



March 27, 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 #2478
Former Hess Station #21332
447 New State Highway
Raynham, Massachusetts 02767
MassDEP RTN 4-18309

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 a repair of the turbine sumps of the existing three 10,000-gallon capacity, double-wall fiberglass gasoline underground storage tanks (USTs). Based on gauging of a tank pad well at the Site, the depth to groundwater is approximately one to two feet below ground surface (bgs). Excavation to approximately four to five feet bgs will be required for the turbine sump repair. 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 filter houses arranged in parallel equipped with 10 to 50 micron bag filter media, two 2,000-pound liquid phase carbon units arranged in series, and cartridge or bag filter housings equipped with 1 micron filter media (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 on adjacent South Street, which discharges to Three Mile River via an outfall at Dam Lot Brook approximately 250 feet south of the Site. The Dam Lot Brook ultimately discharges to the Taunton River. 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 March 20, 2015, groundwater samples were obtained from a tank pad well (TP-2) in the proposed excavation area. Based on analytical data, methyl tert butyl ether, polycyclic aromatic hydrocarbons, and metals were detected in groundwater. However only concentrations of iron 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 29.1 was calculated for metals which exceeded applicable Effluent Limitations (refer to **Appendix A**). Based on a Dilution Factor Range of 10 to 50, concentrations of iron exceeded applicable Total Recoverable Metal Limitations published in Appendix IV of the RGP. An additional ground water sample was obtained from tank pad well TP-2 and filtered using a 5-micron filter prior to analysis. The 5-micron filter reduced concentrations of iron significantly; however the concentration still exceeded the Effluent Limit for iron. Based on these results, it is anticipated that a large portion of the total metals detected are associated with sediment contained in the unfiltered sample and sediment smaller than 5 microns in size. The proposed treatment system incorporates significant sediment removal processes, including a fractionation settling tank, bag filters, carbon filtration and a final filtration stage equipped with 1 micron filter media. Therefore, it is unlikely that the discharge will exceed iron 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>), no historical sites are located in Raynham, Massachusetts. The Massachusetts Historical Commission's Massachusetts Cultural Resource Information System (MACRIS) (<http://www.sec.state.ma.us/mhcr/>) listed fifteen sites in Raynham. The nearest Massachusetts-listed site, the Route 44 Bridge over Dam Lot Brook, is located approximately 600 feet west of the Site. Based on drainage patterns, 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 located within the area specified by the FWS as the general habitat of the federally endangered Northern Red-bellied cooter. The US Environmental Protection Agency (EPA) is seeking to ensure that wastewater discharges under the RGP do not adversely affect endangered and threatened species, critical habitat, and/or essential fish habitat. As required under Part I.B.5 of the RGP, all applicants must comply with Appendix VII, Section I, regarding consultation with federal services on endangered species issues. As such, EnviroTrac requested any available information regarding the presence of endangered or threatened species (included the Northern Red-bellied cooter), critical habitat, and/or essential fish habitat in the proximity of the Site, as well as a determination as to whether the Site discharge and related activities are likely to adversely affect these species and/or habitats, through a written consultation with the FWS and the National Marine Fisheries Service under Section 7 of the Endangered Species Act. Copies of the letters documenting these requests are included in **Appendix D**. In addition, according to the Massachusetts Division of Fisheries and Wildlife website, 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. The discharge receiving water, however, (i.e., the Taunton River) flows through a small portion of the Three Mile River Watershed, which is designated as an 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.

A handwritten signature in blue ink, appearing to read 'JK', enclosed within a green rectangular border.

Jesse Krawiec
Senior Project Manager

cc.: MassDEP Southeast Regional Office
Town of Raynham Board of Selectmen
Town of Raynham Conservation Commission
Mathew Butler, Hess Retail Operations LLC

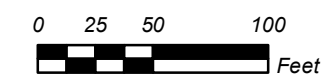
FIGURES



Legend

- Perennial Stream
- Intermittent Stream
- Shoreline
- Intermittent Shoreline
- Manmade Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- Marsh/Bog
- Wooded Marsh
- Cranberry Bog
- Salt Marsh
- Tidal Flats
- Discharge path and direction

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



REVISED BY: DT
REVISION DATE: 3/27/2015

FIGURE
1

DEWATERING DISCHARGE MAP

SPEEDWAY #2478
FORMER HESS #21332
447 NEW STATE HIGHWAY
RAYNHAM, MASSACHUSETTS

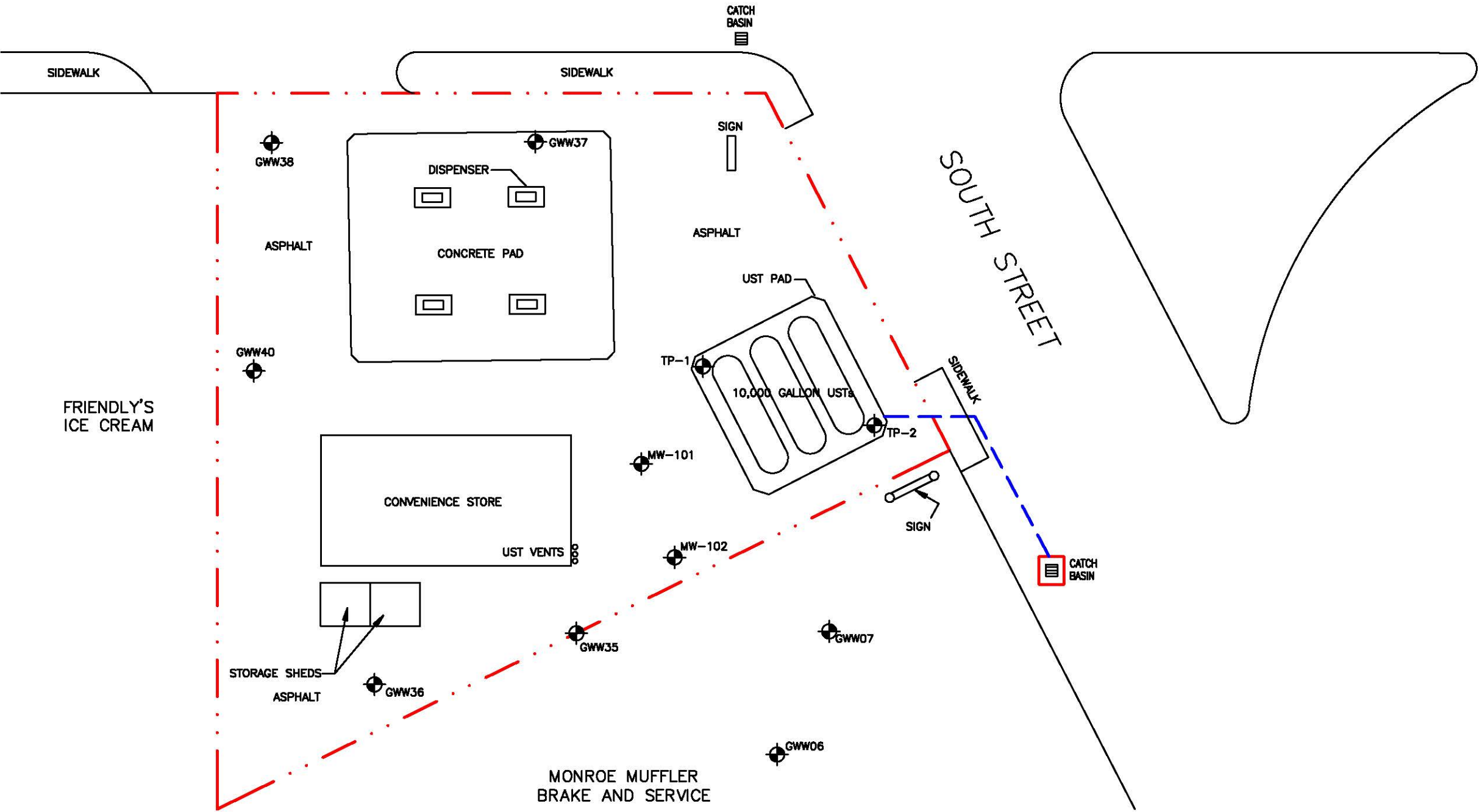




SHELL SERVICE
STATION

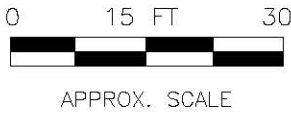
NEW STATE HIGHWAY (ROUTE 44)

ALL LOCATIONS APPROXIMATE.
NOT FOR CONSTRUCTION PURPOSES.



LEGEND

- MONITORING WELL
- DEWATERING DISCHARGE POINT
- DISCHARGE PATH
- PROPERTY LINE

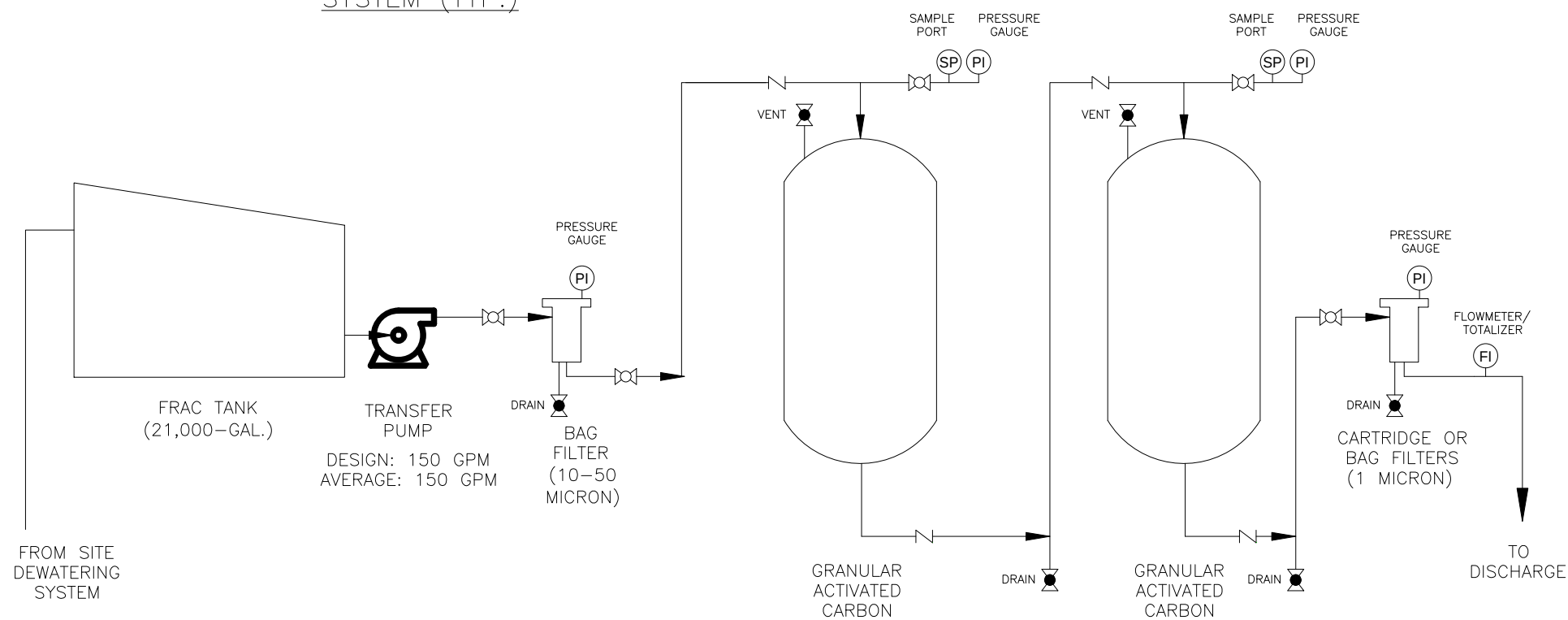
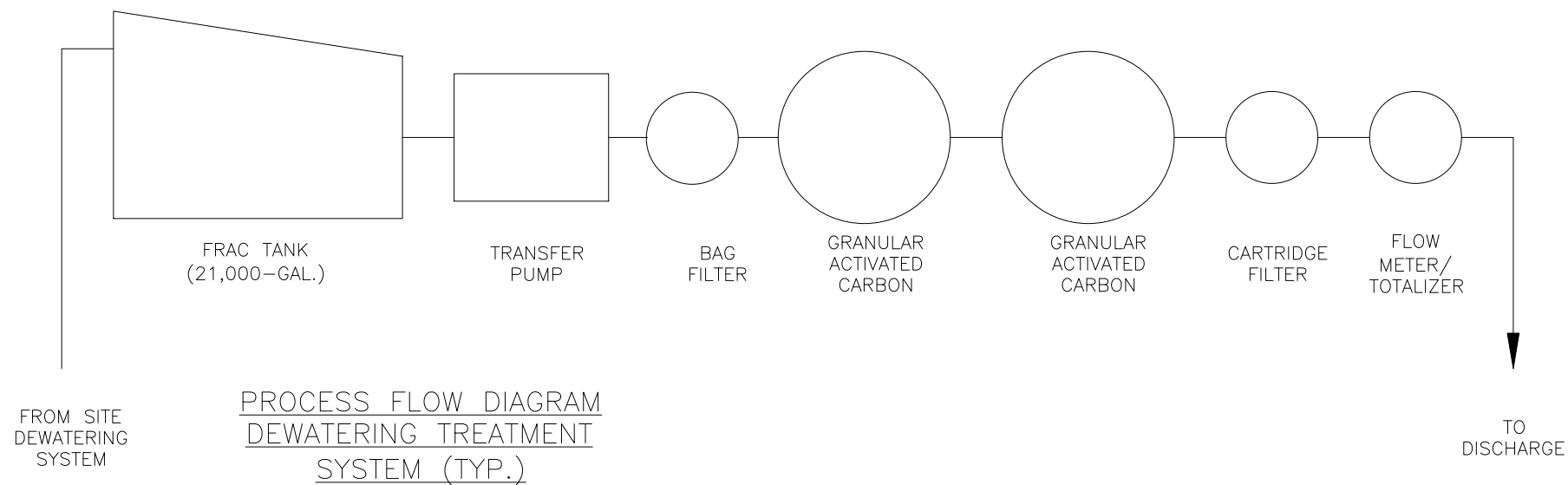


DRAWN BY: BSM
DRAWING DATE: 03/25/2015

FIGURE
2

DRAWING TITLE
DISCHARGE LOCATION PLAN

PREPARED FOR
SPEEDWAY #2478
FORMER HESS #21332
447 NEW STATE HIGHWAY
RAYNHAM, MA

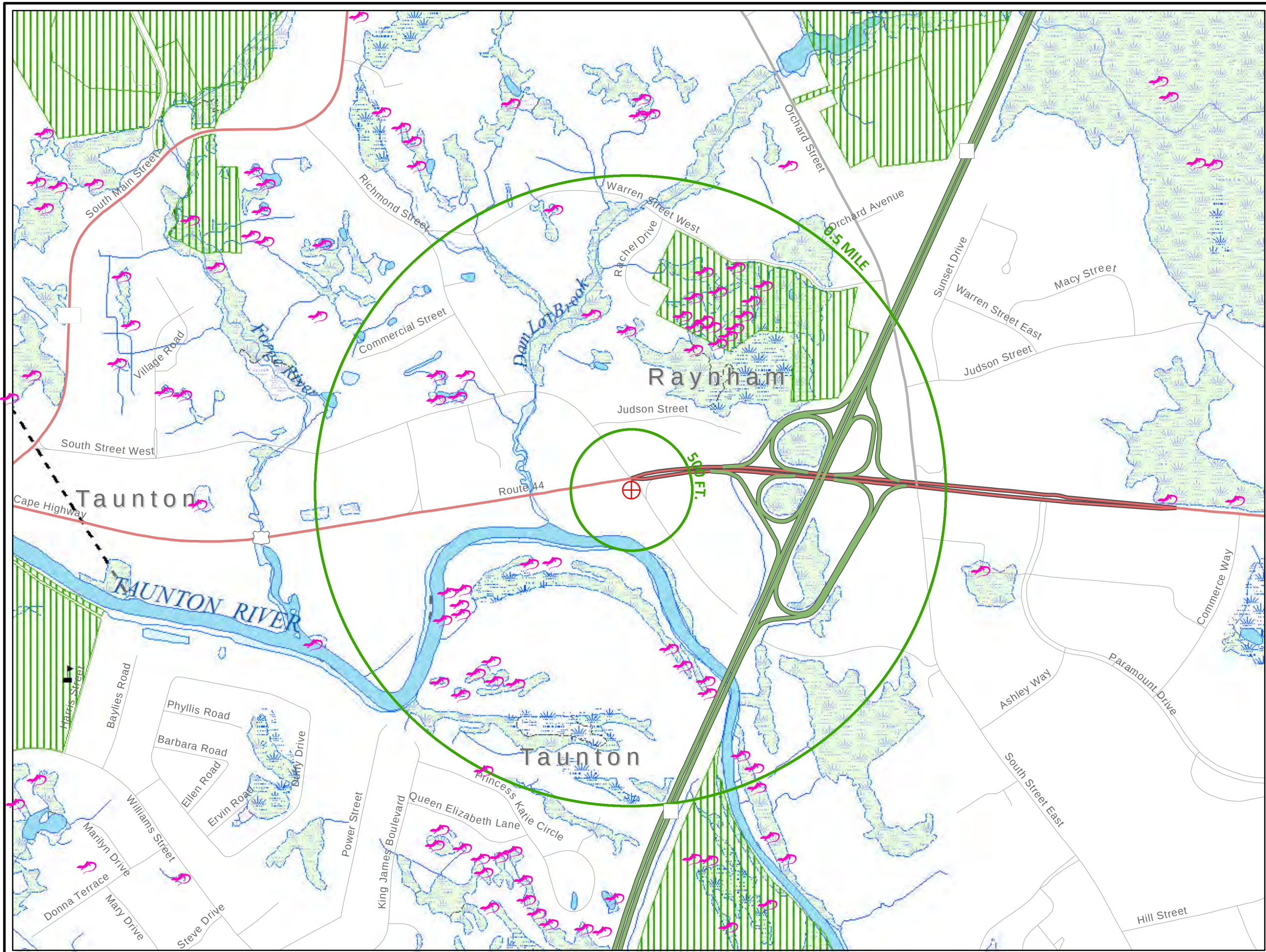


DRAWN BY: BSM DRAWING DATE: 03/26/2015	FIGURE 3
DRAWING TITLE PROCESS FLOW DIAGRAM	
PREPARED FOR SPEEDWAY #2478 FORMER HESS #21332 447 NEW STATE HIGHWAY RAYNHAM, MA	



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 Estimated Habitat of Rare Wildlife
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- ACECs
- Protected Open Space
- School

- 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

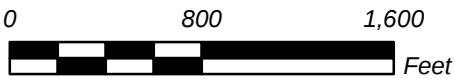
- Public Water Supplies**
- Community Groundwater Source
 - Surface Water Intake
 - Non-Community Groundwater Source
 - Emergency Surface Water

- 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.



SCALE: 1 inch=800 feet

REVISED BY: DT
REVISION DATE: 3/27/2015

FIGURE

4

MCP PRIORITY RESOURCE MAP
500 foot and 0.5 mile Radii

SPEEDWAY #2478
FORMER HESS #21332
447 NEW STATE HIGHWAY
RAYNHAM, MASSACHUSETTS



TABLE

TABLE 1
SUMMARY OF RGP GROUNDWATER ANALYTICAL DATA

Speedway #2478
Former Hess Station #21332
447 New State Highway
Raynham, MA

Sample ID Sample Date	TP-2 3/20/2015	RGP Appendix III Effluent Limits	RGP Appendix IV Effluent Limits Dilution Factor Range 10-50
VOLATILE ORGANIC COMPOUNDS (µg/L)			
Methyl Tert Butyl Ether	0.47	70	NA
All other VOCs	ND	NA	NA
POLYCYCLIC AROMATIC HYDROCARBONS (µg/L)			
Total Group I PAHs	0.023	NA	NA
Chrysene	0.023	NA	NA
Total Group II PAHs	0.118	NA	NA
Fluoranthene	0.052	NA	NA
Phenanthrene	0.027	NA	NA
Pyrene	0.039	NA	NA
All other PAHs	ND	NA	NA
TOTAL PETROLEUM HYDROCARBONS (mg/L)			
Gasoline Range Organics	<0.10	5.0 (total)	NA
Diesel Range Organics	<0.21	5.0 (total)	NA
METALS (µg/L)			
	Filtered	Total	
Antimony	--	<6.0	NA
Arsenic	--	13.2	NA
Cadmium	--	<4.0	NA
Chromium III	--	<0.020	NA
Chromium VI	--	<0.010	NA
Copper	--	<25	NA
Iron	7,980	12,000	1,000
Lead	<5.0	<5.0	1.3
Mercury	--	<0.20	NA
Nickel	--	<40	NA
Selenium	--	<10	NA
Silver	--	<5.0	NA
Zinc	--	117	NA
GENERAL CHEMISTRY (mg/L)			
Chloride	2,350	Monitor only	Monitor only
Total Residual Chlorine	<0.050	11.0	NA
Total Suspended Solids	26.0	30.0	NA

NOTES:

-- is not sampled
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

< 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 29.1 was calculated based on the following equation:
(Maximum Flow Rate of Discharge + 7Q10 of receiving water) / (Maximum Flow Rate of Discharge)
= (9.4 cfs + 0.334 cfs) / 0.334 cfs = 29.1, where cfs is cubic feet per second
For metals, the Dilution Factor was used to determine the RGP Appendix IV effluent limits

APPENDIX A

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 #2478		Facility/site mailing address:	
Location of facility/site : longitude: -71.048165 latitude: 41.906239	Facility SIC code(s):	Street: 447 New State Highway	
b) Name of facility/site owner :		Town: Raynham	
Email address of facility/site owner : mbutler1@speedway.com	State: MA	Zip: 02767	County: Bristol
Telephone no. of facility/site owner : (750) 732-6624			
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.

<u>Activity Category</u>	<u>Activity Sub-Category</u>
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 turbine sumps.			
b) Provide the following information about each discharge:			
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)?		
1	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.	41.905953	long.	-71.047976
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 04/09/2015 end 06/09/2015			
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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☐	☒	1	Grab	2540D-11	4.0	26,000	24.7	26,000	24.7
2. Total Residual Chlorine (TRC)		☒	☐	1	Grab	4500CL F	0.050	0	0	0	0
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	Grab	8015/3510C	0.10	0	0	0	0
4. Cyanide (CN)	57125	☒	☐	N/A	N/A	N/A	N/A	0	0	0	0
5. Benzene (B)	71432	☒	☐	1	Grab	8260C	0.50	0	0	0	0
6. Toluene (T)	108883	☒	☐	1	Grab	8260C	0.50	0	0	0	0
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	8260C	0.50	0	0	0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	Grab	8260C	0.50	0	0	0	0
9. Total BTEX ²	n/a	☒	☐	1	Grab	8260C	N/A	0	0	0	0
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐	1	Grab	8260C	0.33	0	0	0	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☐	☒	1	Grab	8260C	0.35	0.47	0.45	0.47	0.45
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.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
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	8270D by SIM	N/A	0.023	0.022	0.023	0.022
a. Benzo(a) Anthracene	56553	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
b. Benzo(a) Pyrene	50328	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
c. Benzo(b)Fluoranthene	205992	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
d. Benzo(k)Fluoranthene	207089	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
e. Chrysene	21801	☐	☒	1	Grab	8270D by SIM	0.014	0.023	0.022	0.023	0.022
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☒	1	Grab	8270D by SIM	N/A	0	0	0	0
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	N/A	N/A	8270D by SIM	N/A	0.12	0.11	0.12	0.11

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
i. Acenaphthylene	208968	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
j. Anthracene	120127	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
k. Benzo(ghi) Perylene	191242	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
l. Fluoranthene	206440	☐	☒	1	Grab	8270D by SIM	0.0078	0.052	0.049	0.052	0.049
m. Fluorene	86737	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
n. Naphthalene	91203	☒	☐	1	Grab	8270D by SIM	N/A	0	0	0	0
o. Phenanthrene	85018	☐	☒	1	Grab	8270D by SIM	0.011	0.027	0.026	0.027	0.026
p. Pyrene	129000	☐	☒	1	Grab	8270D by SIM	0.0089	0.039	0.037	0.039	0.037
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	100	2,350	2,233	2,350	2,233
39. Antimony	7440360	☒	☐	1	Grab	EPA 200.7	6.0	0	0	0	0
40. Arsenic	7440382	☐	☒	1	Grab	EPA 200.7	4.0	13.2	12.5	13.2	12.5
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	117	111	117	111
51. Iron	7439896	☐	☒	1	Grab	EPA 200.7	100	12,000	11,400	12,000	11,400
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)
		☐	☐								
		☐	☐								

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

<i>Step 1:</i> 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? Fe
<i>Step 2:</i> 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: Fe DF: 29.1 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: Fe

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 may 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 gpm Maximum flow rate of treatment system gpm

Design flow rate of treatment system 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 storm drain abutting the site on South Street discharges to Three Mile River, which flows into the Taunton 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

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 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)?

Dissolved oxygen (organic enrichment/oxygen depletion), fecal coliform

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 #2478
Operator signature:	
Printed Name & Title:	Brendan Murphy, Project Scientist
Date:	03/27/2015

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:

$$951,000 \text{ L/day} * \text{concentration of parameter in kg/L} = \text{kg}$$

Example:

Total Suspended Solids:

$$951,000 \text{ L/day} * 0.000026 \text{ kg/L} = 24.7 \text{ kg}$$

Dilution Factor

According to the USGS StreamStats Data-Collection Station Report (included in **Appendix E**), the 7Q10 value for USGS Station Number 01109060 (Three Mile River at Dighton) is **9.4 cfs**.

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

$$DF = (7Q10 + \text{System Design Flow}) / \text{System Design Flow}$$

$$DF = (9.4 \text{ cfs} + 0.334 \text{ cfs}) / 0.334 \text{ cfs} = 29.1$$

APPENDIX B



03/27/15

Technical Report for

EnviroTrac

Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

03.SW2478.01

Accutest Job Number: MC37452

Sampling Date: 03/20/15

Report to:

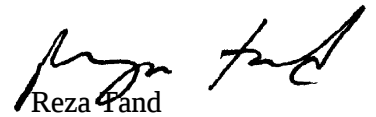
EnviroTrac
2 Merchant Street Suite 2
Sharon, MA 02067
denat@envirotrac.com

ATTN: Dena Tomassi

Total number of pages in report: **63**



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.


Reza Fand
Lab Director

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)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	7
Section 4: Sample Results	8
4.1: MC37452-1: TP-2	9
4.2: MC37452-1FA: TP-2 (5 MICRON)	17
Section 5: Misc. Forms	18
5.1: Parameter Certifications (MA)	19
5.2: Chain of Custody	20
5.3: MCP Form	22
5.4: Sample Tracking Chronicle	23
5.5: QC Evaluation: MA MCP Limits	24
Section 6: GC/MS Volatiles - QC Data Summaries	30
6.1: Method Blank Summary	31
6.2: Blank Spike/Blank Spike Duplicate Summary	34
6.3: Internal Standard Area Summaries	37
6.4: Surrogate Recovery Summaries	38
Section 7: GC/MS Semi-volatiles - QC Data Summaries	39
7.1: Method Blank Summary	40
7.2: Blank Spike/Blank Spike Duplicate Summary	41
7.3: Internal Standard Area Summaries	42
7.4: Surrogate Recovery Summaries	43
Section 8: GC Volatiles - QC Data Summaries	44
8.1: Method Blank Summary	45
8.2: Blank Spike/Blank Spike Duplicate Summary	46
8.3: Surrogate Recovery Summaries	47
Section 9: GC Semi-volatiles - QC Data Summaries	48
9.1: Method Blank Summary	49
9.2: Blank Spike/Blank Spike Duplicate Summary	50
9.3: Surrogate Recovery Summaries	51
Section 10: Metals Analysis - QC Data Summaries	52
10.1: Prep QC MP24390: Sb,As,Cd,Cr,Cu,Fe,Pb,Ni,Se,Ag,Zn	53
10.2: Prep QC MP24392: Hg	59
Section 11: General Chemistry - QC Data Summaries	61
11.1: Method Blank and Spike Results Summary	62
11.2: Blank Spike Duplicate Results Summary	63



Sample Summary

EnviroTrac

Job No: MC37452

Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Project No: 03.SW2478.01

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
MC37452-1	03/20/15	09:45 LM	03/20/15	AQ	Ground Water	TP-2
MC37452-1FA	03/20/15	09:45 LM	03/20/15	AQ	Groundwater Filtered	TP-2 (5 MICRON)

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: EnviroTrac

Job No MC37452

Site: Speedway #2478 (former Hess #21332), 447 New State Highway, Ra

Report Date 3/27/2015 2:35:27 PM

2 Sample(s), were collected on 03/20/2015 and were received at Accutest on 03/20/2015 properly preserved, at 1.9 Deg. C and intact. These Samples received an Accutest job number of MC37452. 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 SW846 8260C

Matrix AQ	Batch ID: MSN3524
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSN3524-BS for Acetone, 2-Hexanone, Naphthalene are outside MCP criteria, but within in-house criteria.
- Continuing calibration check standard MSN3524-CC3519 for bromomethane, 1,1-dichloroethene, methylene chloride, carbon disulfide, 1,4-dioxane, naphthalene exceed 20% Difference. This check standard met MCP criteria.
- The response factor (RF) for the 2-Butanone and Acetone low points (0.048 and 0.073) and average points (0.067 and 0.096) in the initial calibration MSN3519-ICC3519 are less than the required RF of 0.1 as noted in Table 4 of SW846 8260C.
- Quadratic regression is employed for initial calibration standard MSN3519-ICC3519 for naphthalene, 1,2,3-trichlorobenzene.
- MSN3524-BSD for Acetone, 2-Hexanone are outside MCP criteria, but within in-house criteria.

Extractables by GCMS By Method SW846 8270D BY SIM

Matrix AQ	Batch ID: OP42439
------------------	--------------------------

- 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.
- Quadratic regression is employed for initial calibration standard MSI3483-ICC3483 for Benzo[b]fluoranthene.
- Only PAH Sim requested.

Volatiles by GC By Method SW846 8015

Matrix AQ	Batch ID: GBD3320
------------------	--------------------------

- 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: OP42375
------------------	--------------------------

- 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: MP24390
------------------	--------------------------

- 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) MC37459-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Chromium, Nickel, Zinc are outside control limits for sample MP24390-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: MP24392
------------------	--------------------------

- 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: R36416
------------------	-------------------------

- MC37452-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SM 2540D-11

Matrix AQ	Batch ID: GN50140
------------------	--------------------------

- 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: GN50139
------------------	--------------------------

- 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: GN50127
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC37452-1 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: GN50126
------------------	--------------------------

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

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

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 (MC37452).

Summary of Hits

Page 1 of 1

Job Number: MC37452

Account: EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Collected: 03/20/15

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						

MC37452-1 TP-2

Methyl Tert Butyl Ether	0.47 J	1.0	0.35	ug/l	SW846 8260C
Benzo(b)fluoranthene	0.12	0.051		ug/l	SW846 8270D BY SIM
Fluoranthene	0.10	0.10		ug/l	SW846 8270D BY SIM
Phenanthrene	0.056	0.051		ug/l	SW846 8270D BY SIM
Arsenic	13.2	4.0		ug/l	EPA 200.7
Iron	12000	100		ug/l	EPA 200.7
Zinc	117	20		ug/l	EPA 200.7
Chloride	2350	100		mg/l	SM 4500 CL C-11
Solids, Total Suspended	26.0	4.0		mg/l	SM 2540D-11
Total Residual Chlorine ^a	< 0.050	0.050		mg/l	SM21 4500CL F

MC37452-1FA TP-2 (5 MICRON)

Iron	7980	100		ug/l	EPA 200.7
------	------	-----	--	------	-----------

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

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TP-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N95720.D	1	03/25/15	JB	n/a	n/a	MSN3524
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA MCP List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.79	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	

ND = Not detected MDL = Method Detection Limit

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-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

VOA MCP List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
123-91-1	1,4-Dioxane	ND	25	20	ug/l	
60-29-7	Ethyl Ether	ND	5.0	0.52	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.47	1.0	0.35	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.29	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.73	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
109-99-9	Tetrahydrofuran	ND	10	3.0	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

ND = Not detected MDL = Method Detection Limit

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-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

VOA MCP List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-133%
2037-26-5	Toluene-D8	101%		85-114%
460-00-4	4-Bromofluorobenzene	109%		70-134%

ND = Not detected MDL = Method Detection Limit
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-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I94709.D	1	03/26/15	MR	03/26/15	OP42439	MSI3541
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	0.12	0.051	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	0.10	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	0.056	0.051	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		26-121%
321-60-8	2-Fluorobiphenyl	60%		28-107%
1718-51-0	Terphenyl-d14	96%		29-129%

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

Page 1 of 1

Client Sample ID:	TP-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BD69294.D	1	03/23/15	AF	n/a	n/a	GBD3320
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (VOA)	ND	0.10	0.013	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
	2,3,4-Trifluorotoluene	97%		66-126%		

ND = Not detected MDL = Method Detection Limit
 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

Page 1 of 1

Client Sample ID:	TP-2	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1	Date Received:	03/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015 SW846 3510C		
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CF75.D	1	03/23/15	TA	03/22/15	OP42375	GCF1004
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (Semi-VOA)	ND	0.21	0.082	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	63%		40-140%		

ND = Not detected MDL = Method Detection Limit
 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-2	Date Sampled: 03/20/15
Lab Sample ID: MC37452-1	Date Received: 03/20/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Arsenic	13.2	4.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Cadmium	< 4.0	4.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Chromium	< 10	10	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Copper	< 25	25	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Iron	12000	100	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Lead	< 5.0	5.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Mercury	< 0.20	0.20	ug/l	1	03/24/15	03/24/15 SA	EPA 245.1 ²	EPA 245.1 ⁴
Nickel	< 40	40	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Selenium	< 10	10	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Silver	< 5.0	5.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³
Zinc	117	20	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ³

(1) Instrument QC Batch: MA17993

(2) Instrument QC Batch: MA17994

(3) Prep QC Batch: MP24390

(4) Prep QC Batch: MP24392

RL = Reporting Limit

Report of Analysis

Client Sample ID: TP-2	Date Sampled: 03/20/15
Lab Sample ID: MC37452-1	Date Received: 03/20/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	2350	100	mg/l	100	03/23/15	CF	SM 4500 CL C-11
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	03/20/15 18:15	CF	SW846 7196A
Chromium, Trivalent ^a	< 0.020	0.020	mg/l	1	03/24/15 12:19	EAL	6010/7196A M/200.7
Solids, Total Suspended	26.0	4.0	mg/l	1	03/24/15	BF	SM 2540D-11
Total Residual Chlorine ^b	< 0.050	0.050	mg/l	1	03/20/15 18:33	CF	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

Report of Analysis

Client Sample ID:	TP-2 (5 MICRON)	Date Sampled:	03/20/15
Lab Sample ID:	MC37452-1FA	Date Received:	03/20/15
Matrix:	AQ - Groundwater Filtered	Percent Solids:	n/a
Project:	Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	7980	100	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ²
Lead	< 5.0	5.0	ug/l	1	03/23/15	03/24/15 EAL	EPA 200.7 ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA17993
(2) Prep QC Batch: MP24390

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Parameter Certifications (MA)
- Chain of Custody
- MCP Form
- Sample Tracking Chronicle
- QC Evaluation: MA MCP Limits

Parameter Certifications

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

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

Parameter	CAS#	Method	Mat	Certification Status
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.
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.

[illegible]

5.2

MC37452: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC37452 **Client:** ENVIROTRAC **Project:** HESS#21332
Date / Time Received: 3/20/2015 5:50:00 PM **Delivery Method:** _____ **Airbill #'s:** _____
Cooler Temps (Initial/Adjusted): #1: (1.9/1.9); _____

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



Massachusetts Department
of Environmental Protection
Bureau of Waste Site Cleanup

WSC-CAM

Exhibit VII A

July 1, 2010

Revision No. 1

Final

Page 13 of 38

Exhibit VII A-2: MassDEP Analytical Protocol Certification Form

MassDEP Analytical Protocol Certification Form

Laboratory Name: Accutest Laboratories of New England

Project #: MC37452

Project Location: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

MADEP RTN

None

This form provides certifications for the following data set: list Laboratory Sample ID Numbers(s)
MC37452-1, MC37452-1FA

Test method: Refer to case narrative.

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

CAM Protocol (check all that apply below):

8260 VOC (X) 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 (X) 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). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☒ ☒	Yes 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:

03/27/2015

Internal Sample Tracking Chronicle

EnviroTrac

Job No: MC37452

Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Project No: 03.SW2478.01

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC37452-1 Collected: 20-MAR-15 09:45 By: LM Received: 20-MAR-15 By: BA TP-2						
MC37452-1 SW846 7196A		20-MAR-15 18:15	CF			XCR
MC37452-1 SM21 4500CL F		20-MAR-15 18:33	CF			TRC
MC37452-1 SM 4500 CL C-11		23-MAR-15	CF			CHL
MC37452-1 SW846 8015		23-MAR-15 11:54	AF			V8015GRO
MC37452-1 SW846-8015		23-MAR-15 18:01	TA	22-MAR-15 AZ		B8015DRO
MC37452-1 SM 2540D-11		24-MAR-15	BF			TSS
MC37452-1 EPA 200.7		24-MAR-15 12:19	EAL	23-MAR-15 EM		AG,AS,CD,CR,CU,FE,NI,PB,SB,SE,ZN
MC37452-1 6010/7196A M/200.7		24-MAR-15 12:19	EAL			CR3
MC37452-1 EPA 245.1		24-MAR-15 14:43	SA	24-MAR-15 EM		HG
MC37452-1 SW846 8260C		25-MAR-15 11:38	JB			V8260MCP
MC37452-1 SW846 8270D BY SIM		26-MAR-15 18:24	MR	26-MAR-15 PA		B8270SIMPAH
MC37452-1 Collected: 20-MAR-15 09:45 By: LM Received: 20-MAR-15 By: BA TP-2 (5 MICRON)						
MC37452-1 EPA 200.7		24-MAR-15 12:25	EAL	23-MAR-15 EM		FE,PB

QC Evaluation: MA MCP Limits

Page 1 of 6

Job Number: MC37452
Account: EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
--------------	------	---------	-------------	-------------	--------	-------	--------

MSN3524 SW846 8260C

MSN3524-BS	67-64-1	Acetone	BSP	REC	36	%	70-130
MSN3524-BS	71-43-2	Benzene	BSP	REC	87	%	70-130
MSN3524-BS	108-86-1	Bromobenzene	BSP	REC	90	%	70-130
MSN3524-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	70-130
MSN3524-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	70-130
MSN3524-BS	75-25-2	Bromoform	BSP	REC	94	%	70-130
MSN3524-BS	74-83-9	Bromomethane	BSP	REC	94	%	70-130
MSN3524-BS	78-93-3	2-Butanone (MEK)	BSP	REC	72	%	70-130
MSN3524-BS	104-51-8	n-Butylbenzene	BSP	REC	103	%	70-130
MSN3524-BS	135-98-8	sec-Butylbenzene	BSP	REC	91	%	70-130
MSN3524-BS	98-06-6	tert-Butylbenzene	BSP	REC	94	%	70-130
MSN3524-BS	75-15-0	Carbon disulfide	BSP	REC	81	%	70-130
MSN3524-BS	56-23-5	Carbon tetrachloride	BSP	REC	105	%	70-130
MSN3524-BS	108-90-7	Chlorobenzene	BSP	REC	84	%	70-130
MSN3524-BS	75-00-3	Chloroethane	BSP	REC	87	%	70-130
MSN3524-BS	67-66-3	Chloroform	BSP	REC	97	%	70-130
MSN3524-BS	74-87-3	Chloromethane	BSP	REC	94	%	70-130
MSN3524-BS	95-49-8	o-Chlorotoluene	BSP	REC	89	%	70-130
MSN3524-BS	106-43-4	p-Chlorotoluene	BSP	REC	91	%	70-130
MSN3524-BS	108-20-3	Di-Isopropyl ether	BSP	REC	92	%	70-130
MSN3524-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	96	%	70-130
MSN3524-BS	124-48-1	Dibromochloromethane	BSP	REC	95	%	70-130
MSN3524-BS	106-93-4	1,2-Dibromoethane	BSP	REC	89	%	70-130
MSN3524-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	89	%	70-130
MSN3524-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	88	%	70-130
MSN3524-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	91	%	70-130
MSN3524-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	112	%	70-130
MSN3524-BS	75-34-3	1,1-Dichloroethane	BSP	REC	90	%	70-130
MSN3524-BS	107-06-2	1,2-Dichloroethane	BSP	REC	97	%	70-130
MSN3524-BS	75-35-4	1,1-Dichloroethene	BSP	REC	85	%	70-130
MSN3524-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	93	%	70-130
MSN3524-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	89	%	70-130
MSN3524-BS	78-87-5	1,2-Dichloropropane	BSP	REC	94	%	70-130
MSN3524-BS	142-28-9	1,3-Dichloropropane	BSP	REC	93	%	70-130
MSN3524-BS	594-20-7	2,2-Dichloropropane	BSP	REC	117	%	70-130
MSN3524-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	70-130
MSN3524-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	112	%	70-130
MSN3524-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	109	%	70-130
MSN3524-BS	123-91-1	1,4-Dioxane	BSP	REC	81	%	70-130
MSN3524-BS	60-29-7	Ethyl Ether	BSP	REC	88	%	70-130
MSN3524-BS	100-41-4	Ethylbenzene	BSP	REC	91	%	70-130
MSN3524-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	70-130

* Sample used for QC is not from job MC37452

QC Evaluation: MA MCP Limits

Page 2 of 6

Job Number: MC37452
Account: EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSN3524-BS	591-78-6	2-Hexanone	BSP	REC	66	%	70-130
MSN3524-BS	98-82-8	Isopropylbenzene	BSP	REC	91	%	70-130
MSN3524-BS	99-87-6	p-Isopropyltoluene	BSP	REC	98	%	70-130
MSN3524-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	96	%	70-130
MSN3524-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	92	%	70-130
MSN3524-BS	74-95-3	Methylene bromide	BSP	REC	89	%	70-130
MSN3524-BS	75-09-2	Methylene chloride	BSP	REC	81	%	70-130
MSN3524-BS	91-20-3	Naphthalene	BSP	REC	62	%	70-130
MSN3524-BS	103-65-1	n-Propylbenzene	BSP	REC	91	%	70-130
MSN3524-BS	100-42-5	Styrene	BSP	REC	92	%	70-130
MSN3524-BS	994-05-8	tert-Amyl Methyl Ether	BSP	REC	85	%	70-130
MSN3524-BS	637-92-3	tert-Butyl Ethyl Ether	BSP	REC	100	%	70-130
MSN3524-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	94	%	70-130
MSN3524-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	95	%	70-130
MSN3524-BS	127-18-4	Tetrachloroethene	BSP	REC	91	%	70-130
MSN3524-BS	109-99-9	Tetrahydrofuran	BSP	REC	80	%	70-130
MSN3524-BS	108-88-3	Toluene	BSP	REC	95	%	70-130
MSN3524-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	74	%	70-130
MSN3524-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	82	%	70-130
MSN3524-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	101	%	70-130
MSN3524-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	94	%	70-130
MSN3524-BS	79-01-6	Trichloroethene	BSP	REC	92	%	70-130
MSN3524-BS	75-69-4	Trichlorofluoromethane	BSP	REC	108	%	70-130
MSN3524-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	96	%	70-130
MSN3524-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	95	%	70-130
MSN3524-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	98	%	70-130
MSN3524-BS	75-01-4	Vinyl chloride	BSP	REC	100	%	70-130
MSN3524-BS		m,p-Xylene	BSP	REC	86	%	70-130
MSN3524-BS	95-47-6	o-Xylene	BSP	REC	84	%	70-130
MSN3524-BS	1330-20-7	Xylene (total)	BSP	REC	85	%	70-130
MSN3524-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	103	%	70-130
MSN3524-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	70-130
MSN3524-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	99	%	70-130
MSN3524-BSD	67-64-1	Acetone	BSD	REC	41	%	70-130
MSN3524-BSD	67-64-1	Acetone	BSD	RPD	12	%	20
MSN3524-BSD	71-43-2	Benzene	BSD	REC	89	%	70-130
MSN3524-BSD	71-43-2	Benzene	BSD	RPD	2	%	20
MSN3524-BSD	108-86-1	Bromobenzene	BSD	REC	92	%	70-130
MSN3524-BSD	108-86-1	Bromobenzene	BSD	RPD	2	%	20
MSN3524-BSD	74-97-5	Bromochloromethane	BSD	REC	95	%	70-130
MSN3524-BSD	74-97-5	Bromochloromethane	BSD	RPD	4	%	20
MSN3524-BSD	75-27-4	Bromodichloromethane	BSD	REC	98	%	70-130
MSN3524-BSD	75-27-4	Bromodichloromethane	BSD	RPD	3	%	20
MSN3524-BSD	75-25-2	Bromoform	BSD	REC	95	%	70-130
MSN3524-BSD	75-25-2	Bromoform	BSD	RPD	1	%	20

* Sample used for QC is not from job MC37452

QC Evaluation: MA MCP Limits

Job Number: MC37452
Account: EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSN3524-BSD	74-83-9	Bromomethane	BSD	REC	94	%	70-130
MSN3524-BSD	74-83-9	Bromomethane	BSD	RPD	0	%	20
MSN3524-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	73	%	70-130
MSN3524-BSD	78-93-3	2-Butanone (MEK)	BSD	RPD	1	%	20
MSN3524-BSD	104-51-8	n-Butylbenzene	BSD	REC	107	%	70-130
MSN3524-BSD	104-51-8	n-Butylbenzene	BSD	RPD	3	%	20
MSN3524-BSD	135-98-8	sec-Butylbenzene	BSD	REC	92	%	70-130
MSN3524-BSD	135-98-8	sec-Butylbenzene	BSD	RPD	1	%	20
MSN3524-BSD	98-06-6	tert-Butylbenzene	BSD	REC	94	%	70-130
MSN3524-BSD	98-06-6	tert-Butylbenzene	BSD	RPD	0	%	20
MSN3524-BSD	75-15-0	Carbon disulfide	BSD	REC	83	%	70-130
MSN3524-BSD	75-15-0	Carbon disulfide	BSD	RPD	3	%	20
MSN3524-BSD	56-23-5	Carbon tetrachloride	BSD	REC	102	%	70-130
MSN3524-BSD	56-23-5	Carbon tetrachloride	BSD	RPD	3	%	20
MSN3524-BSD	108-90-7	Chlorobenzene	BSD	REC	86	%	70-130
MSN3524-BSD	108-90-7	Chlorobenzene	BSD	RPD	2	%	20
MSN3524-BSD	75-00-3	Chloroethane	BSD	REC	87	%	70-130
MSN3524-BSD	75-00-3	Chloroethane	BSD	RPD	1	%	20
MSN3524-BSD	67-66-3	Chloroform	BSD	REC	95	%	70-130
MSN3524-BSD	67-66-3	Chloroform	BSD	RPD	1	%	20
MSN3524-BSD	74-87-3	Chloromethane	BSD	REC	94	%	70-130
MSN3524-BSD	74-87-3	Chloromethane	BSD	RPD	0	%	20
MSN3524-BSD	95-49-8	o-Chlorotoluene	BSD	REC	90	%	70-130
MSN3524-BSD	95-49-8	o-Chlorotoluene	BSD	RPD	0	%	20
MSN3524-BSD	106-43-4	p-Chlorotoluene	BSD	REC	92	%	70-130
MSN3524-BSD	106-43-4	p-Chlorotoluene	BSD	RPD	0	%	20
MSN3524-BSD	108-20-3	Di-Isopropyl ether	BSD	REC	91	%	70-130
MSN3524-BSD	108-20-3	Di-Isopropyl ether	BSD	RPD	1	%	20
MSN3524-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	98	%	70-130
MSN3524-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	RPD	2	%	20
MSN3524-BSD	124-48-1	Dibromochloromethane	BSD	REC	96	%	70-130
MSN3524-BSD	124-48-1	Dibromochloromethane	BSD	RPD	1	%	20
MSN3524-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	91	%	70-130
MSN3524-BSD	106-93-4	1,2-Dibromoethane	BSD	RPD	1	%	20
MSN3524-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	92	%	70-130
MSN3524-BSD	95-50-1	1,2-Dichlorobenzene	BSD	RPD	3	%	20
MSN3524-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	92	%	70-130
MSN3524-BSD	541-73-1	1,3-Dichlorobenzene	BSD	RPD	4	%	20
MSN3524-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	93	%	70-130
MSN3524-BSD	106-46-7	1,4-Dichlorobenzene	BSD	RPD	2	%	20
MSN3524-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	107	%	70-130
MSN3524-BSD	75-71-8	Dichlorodifluoromethane	BSD	RPD	4	%	20
MSN3524-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	88	%	70-130
MSN3524-BSD	75-34-3	1,1-Dichloroethane	BSD	RPD	2	%	20
MSN3524-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	94	%	70-130

* Sample used for QC is not from job MC37452

QC Evaluation: MA MCP Limits

Job Number: MC37452
Account: EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSN3524-BSD	107-06-2	1,2-Dichloroethane	BSD	RPD	4	%	20
MSN3524-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	87	%	70-130
MSN3524-BSD	75-35-4	1,1-Dichloroethene	BSD	RPD	2	%	20
MSN3524-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	95	%	70-130
MSN3524-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	RPD	2	%	20
MSN3524-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	94	%	70-130
MSN3524-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	RPD	6	%	20
MSN3524-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	95	%	70-130
MSN3524-BSD	78-87-5	1,2-Dichloropropane	BSD	RPD	1	%	20
MSN3524-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	95	%	70-130
MSN3524-BSD	142-28-9	1,3-Dichloropropane	BSD	RPD	2	%	20
MSN3524-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	114	%	70-130
MSN3524-BSD	594-20-7	2,2-Dichloropropane	BSD	RPD	3	%	20
MSN3524-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	91	%	70-130
MSN3524-BSD	563-58-6	1,1-Dichloropropene	BSD	RPD	1	%	20
MSN3524-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	111	%	70-130
MSN3524-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	RPD	1	%	20
MSN3524-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	108	%	70-130
MSN3524-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	RPD	1	%	20
MSN3524-BSD	123-91-1	1,4-Dioxane	BSD	REC	87	%	70-130
MSN3524-BSD	123-91-1	1,4-Dioxane	BSD	RPD	8	%	20
MSN3524-BSD	60-29-7	Ethyl Ether	BSD	REC	86	%	70-130
MSN3524-BSD	60-29-7	Ethyl Ether	BSD	RPD	3	%	20
MSN3524-BSD	100-41-4	Ethylbenzene	BSD	REC	94	%	70-130
MSN3524-BSD	100-41-4	Ethylbenzene	BSD	RPD	2	%	20
MSN3524-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	70-130
MSN3524-BSD	87-68-3	Hexachlorobutadiene	BSD	RPD	1	%	20
MSN3524-BSD	591-78-6	2-Hexanone	BSD	REC	67	%	70-130
MSN3524-BSD	591-78-6	2-Hexanone	BSD	RPD	2	%	20
MSN3524-BSD	98-82-8	Isopropylbenzene	BSD	REC	91	%	70-130
MSN3524-BSD	98-82-8	Isopropylbenzene	BSD	RPD	0	%	20
MSN3524-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	98	%	70-130
MSN3524-BSD	99-87-6	p-Isopropyltoluene	BSD	RPD	0	%	20
MSN3524-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	94	%	70-130
MSN3524-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	RPD	2	%	20
MSN3524-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	89	%	70-130
MSN3524-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	RPD	3	%	20
MSN3524-BSD	74-95-3	Methylene bromide	BSD	REC	90	%	70-130
MSN3524-BSD	74-95-3	Methylene bromide	BSD	RPD	1	%	20
MSN3524-BSD	75-09-2	Methylene chloride	BSD	REC	81	%	70-130
MSN3524-BSD	75-09-2	Methylene chloride	BSD	RPD	0	%	20
MSN3524-BSD	91-20-3	Naphthalene	BSD	REC	72	%	70-130
MSN3524-BSD	91-20-3	Naphthalene	BSD	RPD	15	%	20
MSN3524-BSD	103-65-1	n-Propylbenzene	BSD	REC	92	%	70-130
MSN3524-BSD	103-65-1	n-Propylbenzene	BSD	RPD	1	%	20

* Sample used for QC is not from job MC37452

QC Evaluation: MA MCP Limits

Page 5 of 6

Job Number: MC37452
Account: EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA
Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSN3524-BSD	100-42-5	Styrene	BSD	REC	96	%	70-130
MSN3524-BSD	100-42-5	Styrene	BSD	RPD	4	%	20
MSN3524-BSD	994-05-8	tert-Amyl Methyl Ether	BSD	REC	88	%	70-130
MSN3524-BSD	994-05-8	tert-Amyl Methyl Ether	BSD	RPD	3	%	20
MSN3524-BSD	637-92-3	tert-Butyl Ethyl Ether	BSD	REC	101	%	70-130
MSN3524-BSD	637-92-3	tert-Butyl Ethyl Ether	BSD	RPD	1	%	20
MSN3524-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	95	%	70-130
MSN3524-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	RPD	1	%	20
MSN3524-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	96	%	70-130
MSN3524-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	RPD	0	%	20
MSN3524-BSD	127-18-4	Tetrachloroethene	BSD	REC	93	%	70-130
MSN3524-BSD	127-18-4	Tetrachloroethene	BSD	RPD	2	%	20
MSN3524-BSD	109-99-9	Tetrahydrofuran	BSD	REC	85	%	70-130
MSN3524-BSD	109-99-9	Tetrahydrofuran	BSD	RPD	7	%	20
MSN3524-BSD	108-88-3	Toluene	BSD	REC	95	%	70-130
MSN3524-BSD	108-88-3	Toluene	BSD	RPD	0	%	20
MSN3524-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	86	%	70-130
MSN3524-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	RPD	14	%	25
MSN3524-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	89	%	70-130
MSN3524-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	RPD	8	%	20
MSN3524-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	98	%	70-130
MSN3524-BSD	71-55-6	1,1,1-Trichloroethane	BSD	RPD	3	%	20
MSN3524-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	93	%	70-130
MSN3524-BSD	79-00-5	1,1,2-Trichloroethane	BSD	RPD	1	%	20
MSN3524-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	70-130
MSN3524-BSD	79-01-6	Trichloroethene	BSD	RPD	0	%	20
MSN3524-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	104	%	70-130
MSN3524-BSD	75-69-4	Trichlorofluoromethane	BSD	RPD	4	%	20
MSN3524-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	95	%	70-130
MSN3524-BSD	96-18-4	1,2,3-Trichloropropane	BSD	RPD	1	%	20
MSN3524-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	93	%	70-130
MSN3524-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	RPD	1	%	20
MSN3524-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	99	%	70-130
MSN3524-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	RPD	1	%	20
MSN3524-BSD	75-01-4	Vinyl chloride	BSD	REC	96	%	70-130
MSN3524-BSD	75-01-4	Vinyl chloride	BSD	RPD	4	%	20
MSN3524-BSD		m,p-Xylene	BSD	REC	90	%	70-130
MSN3524-BSD		m,p-Xylene	BSD	RPD	4	%	20
MSN3524-BSD	95-47-6	o-Xylene	BSD	REC	88	%	70-130
MSN3524-BSD	95-47-6	o-Xylene	BSD	RPD	4	%	20
MSN3524-BSD	1330-20-7	Xylene (total)	BSD	REC	89	%	70-130
MSN3524-BSD	1330-20-7	Xylene (total)	BSD	RPD	4	%	20
MSN3524-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	101	%	70-130
MSN3524-BSD	2037-26-5	Toluene-D8	BSD	SURR	100	%	70-130
MSN3524-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	97	%	70-130

* Sample used for QC is not from job MC37452

QC Evaluation: MA MCP Limits

Page 6 of 6

Job Number: MC37452

Account: EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Collected: 03/20/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSN3524-MB	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	70-130
MSN3524-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	70-130
MSN3524-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	106	%	70-130
MC37452-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	70-130
MC37452-1	2037-26-5	Toluene-D8	SAMP	SURR	101	%	70-130
MC37452-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	109	%	70-130

* Sample used for QC is not from job MC37452

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC37452**Account:** ENVTRAC EnviroTrac**Project:** Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-MB	N95717.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:**Method:** SW846 8260C

MC37452-1

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-MB	N95717.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:

Method: SW846 8260C

MC37452-1

CAS No.	Compound	Result	RL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	
60-29-7	Ethyl Ether	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
109-99-9	Tetrahydrofuran	ND	10	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Page 3 of 3

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-MB	N95717.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:

Method: SW846 8260C

MC37452-1

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	99% 72-133%
2037-26-5	Toluene-D8	98% 85-114%
460-00-4	4-Bromofluorobenzene	106% 70-134%

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 3

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-BS	N95714.D	1	03/25/15	JB	n/a	n/a	MSN3524
MSN3524-BSD	N95715.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:

Method: SW846 8260C

MC37452-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	18.2	36	20.6	41	12	14-172/25
71-43-2	Benzene	50	43.6	87	44.4	89	2	68-127/25
108-86-1	Bromobenzene	50	44.8	90	45.8	92	2	74-124/25
74-97-5	Bromochloromethane	50	45.6	91	47.5	95	4	68-135/25
75-27-4	Bromodichloromethane	50	50.4	101	49.1	98	3	72-144/25
75-25-2	Bromoform	50	47.0	94	47.4	95	1	59-147/25
74-83-9	Bromomethane	50	47.1	94	47.1	94	0	34-175/25
78-93-3	2-Butanone (MEK)	50	36.2	72	36.6	73	1	43-147/25
104-51-8	n-Butylbenzene	50	51.7	103	53.4	107	3	77-136/25
135-98-8	sec-Butylbenzene	50	45.6	91	46.0	92	1	75-134/25
98-06-6	tert-Butylbenzene	50	47.0	94	47.0	94	0	74-132/25
75-15-0	Carbon disulfide	50	40.4	81	41.6	83	3	34-171/25
56-23-5	Carbon tetrachloride	50	52.6	105	50.8	102	3	55-153/25
108-90-7	Chlorobenzene	50	42.0	84	42.9	86	2	71-123/25
75-00-3	Chloroethane	50	43.3	87	43.6	87	1	58-175/25
67-66-3	Chloroform	50	48.3	97	47.7	95	1	67-136/25
74-87-3	Chloromethane	50	47.2	94	47.2	94	0	25-182/25
95-49-8	o-Chlorotoluene	50	44.7	89	44.9	90	0	72-130/25
106-43-4	p-Chlorotoluene	50	45.6	91	45.8	92	0	73-127/25
108-20-3	Di-Isopropyl ether	50	46.1	92	45.5	91	1	56-145/25
96-12-8	1,2-Dibromo-3-chloropropane	50	47.8	96	49.0	98	2	50-159/25
124-48-1	Dibromochloromethane	50	47.5	95	47.9	96	1	73-139/25
106-93-4	1,2-Dibromoethane	50	44.7	89	45.3	91	1	69-132/25
95-50-1	1,2-Dichlorobenzene	50	44.6	89	46.1	92	3	77-125/25
541-73-1	1,3-Dichlorobenzene	50	44.2	88	45.8	92	4	77-124/25
106-46-7	1,4-Dichlorobenzene	50	45.5	91	46.3	93	2	73-128/25
75-71-8	Dichlorodifluoromethane	50	55.9	112	53.6	107	4	23-157/25
75-34-3	1,1-Dichloroethane	50	45.1	90	44.0	88	2	63-145/25
107-06-2	1,2-Dichloroethane	50	48.7	97	46.8	94	4	58-145/25
75-35-4	1,1-Dichloroethene	50	42.7	85	43.5	87	2	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	46.3	93	47.3	95	2	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	44.3	89	46.9	94	6	66-136/25
78-87-5	1,2-Dichloropropane	50	46.8	94	47.5	95	1	75-133/25
142-28-9	1,3-Dichloropropane	50	46.5	93	47.4	95	2	70-127/25
594-20-7	2,2-Dichloropropane	50	58.5	117	56.8	114	3	52-163/25
563-58-6	1,1-Dichloropropene	50	46.0	92	45.5	91	1	77-140/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Page 2 of 3

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-BS	N95714.D	1	03/25/15	JB	n/a	n/a	MSN3524
MSN3524-BSD	N95715.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:

Method: SW846 8260C

MC37452-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	56.2	112	55.4	111	1	74-141/25
10061-02-6	trans-1,3-Dichloropropene	50	54.5	109	53.8	108	1	77-143/25
123-91-1	1,4-Dioxane	250	202	81	218	87	8	30-182/25
60-29-7	Ethyl Ether	50	44.1	88	43.0	86	3	53-157/25
100-41-4	Ethylbenzene	50	45.7	91	46.8	94	2	71-129/25
87-68-3	Hexachlorobutadiene	50	51.5	103	52.1	104	1	64-146/25
591-78-6	2-Hexanone	50	32.9	66	33.7	67	2	22-163/25
98-82-8	Isopropylbenzene	50	45.6	91	45.7	91	0	72-133/25
99-87-6	p-Isopropyltoluene	50	49.2	98	49.2	98	0	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	48.2	96	47.2	94	2	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	45.9	92	44.6	89	3	47-145/25
74-95-3	Methylene bromide	50	44.3	89	44.9	90	1	70-132/25
75-09-2	Methylene chloride	50	40.5	81	40.7	81	0	55-146/25
91-20-3	Naphthalene	50	30.8	62	35.8	72	15	39-176/25
103-65-1	n-Propylbenzene	50	45.4	91	45.8	92	1	74-134/25
100-42-5	Styrene	50	46.2	92	48.1	96	4	71-134/25
994-05-8	tert-Amyl Methyl Ether	50	42.3	85	43.8	88	3	34-159/25
637-92-3	tert-Butyl Ethyl Ether	50	49.8	100	50.3	101	1	29-172/25
630-20-6	1,1,1,2-Tetrachloroethane	50	47.2	94	47.7	95	1	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	47.7	95	47.9	96	0	58-145/25
127-18-4	Tetrachloroethene	50	45.3	91	46.4	93	2	63-137/25
109-99-9	Tetrahydrofuran	50	40.0	80	42.7	85	7	63-137/25
108-88-3	Toluene	50	47.4	95	47.3	95	0	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	37.2	74	42.9	86	14	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	41.1	82	44.6	89	8	40-176/25
71-55-6	1,1,1-Trichloroethane	50	50.6	101	49.1	98	3	68-144/25
79-00-5	1,1,2-Trichloroethane	50	47.2	94	46.7	93	1	72-133/25
79-01-6	Trichloroethene	50	46.0	92	45.9	92	0	73-126/25
75-69-4	Trichlorofluoromethane	50	53.8	108	51.9	104	4	43-152/25
96-18-4	1,2,3-Trichloropropane	50	47.9	96	47.4	95	1	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	47.4	95	46.7	93	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	49.0	98	49.3	99	1	71-127/25
75-01-4	Vinyl chloride	50	50.0	100	48.0	96	4	36-167/25
	m,p-Xylene	100	86.4	86	89.5	90	4	68-130/25
95-47-6	o-Xylene	50	42.1	84	43.9	88	4	69-126/25
1330-20-7	Xylene (total)	150	128	85	133	89	4	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Page 3 of 3

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3524-BS	N95714.D	1	03/25/15	JB	n/a	n/a	MSN3524
MSN3524-BSD	N95715.D	1	03/25/15	JB	n/a	n/a	MSN3524

The QC reported here applies to the following samples:

Method: SW846 8260C

MC37452-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	103%	101%	72-133%
2037-26-5	Toluene-D8	101%	100%	85-114%
460-00-4	4-Bromofluorobenzene	99%	97%	70-134%

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Check Std: MSN3524-CC3519

Injection Date: 03/25/15

Lab File ID: N95713.D

Injection Time: 08:22

Instrument ID: GCMSN

Method: SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	352523	9.11	484494	9.98	338430	13.23	246345	15.78	166109	6.70
Upper Limit ^a	705046	9.61	968988	10.48	676860	13.73	492690	16.28	332218	7.20
Lower Limit ^b	176262	8.61	242247	9.48	169215	12.73	123173	15.28	83055	6.20

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN3524-BS	400468	9.11	568685	9.98	366018	13.23	264199	15.79	186307	6.71
MSN3524-BSD	421712	9.11	599892	9.98	376742	13.23	277318	15.79	198909	6.70
MSN3524-MB	435458	9.11	602607	9.98	352883	13.23	235678	15.79	176147	6.74
ZZZZZZ	419661	9.11	579991	9.98	345422	13.23	236931	15.79	239677	6.74
ZZZZZZ	397254	9.11	564292	9.98	334340	13.23	219031	15.79	164699	6.74
MC37452-1	388322	9.11	554157	9.98	337458	13.23	218510	15.79	216634	6.74
MC37380-6	380201	9.11	535166	9.98	332685	13.23	249550	15.79	176041	6.73
ZZZZZZ	408041	9.11	579784	9.98	352129	13.23	271716	15.78	175288	6.73
MC37380-6MS	447591	9.11	630848	9.98	398935	13.23	313226	15.79	209262	6.71
MC37380-6MSD	491744	9.11	702416	9.98	435522	13.23	340622	15.79	223706	6.70
ZZZZZZ	497760	9.11	710387	9.98	412626	13.23	292688	15.79	231510	6.73
ZZZZZZ	474019	9.11	674756	9.98	385447	13.23	278307	15.79	245444	6.71
ZZZZZZ	453236	9.11	640739	9.98	375632	13.23	251476	15.79	213652	6.74
ZZZZZZ	442889	9.11	625739	9.98	370451	13.23	260865	15.79	214700	6.73
ZZZZZZ	432131	9.12	608596	9.98	355698	13.23	261512	15.79	236464	6.73
ZZZZZZ	434888	9.11	614265	9.98	355792	13.23	248650	15.79	210766	6.73
ZZZZZZ	424357	9.12	608368	9.98	356145	13.23	239320	15.79	224038	6.74
ZZZZZZ	416699	9.11	595825	9.98	355297	13.23	253536	15.79	241407	6.73
ZZZZZZ	397838	9.11	564334	9.98	338723	13.23	247051	15.79	215697	6.73
ZZZZZZ	390559	9.11	555862	9.98	341192	13.23	241882	15.78	213557	6.74
ZZZZZZ	400513	9.12	584465	9.98	378029	13.23	260603	15.79	213727	6.73

IS 1 = Pentafluorobenzene

IS 2 = 1,4-Difluorobenzene

IS 3 = Chlorobenzene-D5

IS 4 = 1,4-Dichlorobenzene-d4

IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: MC37452
Account: ENVTRAC EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Method: SW846 8260C	Matrix: AQ
----------------------------	-------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC37452-1	N95720.D	105	101	109
MSN3524-BS	N95714.D	103	101	99
MSN3524-BSD	N95715.D	101	100	97
MSN3524-MB	N95717.D	99	98	106

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42439-MB	I94706.D	1	03/26/15	MR	03/26/15	OP42439	MSI3541

The QC reported here applies to the following samples:

Method: SW846 8270D BY SIM

MC37452-1

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	72% 26-121%
321-60-8	2-Fluorobiphenyl	63% 28-107%
1718-51-0	Terphenyl-d14	108% 29-129%

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42439-BS	I94707.D	1	03/26/15	MR	03/26/15	OP42439	MSI3541
OP42439-BSD	I94708.D	1	03/26/15	MR	03/26/15	OP42439	MSI3541

The QC reported here applies to the following samples:

Method: SW846 8270D BY SIM

MC37452-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	37.8	76	37.5	75	1	45-116/30
208-96-8	Acenaphthylene	50	37.7	75	37.1	74	2	34-110/30
120-12-7	Anthracene	50	40.8	82	39.6	79	3	50-117/30
56-55-3	Benzo(a)anthracene	50	47.9	96	46.4	93	3	55-139/30
50-32-8	Benzo(a)pyrene	50	45.6	91	44.3	89	3	48-131/30
205-99-2	Benzo(b)fluoranthene	50	45.7	91	44.0	88	4	49-141/30
191-24-2	Benzo(g,h,i)perylene	50	44.8	90	43.1	86	4	60-130/30
207-08-9	Benzo(k)fluoranthene	50	40.4	81	39.1	78	3	49-133/30
218-01-9	Chrysene	50	44.0	88	42.5	85	3	52-128/30
53-70-3	Dibenzo(a,h)anthracene	50	43.8	88	42.4	85	3	60-136/30
206-44-0	Fluoranthene	50	44.9	90	43.7	87	3	46-132/30
86-73-7	Fluorene	50	39.4	79	38.5	77	2	53-120/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.0	90	43.4	87	4	57-134/30
91-57-6	2-Methylnaphthalene	50	31.9	64	33.4	67	5	36-111/30
91-20-3	Naphthalene	50	29.3	59	30.9	62	5	32-116/30
85-01-8	Phenanthrene	50	40.0	80	38.4	77	4	50-120/30
129-00-0	Pyrene	50	46.2	92	44.9	90	3	48-127/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	71%	74%	26-121%
321-60-8	2-Fluorobiphenyl	71%	76%	28-107%
1718-51-0	Terphenyl-d14	111%	109%	29-129%

* = Outside of Control Limits.

Semivolatiles Internal Standard Area Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Check Std: MSI3541-CC3483

Injection Date: 03/26/15

Lab File ID: I94691.D

Injection Time: 08:02

Instrument ID: GCMSI

Method: SW846 8270D BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	290334	3.62	611940	4.66	356303	6.18	636403	7.50	447637	10.28	1158490	11.71
Upper Limit ^a	580668	4.12	1223880	5.16	712606	6.68	1272806	8.00	895274	10.78	2316980	12.21
Lower Limit ^b	145167	3.12	305970	4.16	178152	5.68	318202	7.00	223819	9.78	579245	11.21

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP42397-MB	308669	3.62	654751	4.67	381742	6.18	669176	7.50	471418	10.28	1198022	11.71
OP42397-BS	291069	3.62	622029	4.67	345654	6.18	621220	7.51	444334	10.28	1115112	11.71
OP42397-MS	322728	3.62	679486	4.67	382562	6.19	681871	7.51	490665	10.28	1226293	11.71
OP42397-MSD	308881	3.62	659723	4.67	367912	6.18	652434	7.51	474865	10.28	1190969	11.72
ZZZZZZ	313080	3.62	662745	4.66	381801	6.18	663936	7.50	467339	10.27	1181709	11.71
ZZZZZZ	315794	3.62	660510	4.67	384143	6.19	665569	7.51	462636	10.28	1181463	11.72
OP42424-MB	290729	3.62	606795	4.67	342662	6.19	594325	7.51	415481	10.28	1052652	11.72
OP42424-BS	302036	3.62	641315	4.67	352496	6.19	624307	7.51	447029	10.28	1104680	11.71
ZZZZZZ	295920	3.62	618691	4.66	352853	6.18	607682	7.50	428393	10.28	1116703	11.71
ZZZZZZ	296590	3.62	634978	4.66	361121	6.18	624776	7.50	430269	10.28	1122647	11.71
OP42424-MS	306111	3.62	639434	4.67	354136	6.18	629628	7.51	447876	10.28	1132461	11.71
OP42424-MSD	292394	3.62	617509	4.67	340540	6.19	603528	7.51	428993	10.28	1075493	11.71
MC37400-20	311895	3.62	651133	4.66	367383	6.18	629664	7.50	437568	10.28	1146448	11.71
OP42439-MB	349150	3.62	734592	4.66	424255	6.18	736634	7.50	514603	10.28	1315826	11.71
OP42439-BS	324136	3.62	692665	4.67	379434	6.19	673772	7.51	478537	10.28	1197661	11.72
OP42439-BSD	337328	3.62	715709	4.67	393824	6.19	707546	7.51	493482	10.28	1238053	11.72
MC37452-1	337070	3.62	710912	4.66	410397	6.18	705825	7.50	490780	10.28	1250600	11.71

IS 1 = 1,4-Dichlorobenzene-d4

IS 2 = Naphthalene-d8

IS 3 = Acenaphthene-D10

IS 4 = Phenanthrene-d10

IS 5 = Chrysene-d12

IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC37452
Account: ENVTRAC EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Method: SW846 8270D BY SIM	Matrix: AQ
----------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC37452-1	I94709.D	64	60	96
OP42439-BS	I94707.D	71	71	111
OP42439-BSD	I94708.D	74	76	109
OP42439-MB	I94706.D	72	63	108

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	26-121%
S2 = 2-Fluorobiphenyl	28-107%
S3 = Terphenyl-d14	29-129%

7.4.1
7

GC Volatiles

QC Data Summaries

∞

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC37452
Account: ENVTRAC EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBD3320-MB	BD69288B.D	1	03/23/15	AF	n/a	n/a	GBD3320

The QC reported here applies to the following samples: Method: SW846 8015

MC37452-1

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

CAS No.	Surrogate Recoveries	Limits
	2,3,4-Trifluorotoluene	97% 66-126%

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBD3320-BSP	BD69292.D	1	03/23/15	AF	n/a	n/a	GBD3320
GBD3320-BSD	BD69293.D	1	03/23/15	AF	n/a	n/a	GBD3320

The QC reported here applies to the following samples:

Method: SW846 8015

MC37452-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (VOA)	0.65	0.648	100	0.655	101	1	83-114/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
	2,3,4-Trifluorotoluene	106%	107%	66-126%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC37452
Account: ENVTRAC EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Method: SW846 8015	Matrix: AQ
---------------------------	-------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC37452-1	BD69294.D	97
GBD3320-BSD	BD69293.D	107
GBD3320-BSP	BD69292.D	106
GBD3320-MB	BD69288B.D	97

Surrogate Compounds	Recovery Limits
S1 = 2,3,4-Trifluorotoluene	66-126%

(a) Recovery from GC signal #1

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42375-MB	CF72.D	1	03/23/15	TA	03/22/15	OP42375	GCF1004

The QC reported here applies to the following samples:

Method: SW846-8015

MC37452-1

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (Semi-VOA)	ND	0.20	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	51% 40-140%

9.1.1

9

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: MC37452

Account: ENVTRAC EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42375-BS	CF73.D	1	03/23/15	TA	03/22/15	OP42375	GCF1004
OP42375-BSD	CF74.D	1	03/23/15	TA	03/22/15	OP42375	GCF1004

The QC reported here applies to the following samples:

Method: SW846-8015

MC37452-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (Semi-VOA)	2.5	1.59	64	1.59	64	0	46-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	56%	56%	40-140%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC37452
Account: ENVTRAC EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Method: SW846-8015	Matrix: AQ
--------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
MC37452-1	CF75.D	63
OP42375-BS	CF73.D	56
OP42375-BSD	CF74.D	56
OP42375-MB	CF72.D	51

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	40-140%

(a) Recovery from GC signal #1

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC37452
Account: ENVTRAC - EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 03/23/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	18	28		
Antimony	6.0	1	2	-0.40	<6.0
Arsenic	4.0	1.4	1.7	1.6	<4.0
Barium	50	.59	1		
Beryllium	4.0	.17	.25		
Bismuth	50	1.4	2.1		
Boron	100	.65	1.1		
Cadmium	4.0	.31	.43	0.0	<4.0
Calcium	5000	6.1	15		
Chromium	10	.48	.48	0.0	<10
Cobalt	50	.22	.28		
Copper	25	1.6	2.4	-0.40	<25
Gold	50	1.4	1.5		
Iron	100	3.6	17	5.1	<100
Lead	5.0	1.1	1.7	0.40	<5.0
Lithium	500	2.2	2.5		
Magnesium	5000	22	54		
Manganese	15	.33	1.4		
Molybdenum	100	1.4	3.6		
Nickel	40	.49	.5	0.30	<40
Palladium	50	1.6	2.6		
Platinum	50	4.6	5.4		
Potassium	5000	28	49		
Selenium	10	1.3	2	-0.40	<10
Silicon	100	4.1	30		
Silver	5.0	.42	1	-0.80	<5.0
Sodium	5000	11	77		
Sulfur	50	3.6	4.6		
Strontium	10	.17	.22		
Thallium	5.0	.75	1.7		
Tin	100	.37	.81		
Titanium	50	.4	.51		
Tungsten	100	2.5	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC37452
Account: ENVTRAC - EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 03/23/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.41	.51		
Zinc	20	.53	1	1.5	<20
Zirconium	50	.28	1.2		

Associated samples MP24390: MC37452-1, MC37452-1FA

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.1.1

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/23/15

Metal	BSP Result	SpikeLot MPICP7	% Rec	QC Limits
Aluminum	anr			
Antimony	522	500	104.4	85-115
Arsenic	527	500	105.4	85-115
Barium	anr			
Beryllium				
Bismuth				
Boron	anr			
Cadmium	507	500	101.4	85-115
Calcium				
Chromium	500	500	100.0	85-115
Cobalt	anr			
Copper	499	500	99.8	85-115
Gold				
Iron	9790	10000	97.9	85-115
Lead	1010	1000	101.0	85-115
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	496	500	99.2	85-115
Palladium				
Platinum				
Potassium				
Selenium	544	500	108.8	85-115
Silicon				
Silver	188	200	94.0	85-115
Sodium				
Sulfur				
Strontium				
Thallium				
Tin	anr			
Titanium	anr			
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/23/15

Metal	BSP Result	SpikeLot MPICP7	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Vanadium

Zinc	493	500	98.6	85-115
------	-----	-----	------	--------

Zirconium

Associated samples MP24390: MC37452-1, MC37452-1FA

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

10.1.2

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/23/15

Metal	MC37459-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	0.00	0.00	NC	0-10
Arsenic	2.40	0.00	100.0(a)	0-10
Barium	anr			
Beryllium				
Bismuth				
Boron	anr			
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	2.60	3.80	46.2 (a)	0-10
Cobalt	anr			
Copper	0.00	0.00	NC	0-10
Gold				
Iron	4370	4560	4.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	0.500	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Sulfur				
Strontium				
Thallium				
Tin	anr			
Titanium	anr			
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24390

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/23/15

Metal	MC37459-1 Original	SDL 1:5	%DIF	QC Limits
-------	-----------------------	---------	------	--------------

Vanadium

Zinc 15.6 17.2 10.3 (a) 0-10

Zirconium

Associated samples MP24390: MC37452-1, MC37452-1FA

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

10.1.3

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC37452
Account: ENVTRAC - EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24392
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 03/24/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.028	<0.20

Associated samples MP24392: MC37452-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.2.1

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

QC Batch ID: MP24392

Methods: EPA 245.1

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/24/15

Metal	BSP Result	SpikeLot HGRWS1	% Rec	QC Limits
Mercury	3.2	3	106.7	85-115

Associated samples MP24392: MC37452-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

10.2.2

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC37452

Account: ENVTRAC - EnviroTrac

Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GN50139	1.0	0.0	mg/l	10	10.5	105.0	80-120%
Chromium, Hexavalent	GN50126	0.010	0.0	mg/l	0.10	0.10	100.0	85-115%
Solids, Total Suspended	GN50140	4.0	0.0	mg/l				
Total Residual Chlorine	GN50127	0.050	0.0	mg/l	1	0.95	95.0	80-120%

Associated Samples:

Batch GN50126: MC37452-1

Batch GN50127: MC37452-1

Batch GN50139: MC37452-1

Batch GN50140: MC37452-1

(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC37452
Account: ENVTRAC - EnviroTrac
Project: Speedway #2478 (former Hess #21332), 447 New State Highway, Raynham, MA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GN50126	mg/l	0.10	0.10	0.0	20%

Associated Samples:
Batch GN50126: MC37452-1
(*) Outside of QC limits

APPENDIX C



NATIONAL REGISTER
HOME

- About Us »
- NR Fundamentals »
- How to List a Property »
- Weekly List »
- Database / Research »
- Publications »
- Guidance »
- Frequently Asked Questions »
- Features / What's New »
- Sample Nominations »
- Preservation Links »
- Contact Us »
- For Travelers »
- For Teachers »

Search

Text Sizes A A

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 - 2015 Weekly Lists

Property Name:

Multiple Property Name:

Reference Number:

Areas of Significance:

Street Address:

City/Town:

County:

State: Massachusetts

Or search the summary text

Search results for:

No results found.

Quicklinks

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): Raynham

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		
RAY.901	Rozenas I/II Site		Raynham		SR		
RAY.900	Church Street Bridge over Penn Central Railroad	Church St	Raynham	1940			
RAY.4	Shaw, Samuel House	1087 Locust St	Raynham	r 1700			
RAY.6	Merrill, Lillie B. House	31 North Main St	Raynham	c 1780			
RAY.1		86 Oak St	Raynham	r 1800			
RAY.8	Hannant - Hall House	16 Pleasant St	Raynham	1773			
RAY.3	Jones, Timothy House	355 Pleasant St	Raynham	r 1715			
RAY.2	Gushee House	808 Pleasant St	Raynham	1779			
RAY.902	Route 44 Bridge over Forge River	Rt 44	Raynham	1932			
RAY.903	Route 44 Bridge over Dam Lot Brook	Rt 44	Raynham	1932			
RAY.904		Rt 495	Raynham	r 1865			
RAY.7	Hathaway, Abraham House	366 South Main St	Raynham	1743			
RAY.9	Center School	558 South Main St	Raynham	1919			
RAY.5		691 South Main St	Raynham	c 1850			
RAY.10	Raynham Dog Kennel and Racing Track	385 Thrasher St	Raynham	1870			

15 Properties Found

[New Search](#)

[New Search — Same Town\(s\)](#)

[Previous](#)

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

APPENDIX D



March 26, 2015

U.S. FWS Region 5
New England Field Office
US Fish and Wildlife Service
70 Commercial St., Suite 300
Concord, NH 03301

Subject: Speedway Station #2478
 Former Hess Station #21332
 447 New State Highway
 Raynham, Massachusetts 02767
 MassDEP RTN 4-18309

To Whom it May Concern:

On behalf of Hess Retail Operations LLC (HRO), EnviroTrac Ltd (EnviroTrac) is seeking coverage under the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for groundwater discharge at the above-referenced location, referred to as the Site. The location of the Site is shown on the enclosed Locus Map. As required under Part I.B.5 of the RGP, all applicants must comply with Appendix VII, Section I, regarding consultation with federal services on endangered species issues. The purpose of this letter is to request a written consultation with the U.S. Fish and Wildlife Service (Fish & Wildlife) under Section 7 of the Endangered Species Act.

The U.S. Environmental Protection Agency (EPA) is seeking to ensure that wastewater discharges under the RGP do not adversely affect endangered and threatened species, critical habitat, and/or essential fish habitat. As such, EnviroTrac requests any available information regarding the presence of endangered or threatened species (including the Northern Red-bellied cooter), critical habitat, and/or essential fish habitat in the proximity of the Site, and a determination as to whether the Site discharge and related activities are likely to adversely affect these species and/or habitats.

Work to be performed at the Site consists of temporary construction dewatering to facilitate a repair of the turbine sumps of the existing three 10,000-gallon capacity, double-wall fiberglass gasoline underground storage tanks (USTs). The treatment system for the groundwater to be discharged during dewatering activities will include a fractionation tank, carbon units, and bag and cartridge filters. A Locus Map illustrating the location of the Site relative to regional features is enclosed.

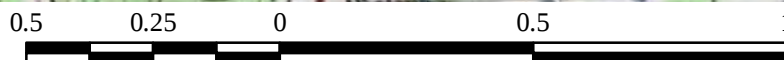
If you have any questions or require further information, please contact the undersigned at (781) 793-0074.

Sincerely,
EnviroTrac Ltd.

A handwritten signature in blue ink, appearing to read "JK", is written over a solid green horizontal line.

Jesse Krawiec
Senior Project Manager

Attachments – USGS Topographic Locus Map (Figure 1)



Miles

Scale: 1:24,000

Hess Station #21332
447 Route 44
Raynham, MA 02767-1442

FIGURE 1

SITE LOCUS MAP
UNITED STATES GEOLOGICAL SURVEY
TAUNTON, MA QUADRANGLE

Contour Interval: 3 m

UTM Coordinates:

4,641,370 m North
330,030 m East



EnviroTrac
Environmental Services

APPENDIX E



StreamStats Data-Collection Station Report

USGS Station Number 01109060
Station Name THREEMILE RIVER AT NORTH DIGHTON, 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?	False
Period of Record	1966-present
Remarks	Diversions to and from basin may be compensating.
Latitude (degrees NAD83)	41.8662122
Longitude (degrees NAD83)	-71.1228236
Hydrologic unit code	01090004
County	005-Bristol
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	7/1/1966	days	41
End_date_of_record	9/30/2003	days	41
Number_of_days_of_record	13606	days	41
Number_of_days_GT_0	13606	days	41
Topographical Characteristics			
Mean_Basin_Elevation	170	feet	30
			—

80_Percent_Duration	36	cubic feet per second	41	Y	38							
90_Percent_Duration	21	cubic feet per second	41	Y	38							
95_Percent_Duration	14	cubic feet per second	41	Y	38							
99_Percent_Duration	8.2	cubic feet per second	41	Y	38							
General Flow Statistics												
Minimum_daily_flow	1.3	cubic feet per second	41	Y	38							
Maximum_daily_flow	2680	cubic feet per second	41	Y	38							
Std_Dev_of_daily_flows	179.079	cubic feet per second	41	Y	38							
Average_daily_streamflow	164.972	cubic feet per second	41	Y	38							
Base Flow Statistics												
Number_of_years_to_compute_BFI	37	years	42	Y	38							
Average_BFI_value	0.611	dimensionless	42	Y	38							
Std_dev_of_annual_BFI_values	0.06	dimensionless	42	Y	38							

Citations

Citation Number	Citation Name and URL
23	Wandle, S.W., Jr., and Keezer, G.R., 1984, Gazetteer of Hydrologic Characteristics of Streams in Massachusetts--Taunton and Ten Mile River Basins and Coastal River Basins of Mount Hope Bay, Narragansett Bay, and Rhode Island Sound: U.S. Geological Survey Water-Resources Investigations Report 84-4283
28	Williams, J.R., Farrell, D.F., and Willey, R.E., 1973, Water Resources of the Tauton River Basin, Southeastern Massachusetts: U.S. Geological Survey Hydrologic Investigations Atlas HA-460
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