/l	
118-74-1	Hexachlorobenzene	ND	6.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	6.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	12	ug/l	
67-72-1	Hexachloroethane	ND	6.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	8.0	6.0	ug/l	
78-59-1	Isophorone	ND	6.0	ug/l	
91-20-3	Naphthalene	ND	6.0	ug/l	
98-95-3	Nitrobenzene	ND	6.0	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	6.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	6.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	6.0	ug/l	
85-01-8	Phenanthrene	ND	6.0	ug/l	
129-00-0	Pyrene	10.2	6.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%	41%	15-110%
4165-62-2	Phenol-d5	27%	30%	15-110%
118-79-6	2,4,6-Tribromophenol	70%	84%	15-110%
4165-60-0	Nitrobenzene-d5	65%	65%	30-130%
321-60-8	2-Fluorobiphenyl	60%	59%	30-130%
1718-51-0	Terphenyl-d14	82%	82%	30-130%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BD68346A.D	1	12/30/14	AF	n/a	n/a	GBD3252
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
	TPH-GRO (VOA)	ND	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	2,3,4-Trifluorotoluene	98%		60-135%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
Method:	SW846-8015 SW846 3510C	**Percent Solids:**	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BI42097.D	1	12/31/14	AP	12/29/14	OP41446	GBI1592
Run #2							

	Initial Volume	Final Volume
Run #1	850 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (Semi-VOA)	0.250	0.24	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		40-140%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
		Percent Solids:	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Arsenic	13.4	4.0	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Cadmium	< 4.0	4.0	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Chromium	< 10	10	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Copper	232	25	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Iron	9360	100	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Lead	21.7	5.0	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	12/31/14	12/31/14	SA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 40	40	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Selenium	< 10	10	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Silver	< 5.0	5.0	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	1030	20	ug/l	1	12/30/14	12/31/14	EAL	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA17813
(2) Instrument QC Batch: MA17814
(3) Prep QC Batch: MP24100
(4) Prep QC Batch: MP24108

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP-1		
Lab Sample ID:	MC36155-1	**Date Sampled:**	12/29/14
Matrix:	AQ - Ground Water	**Date Received:**	12/29/14
		Percent Solids:	n/a
Project:	Hess:#21223, 231 Main Street, North Reading, MA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	120	10	mg/l	10	01/02/15	MC	SM 4500 CL C-11
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	12/29/14 17:00	MA	SW846 7196A
Chromium, Trivalent [a]	< 0.020	0.020	mg/l	1	12/31/14 10:38	EAL	6010/7196A M/200.7
HEM Oil And Grease	< 4.4	4.4	mg/l	1	12/31/14	HS	EPA 1664A
Solids, Total Suspended	85.0	4.0	mg/l	1	01/02/15	BF	SM 2540D-11
Total Residual Chlorine [b]	0.10	0.050	mg/l	1	12/29/14 17:33	MA	SM21 4500CL F

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)
(b) Analysis performed past the required 15 minutes of collection time/holding time.

RL = Reporting Limit

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Parameter Certifications (MA)
- Chain of Custody
- MCP Form

Parameter Certifications

Job Number: MC36155
Account: ENVTRAC EnviroTrac
Project: Hess:#21223, 231 Main Street, North Reading, MA

The following parameters included in this report are certified by the state of MA.

Parameter	CAS#	Method	Mat	Certification Status
Benzene	71-43-2	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Bromobenzene	108-86-1	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Bromochloromethane	74-97-5	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Bromodichloromethane	75-27-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Bromoform	75-25-2	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Bromomethane	74-83-9	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
n-Butylbenzene	104-51-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
sec-Butylbenzene	135-98-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
tert-Butylbenzene	98-06-6	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Carbon tetrachloride	56-23-5	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Chlorobenzene	108-90-7	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Chloroethane	75-00-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Chloroform	67-66-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Chloromethane	74-87-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
o-Chlorotoluene	95-49-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
p-Chlorotoluene	106-43-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,1-Dichloroethane	75-34-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,1-Dichloroethylene	75-35-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,1-Dichloropropene	563-58-6	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,2-Dibromo-3-chloropropane	96-12-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,2-Dibromoethane	106-93-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,2-Dichloroethane	107-06-2	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,2-Dichloropropane	78-87-5	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
1,3-Dichloropropane	142-28-9	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
2,2-Dichloropropane	594-20-7	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Dibromochloromethane	124-48-1	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Dibromomethane	74-95-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Dichlorodifluoromethane	75-71-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
cis-1,2-Dichloroethylene	156-59-2	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
cis-1,3-Dichloropropene	10061-01-5	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
m-Dichlorobenzene	541-73-1	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
o-Dichlorobenzene	95-50-1	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
p-Dichlorobenzene	106-46-7	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
trans-1,2-Dichloroethylene	156-60-5	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
trans-1,3-Dichloropropene	10061-02-6	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Ethylbenzene	100-41-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Hexachlorobutadiene	87-68-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Isopropylbenzene	98-82-8	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
p-Isopropyltoluene	99-87-6	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Methyl Tert Butyl Ether	1634-04-4	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Methylene chloride	75-09-2	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.
Naphthalene	91-20-3	EPA 524.2 REV 4.1	AQ	Accutest is certified for this parameter.

Parameter Certifications

Job Number: MC36155
Account: ENVTRAC EnviroTrac
Project: Hess:#21223, 231 Main Street, North Reading, MA

The following parameters included in this report are certified by the state of MA.

Parameter	CAS#	Method	Mat	Certification Status
n-Propylbenzene	103-65-1	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Styrene	100-42-5	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,1,1,2-Tetrachloroethane	630-20-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,1,1-Trichloroethane	71-55-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,1,2,2-Tetrachloroethane	79-34-5	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,1,2-Trichloroethane	79-00-5	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,2,3-Trichlorobenzene	87-61-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,2,3-Trichloropropane	96-18-4	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,2,4-Trichlorobenzene	120-82-1	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,2,4-Trimethylbenzene	95-63-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
1,3,5-Trimethylbenzene	108-67-8	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Tetrachloroethylene	127-18-4	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Toluene	108-88-3	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Trichloroethylene	79-01-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Trichlorofluoromethane	75-69-4	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Vinyl chloride	75-01-4	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Xylenes (total)	1330-20-7	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
m,p-Xylene		**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
o-Xylene	95-47-6	**EPA 524.2 REV 4.1**	AQ	Accutest is certified for this parameter.
Antimony	7440-36-0	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Arsenic	7440-38-2	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Cadmium	7440-43-9	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Chromium	7440-47-3	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Copper	7440-50-8	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Iron	7439-89-6	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Lead	7439-92-1	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Mercury	7439-97-6	**EPA 245.1**	AQ	Accutest is certified for this parameter.
Nickel	7440-02-0	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Selenium	7782-49-2	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Silver	7440-22-4	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Zinc	7440-66-6	**EPA 200.7**	AQ	Accutest is certified for this parameter.
Chloride	16887-00-6	**SM 4500 CL C-11**	AQ	Accutest is certified for this parameter.
HEM Oil And Grease		**EPA 1664A**	AQ	Accutest is certified for this parameter.
Solids, Total Suspended		**SM 2540D-11**	AQ	Accutest is certified for this parameter.
Total Residual Chlorine		**SM21 4500CL F**	AQ	Accutest is certified for this parameter.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC36155

Client / Reporting Information

Company Name: Environtrac Ltd.
Street Address: 2 Merchant St., Suite 7
City / State / Zip: Sharon MA 02067
Project Contact / E-mail: Jesse Kenwick jessek@envirotrac.com
Phone # / Fax #: (781) 773-0174 781-773-7877
Sampler(s) Name(s) / Phone #: B. Murphy (781) 773-0174

Project Information

Project Name: Hess #21223
Street: 231 Main Street
City: North Reading MA
Project#:
Client PO#: B.11 M. Material Hess
Project Manager:

Billing Information (If different from Report to)

Company Name: Hess Retail Operations LLC
Street Address: 1 Hess Plaza
City / State / Zip: Woodbridge NJ
Attention: Mike Matai
PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfite	VOCs by 8260	TPH (GRO + DRO)	PAHs only by 8270	TSS, TRC, and Chloride	Chromium (III + VI)	Total Metals (Fe, Cu, Ni, Mn, Cd, Zn, Se, Pb, Ss, As, Ag, Al)	Dissolved metals *	5 micron metals*	* Field filtered	LAB USE ONLY
-1F	TP-1		12/29/14	12:00	BM	GW	17	6		3		8					X	X	X	X	X	X				
																										178,69
																										193 10E

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [x] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

RUSH!

M. Morrison 12/29

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [x] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format _____
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Dissolved metals and 5 micron metals on hold until further notice.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	12/29/14 2:50PM	1 Will O'Neill	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice: [x] Cooler Temp. 0.3

5.2 5

MC36155: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC36155 **Client:** ENVIROTRAC **Project:** HESS#21223

Date / Time Received: 12/29/2014 2:50:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (0.3/0.3);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	G1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(508) 481-6200
495 Technology Center West, Bldg One
F: (508) 481-7753
Marlborough, MA 01752
www/accutest.com

MC36155: Chain of Custody
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Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

5.3

5

MassDEP Analytical Protocol Certification Form

Laboratory Name:	Accutest Laboratories of New England	Project #:	MC36155
Project Location:	Hess:#21223, 231 Main Street, North Reading, MA	MADEP RTN	None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
MC36155-1

Matrices: Groundwater/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other ( )

CAM Protocol (check all that apply below):

8260 VOC ( ) CAM IIA	7470/7471 Hg ( ) CAM III B	MassDEP VPH ( ) CAM IV A	8081 Pesticides ( ) CAM V B	7196 Hex Cr (X) CAM VI B	Mass DEP 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 (X) CAM III A	6020 Metals ( ) CAM III D	8082 PCB ( ) CAM V A	9014 Total Cyanide/PAC ( ) CAM VI A	6860 Perchlorate ( ) CAM VIII B	

Affirmative Responses to Questions A Through F are required for "Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ 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	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☑ 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

Responses to questions G, H, and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols	☑ Yes	☐ No [1]

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data useability 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 [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No [1]

[1] ***All Negative responses must be addressed in an attached Environmental Laboratory case narrative.***

I the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: **Position:** **Laboratory Director**

Printed Name: **Reza Tand** **Date:** **01/05/2015**

APPENDIX C

Massachusetts Cultural Resource Information System
MACRIS

Results

Get Results in Report Format
PDF Spreadsheet

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

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

For more information about this page and how to use it, click here

Inv. No.	Property Name	Street	Town	Year	SR			
NRE.A	Peabody Court		North Reading				INV	
NRE.B	Center Village Historic District		North Reading		SR		INV	
NRE.C	First Period Buildings of Eastern Massachusetts		North Reading		SR			
NRE.D	McIntire, Jacob House and Shed		North Reading		SR			
NRE.E	Main Street Streetscape		North Reading				INV	
NRE.F	Chestnut Street Village		North Reading				INV	
NRE.G	Elm Street - Dutton's Corner		North Reading				INV	
NRE.H	Haverhill Street - Mount Vernon Street Area		North Reading				INV	
nre.i	Massachusetts State Tuberculosis Sanatorium		North Reading				INV	
NRE.J	Upton Avenue and Chestnut Street Area		North Reading				INV	
NRE.K	West Village - Pudding Point		North Reading				INV	
NRE.65	Kittredge House	10 Batchelder Ave	North Reading	1905			INV	
NRE.39	Abbott, Daniel Graves House	3 Bow St	North Reading	1853			INV	
NRE.38	Hart, Joseph M. Cabinet Maker Shop	5 Bow St	North Reading	1853			INV	
NRE.37		7-9 Bow St	North Reading	1952			INV	

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Next 15

216 Properties Found

New Search | New Search — Same Town(s) | Previous

National Register of Historic Places Program

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

Search the NR 2013 & 2014 Weekly Lists

Property Name:

Multiple Property Name:

Reference Number:

Areas of Significance:

Street Address:

City/Town: North Reading

County:

State: Massachusetts

Or search the summary text Submit

Search results for:

No results found.

Quicklinks

- Search the National Register Database
- Find out what we listed this past week
- What's New / Features

Did You Know? Arna Wendell Bontemps House
See how the Louisiana birthplace of *Crisis* writer and novelist Arna Wendell Bontemps inspired African-American literature about life in the South.

APPENDIX D

StreamStats Data-Collection Station Report

USGS Station Number	**01101500**
Station Name	**IPSWICH RIVER AT SOUTH MIDDLETON, MA**
	Click here to link to available data on NWIS-Web for this site.

Descriptive Information

Station Type	Gaging Station, continuous record
Location	
Gage	
Regulation and Diversions	
Regulated?	True
Period of Record	1938-present
Remarks	Occasional regulation by mill. Diversions for municipal supply of Reading, Lynn, and Peadbody.
Latitude (degrees NAD83)	42.5695386
Longitude (degrees NAD83)	-71.0269975
Hydrologic unit code	01090001
County	009-Essex
HCDN2009	No

Physical Characteristics

Characteristic Name	Value	Units	Citation Number
Descriptive Information			
State_Code	25	dimensionless	30
Datum_of_Latitude_Longitude	NAD83	dimensionless	30
District_Code	25	dimensionless	30
Begin_date_of_record	6/1/1938	days	41
End_date_of_record	9/30/2003	days	41
Number_of_days_of_record	23863	days	41
Number_of_days_GT_0	23863	days	41

Precipitation Statistics			
24_Hour_2_Year_Precipitation	3.2000	inches	47
Mean_Annual_Precipitation	40.800	inches	47
Climate Characteristics			
Mean_Annual_Snowfall	60.000	inches	47
Temperature Statistics			
Mean_Min_January_Temperature	20.000	degrees F	47
Topographical Characteristics			
Mean_Basin_Elevation	110	feet	30
Land Cover Characteristics			
Area_of_Lakes_and_Ponds	0.99	square miles	30
Percent_Forest	71.000	percent	47
Percent_Lakes_and_Ponds	0.9900	percent	47
Percent_Storage	17.800	percent	47
Soil Properties			
Soil_Infiltration	4.0000	inches	47
Stream Channel Properties			
Main_Channel_Length	11.500	miles	47
Stream_Slope_10_and_85_Method	5.1000	feet per mi	47
Total_Stream_Length	11.5	miles	30
Basin Dimensional Characteristics			
Contributing_Drainage_Area	43.400	square miles	47
Drainage_Area	44.5	square miles	30

Streamflow Statistics

Statistic Name	Value	Units	Citation Number
Peak-Flow Statistics			
Mean_Annual_Flood	378	cubic feet per second	12
2_Year_Peak_Flood	357.000	cubic feet per second	47
Flood-Volume Statistics			
7_Day_2_Year_Maximum	282.000	cubic feet per second	47
7_Day_10_Year_Maximum	468.000	cubic feet per second	47
7_Day_50_Year_Maximum	646.000	cubic feet per second	47
Low-Flow Statistics			
7_Day_2_Year_Low_Flow	1.4	cubic feet per second	19
7_Day_10_Year_Low_Flow	0.41	cubic feet per second	19
Flow-Duration Statistics			

1_Percent_Duration	370	cubic feet per second	41	Y	66
5_Percent_Duration	218	cubic feet per second	41	Y	66
10_Percent_Duration	155	cubic feet per second	41	Y	66
20_Percent_Duration	106	cubic feet per second	41	Y	66
25_Percent_Duration	91	cubic feet per second	41	Y	66
30_Percent_Duration	78	cubic feet per second	41	Y	66
40_Percent_Duration	56	cubic feet per second	41	Y	66
50_Percent_Duration	38	cubic feet per second	41	Y	66
60_Percent_Duration	23	cubic feet per second	41	Y	66
70_Percent_Duration	12	cubic feet per second	41	Y	66
75_Percent_Duration	8.7	cubic feet per second	41	Y	66
80_Percent_Duration	6.1	cubic feet per second	41	Y	66
90_Percent_Duration	2.2	cubic feet per second	41	Y	66
95_Percent_Duration	0.99	cubic feet per second	41	Y	66
99_Percent_Duration	0.32	cubic feet per second	41	Y	66
General Flow Statistics					
Minimum_daily_flow	0.02	cubic feet per second	41	Y	66
Maximum_daily_flow	1160	cubic feet per second	41	Y	66
Std_Dev_of_daily_flows	80.67	cubic feet per second	41	Y	66
Average_daily_streamflow	64.164	cubic feet per second	41	Y	66
Base Flow Statistics					
Number_of_years_to_compute_BFI	65	years	42	Y	66
Average_BFI_value	0.533	dimensionless	42	Y	66
Std_dev_of_annual_BFI_values	0.085	dimensionless	42	Y	66

Citations

Citation Number	***Citation Name and URL***
12	Murphy, P.J., 2001, Evaluation of mixed-population flood-frequency analysis: American Society of Civil Engineers, Journal of Hydrologic Engineering, v. 6, no. 1, p. 62-70
19	Wandle, S.W., Jr., 1984, Gazetteer of Hydrologic Characteristics of Streams in Massachusetts--Coastal River Basins of the North Shore and Massachusetts Bay: U.S. Geological Survey Water-Resources Investigations Report 84-4281
30	Imported from NWIS file
41	Wolock, D.M., 2003, Flow characteristics at U.S. Geological Survey streamgages in the conterminous United States: U.S. Geological Survey Open-File Report 03-146, digital data set
42	Wolock, D.M., 2003, Base-flow index grid for the conterminous United States: U.S. Geological Survey Open-File Report 03-263, digital data set
47	Wandle, S.W., Jr., 1983, Estimating peak discharges of small, rural streams in Massachusetts: U.S. Geological Survey Water-Supply Paper 2214, 26 p.