



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL

February 10, 2011

Stephan White

President

PES Associates, Inc.

858 Washington Street, Suite 50

Dedham, MA 02026

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Medway Block Co., Inc., site located at 118-120 Main Street, Medway
02053, Norfolk County; Authorization # MAG910224 - Reissuance

Dear Mr. White:

Based on the review of a Notice of Intent (NOI) submitted on behalf of the Owner of Medway Block Co., Inc. by your firm PES Associates Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants for which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the check list does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at:
<http://www.epa.gov/region1/npdes/mass.html#dgp>.

Also, please note that the metals nickel and iron included on the list are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations for facilities located in Massachusetts. For each parameter the dilution factor 6.45 for this site is within a dilution range greater than five to ten (>5 to 10), established in the RGP. (See the RGP Appendix IV for Massachusetts

facilities). Therefore, the limits for nickel of 145ug/L, and iron of 5,000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the list of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP requirements.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that the termination date for this discharge is unknown. If for any reason the discharge terminates at some point before the expiration date you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,

Julma Murphy for

David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

NPDES Permit Number:	MAG910224 - Reissuance
Date Permit Issued:	February, 2011
Facility/Site Name:	Medway Block Co., Inc.,
Facility/Site Address:	Site located at 118-120 Main Street, Medway 02053, Norfolk County Owner's Email: fsheehan@medwayblock.com; Phone n: 508-533-6701
Legal Name of Operator:	PES Associates, Inc.
Operator contact name, title, and Address:	Stephan White, President 858 Washington Street, Suite 50 Dedham, MA 02026 Email: swhite@pesassociatesinc.com
Estimated Date of Completion:	Unknown
Category and Sub-Category:	I - Petroleum Related Site Remediation. Subcategory B. Fuel Oils and Other Oils Sites Including Residential discharges.
Receiving Water:	Storm Drain - Chicken Brook

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML 5ug/L
✓	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
✓	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) ^{2, 3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 5ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴	100 ug/L/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l /Me#8260C/ ML 10ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only (ug/L)/ Me#8260C/ ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only (ug/L) /Me#8260C/ ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
✓	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
✓	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
✓	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

		<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)</u> ¹¹		
	<u>Metal parameter</u>	<u>Freshwater</u>	<u>Saltwater</u>	
	39. Antimony	5.6/10mL		
	40. Arsenic **	10/20mL	36/20mL	
	41. Cadmium **	0.2/10ml	8.9/10mL	
	42. Chromium III (trivalent) **	48.8/15mL	100/15mL	
	43. Chromium VI (hexavalent) **	11.4/10mL	50.3/10mL	

		Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l) ¹¹			
Metal parameter		Freshwater	Saltwater		
	44. Copper **	5.2/15mL	3.7/15mL		
	45. Lead **	1.3/20mL	8.5/20mL		
	46. Mercury **	0.9/0.2mL	1.1/0.2mL		
✓	47. Nickel **	145/20mL	8.2/20mL		
	48. Selenium **	5/20mL	71/20mL		
	49. Silver	1.2/10mL	2.2/10mL		
	50. Zinc **	66.6/15mL	85.6/15mL		
✓	51. Iron	5,000/20mL			

	Other Parameters	Limit
✓	52. Instantaneous Flow	Site specific in CFS
✓	53. Total Flow	Site specific in CFS
✓	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab ¹³
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab ¹³
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab ¹⁴
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab ¹⁴
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab ¹⁴
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab ¹⁴
	61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab ¹⁴
	62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal	1.5°F; 1/Month/Grab ¹⁴
	63. Maximum Change in Temperature in MA - Any Class SB water body - July to September	1.5°F; 1/Month/Grab ¹⁴
	64. Maximum Change in Temperature in MA - Any Class SB water body - October to June	4°F; 1/Month/Grab ¹⁴

Footnotes:

¹ Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

² Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

³ Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

⁴ BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

⁵ Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

⁶ The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁷ Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

⁹ Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000 \text{ ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1



December 6, 2009

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100
Mail Code OE106-4
Boston, MA 02109-3912

Attn: Remediation General Permit NOI Processing

Re: 2010 RGP NOI
Medway Block Co., Inc
118-120 Main Street
Medway, Massachusetts
RTN 2-12740

Dear Sir / Madam:

On Behalf of *Medway Block Co., Inc.*, *PES Associates, Inc.* is seeking coverage under the US Environmental Protection Agency's newly promulgated 2010 National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for wastewater discharge from the *Medway Block Site* located at 118-120 Main Street in Medway, Massachusetts (the "Site"). Discharge of remedial wastewater at the Site was formerly conducted under NPDES permit exclusion letter #MA 021-05 & 2005 RGP MAG910224.

In accordance with the instructions set forth in Appendix V of the RGP, general facility/site information is included in Section 1 of NOI. Discharge information is included in Section 2. A Site Plan is included as Figure 1, a Process Flow Diagram for the remediation system is provided in figure 2, an aerial map illustrating the single outfall location and termination point at Chicken Brook is included as Figure 3 and a Locus Map illustrating the location of the Site relative to regional features is included as Figure 4. A MADEP Site scoring map is also attached.

The potential discharge has been determined to fall within the "Fuel Oil Only" category under the RGP.

Treatment system information is included in Section 4, and can be summarized as follows: groundwater from one (1) of two (2), 12" diameter recovery wells is pumped through an oil water separator and subsequently through sand and activated carbon filters for purification. The

treated effluent is then discharged to an on-Site storm water catch basin connected to the Town of

Medway municipal storm sewer system. The effluent mixed with storm water then flows southwest where it eventually discharges into Chicken Brook. Receiving water information is included in Section 5 of the NOI.

If you have any question or require additional information, please contact the undersigned at (781) 407-7777.

Sincerely,
PES Associates, Inc.

A handwritten signature in blue ink, appearing to read "Marnin Feldman", with a long horizontal flourish extending to the right.

Marnin Feldman
Senior Project Manager

Enclosures

Cc: Frank Sheehan – Medway Block Co., Inc.

Mr. Glenn Trindade, – Chairman, Medway Board of Selectman, 155 Village Street,
Medway, MA 02053, MA

MADEP – Division of Watershed Management
627 Main St, 2nd Floor, Worcester, MA 01608

MADEP – Central Region, 627 Main Street, Worcester, MA 01608

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 :		Facility/site mailing address:	
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:	
b) Name of facility/site owner : 120 Main St. TMST		Town:	
Email address of facility/site owner:	State:	Zip:	County:
Telephone no. of facility/site owner :			
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:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:		Operator email:
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:

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) ____
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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:	
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)? Max. flow _____ Is maximum flow a design value ? Y ____ N ____ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; 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 _____ end _____	
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)											
2. Total Residual Chlorine (TRC)											
3. Total Petroleum Hydrocarbons (TPH)											
4. Cyanide (CN)	57125										
5. Benzene (B)	71432										
6. Toluene (T)	108883										
7. Ethylbenzene (E)	100414										
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207										
9. Total BTEX ²	n/a										
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934										
11. Methyl-tert-Butyl Ether (MtBE)	1634044										
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650										

_____ ND = Not Detected

* 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										
14. Naphthalene	91203										
15. Carbon Tetrachloride	56235										
16. 1,2 Dichlorobenzene (o-DCB)	95501										
17. 1,3 Dichlorobenzene (m-DCB)	541731										
18. 1,4 Dichlorobenzene (p-DCB)	106467										
18a. Total dichlorobenzene											
19. 1,1 Dichloroethane (DCA)	75343										
20. 1,2 Dichloroethane (DCA)	107062										
21. 1,1 Dichloroethene (DCE)	75354										
22. cis-1,2 Dichloroethene (DCE)	156592										
23. Methylene Chloride	75092										
24. Tetrachloroethene (PCE)	127184										
25. 1,1,1 Trichloro-ethane (TCA)	71556										
26. 1,1,2 Trichloro-ethane (TCA)	79005										
27. Trichloroethene (TCE)	79016										

<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										
29. Acetone	67641										
30. 1,4 Dioxane	123911										
31. Total Phenols	108952										
32. Pentachlorophenol (PCP)	87865										
33. Total Phthalates (Phthalate esters) ⁴											
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	117817										
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)											
a. Benzo(a) Anthracene	56553										
b. Benzo(a) Pyrene	50328										
c. Benzo(b)Fluoranthene	205992										
d. Benzo(k)Fluoranthene	207089										
e. Chrysene	21801										
f. Dibenzo(a,h)anthracene	53703										
g. Indeno(1,2,3-cd) Pyrene	193395										
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)											

⁴The 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										
i. Acenaphthylene	208968										
j. Anthracene	120127										
k. Benzo(ghi) Perylene	191242										
l. Fluoranthene	206440										
m. Fluorene	86737										
n. Naphthalene	91203										
o. Phenanthrene	85018										
p. Pyrene	129000										
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.										
38. Chloride	16887006										
39. Antimony	7440360										
40. Arsenic	7440382										
41. Cadmium	7440439										
42. Chromium III (trivalent)	16065831										
43. Chromium VI (hexavalent)	18540299										
44. Copper	7440508										
45. Lead	7439921										
46. Mercury	7439976										
47. Nickel	7440020										
48. Selenium	7782492										
49. Silver	7440224										
50. Zinc	7440666										
51. Iron	7439896										
Other (describe):											

<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>

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?
<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:_____ DF:_____ 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:

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:

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):			

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):

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:					
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)? _____					
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:

Operator signature:

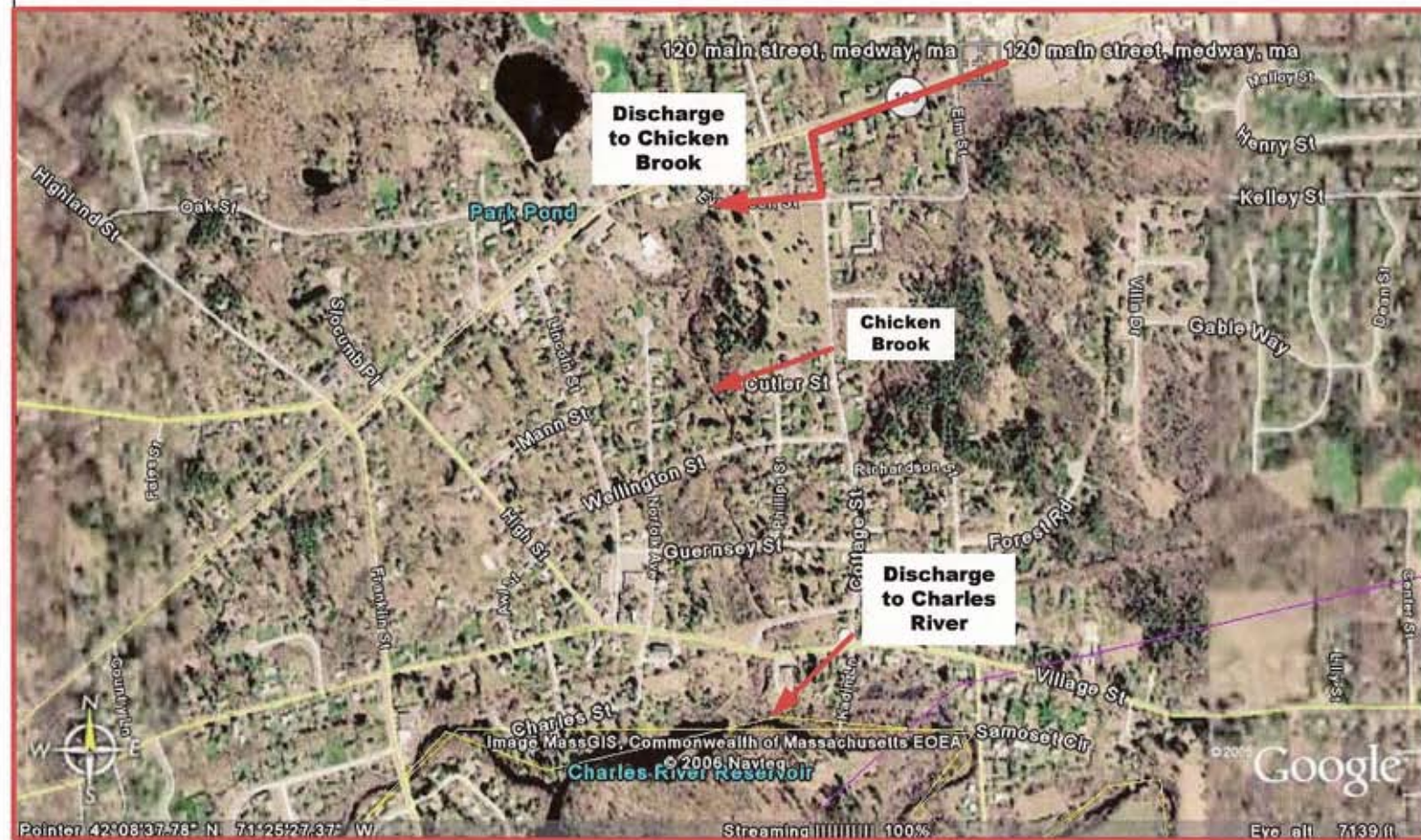


Printed Name & Title:

Date:



2



Source: Cooperstown Environmental





Mile 0 .5 1

Source: U.S. Geological Survey
7.5 Minute Quadrangle
Scale 1:25,000



1400 Providence Highway
Norwood, Massachusetts 02062
Nationwide: 888-660-9975
Fax 781-278-0910
www.paragonerw.com

USGS Site Locus Map

120 Main Street
Medway, Massachusetts

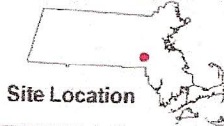
Figure

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

Medway Block Company
120 Main Street
Medway, MA 02053
877806n 206777ew



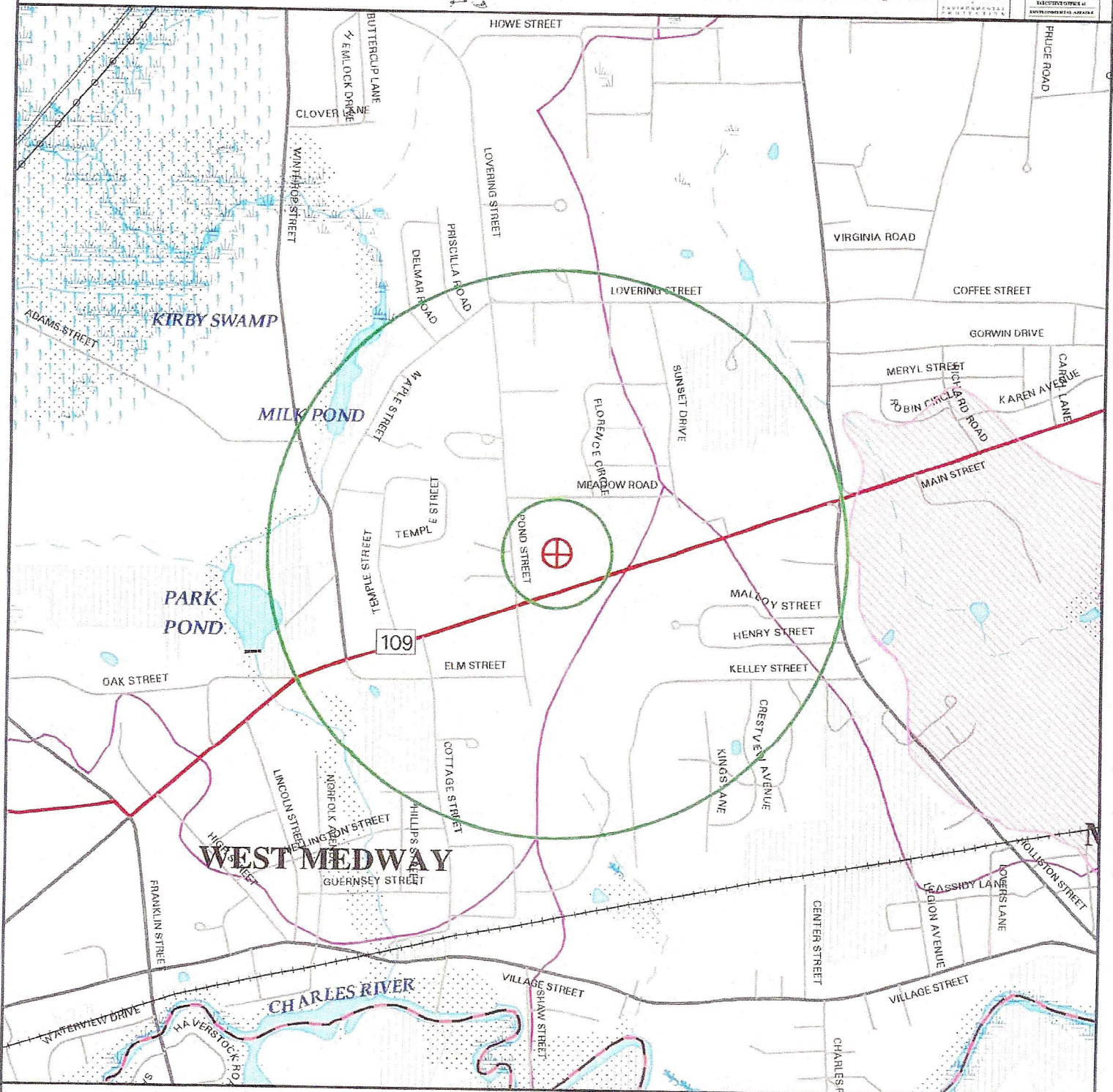
Site Location

The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



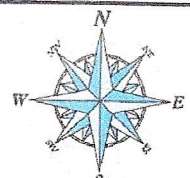
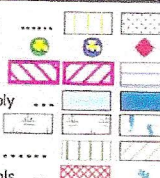
Massachusetts Executive Office of Environmental Affairs - 2006

Office of Geographic and Environmental Information



Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams
Potentially Productive Aquifers: Medium, High Yield
Non-Potential Drinking Water Source Area: Medium, High Yield

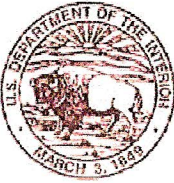
EPA Sole Source Aquifer; FEMA 100-year floodplain
Public Water Supplies: Ground, Surface, Non Community
Approved Zone 2; IWPA; Surface Water Supply Zone A
Hydrography: Water Features, Public Surface Water Supply
Wetlands: Fresh, Salt, NHESP Wetlands Habitat
Protected Open Space; ACEC
DEP Permitted Solid Waste Facilities; Certified Vernal Pools



SCALE 1:15000

0 1/2 1/2 KILOMETERS

March 20, 2006



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



January 4, 2010

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Tue Oct 12 2010 08:23:47 Mountain Daylight Time

Site Location: Massachusetts

NAD27 Latitude: 42.1461 (42 08 46)

NAD27 Longitude: -71.4264 (-71 25 35)

NAD83 Latitude: 42.1462 (42 08 46)

NAD83 Longitude: -71.4259 (-71 25 33)

ReachCode: 01090001024112

Measure: 60.27

Drainage Area: 6.75 mi²

Low Flows Basin Characteristics

100% Statewide Low Flow (6.75 mi²)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	6.75	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.41	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.0473	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Probability of Perennial Flow Basin Characteristics

100% Perennial Flow Probability (6.75 mi²)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	6.75 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	12.38	0	100
Percent Forest (percent)	57.51	0	100
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics

Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	6.7	18		3.55	12.6
D60	4.48	20		2.3	8.67
D70	2.36	24		0.97	5.7
D75	1.75	26		0.72	4.18
D80	1.2	28		0.49	2.94
D85	0.86	32		0.32	2.25
D90	0.56	37		0.2	1.5
D95	0.32	46		0.11	0.94
D98	0.2	60		0.0575	0.66
D99	0.15	65		0.0395	0.51
M7D2Y	0.37	50		0.12	1.12
AUGD50	0.92	33		0.35	2.41
M7D10Y	0.12	71		0.03	0.47

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi², as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics

Statistic	Value	Standard Error (percent)
PROBPEREN	0.97	

Endangered Species and Remediation General Permit - 2

From: **Julie Crocker** (Julie.Crocker@Noaa.Gov)

Sent: Mon 10/11/10 9:55 PM

To: mfeld@hotmail.com

1 attachment

Julie_Crocker.vcf (0.3 KB)

This is to confirm that there are no species listed by NOAA's National Marine Fisheries Service in the vicinity of Chicken Brook in Medway, MA. No coordination with NMFS on the effects of the proposed discharges is necessary.

>

> Julie Crocker

> NMFS Protected Resources Division

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Revised 06/22/2009

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone: (508) 759-4441
FAX: (508) 759-4475

**GROUNDWATER
ANALYTICAL**

e-mail

To:	Marnin Feldman	From:	e-mail reporting GWA
	PES Associates	Pages:	29
e-mail:	mfeld@hotmail.com	Date:	11/02/2010 14:33:05
Re:	137280	CC:	
☐ Urgent	☐ For Review	☐ Please Comment	☐ Please Reply

● Comments:

Final Project Report for Medway Block Company/5558, Lab ID 137280,
Received 10-22-10

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Confidential

November 2, 2010

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **Medway Block Company/5558**
Lab ID: **137280**
Received: **10-22-10**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

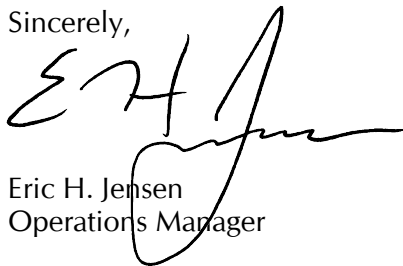
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

Sample Receipt Report

Project: **Medway Block Company/5558**
Client: **PES Associates, Inc.**
Lab ID: **137280**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **10-22-10**

Temperature: **2.8°C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-1	Influent		Aqueous	10/21/10 11:30	EPA 8260B TCL Volatile Organics				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1287066	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287053	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287051	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-2	Effluent		Aqueous	10/21/10 10:00	EPA 8270C PAHs Low Level SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1306609	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		
C1306611	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-3	Influent		Aqueous	10/21/10 11:30	EPA 8270C PAHs Low Level SIM				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1306608	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		
C1306610	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-4	Influent		Aqueous	10/21/10 11:30	EPA 200.7 Cr Fe Ni Zn Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1280252	250 mL Plastic	Scientific Specialist Service	BX37069	HNO3	R-6113E	07-08-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-5	Effluent		Aqueous	10/21/10 10:00	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1225186	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		
C1225183	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-6	Influent		Aqueous	10/21/10 11:30	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1225189	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		
C1225182	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-7	Influent		Aqueous	10/21/10 11:30	EPA 300.0 Chloride SM 3500-Cr D Hexavalent Chromium				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1156683	250 mL Plastic	Proline	BX34564	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-8	Effluent		Aqueous	10/21/10 10:00	SM 2540 D Total Suspended Solids				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1133193	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-9	Influent		Aqueous	10/21/10 11:30	SM 2540 D Total Suspended Solids				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1133206	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09		

Sample Receipt Report (Continued)

Project: **Medway Block Company/5558**
 Client: **PES Associates, Inc.**
 Lab ID: **137280**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **10-22-10**

Temperature: **2.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-10	Effluent		Aqueous	10/21/10 10:00	Lachat 10-204-00-1-A (EPA 335.3) Total Cyanide				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C725445	500 mL Plastic	Proline	BX21358	NaOH	R-4816A	05-15-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-11	Influent		Aqueous	10/21/10 11:30	Lachat 10-204-00-1-A (EPA 335.3) Total Cyanide				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C725441	500 mL Plastic	Proline	BX21358	NaOH	R-4816A	05-15-06	n/a		

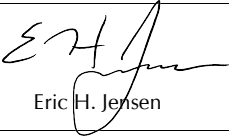
Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-12	Effluent		Aqueous	10/21/10 10:00	SM 4500-Cl G Total Residual Chlorine				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1167061	250 mL Glass	Proline	BX33602	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137280-13	Influent		Aqueous	10/21/10 11:30	SM 4500-Cl G Total Residual Chlorine				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1167062	250 mL Glass	Proline	BX33602	None	n/a	n/a	n/a		

Data Certification

Project: Medway Block Company/5558
Client: PES Associates, Inc.

Lab ID: 137280
Received: 10-22-10 18:45

Mass DEP Analytical Protocol Certification Form						
Project Location: n/a			MA DEP RTN: n/a			
This Form provides certifications for the following data set:						
EPA 8260B: 137280-1						
EPA 8270C: 137280-2,-3						
Sample Matrices: Groundwater/Surface () Soil/Sediment () Drinking Water () Air () Other (X)						
CAM Protocol (check all that apply below):						
8260 VOC CAM II A (X)	7470/7471 Hg CAM III B ()	Mass DEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	Mass DEP APH CAM IX A ()	
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	Mass DEP EPH CAM IV B ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()	
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9012 Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()		
An affirmative response 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
B.	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?					Yes
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
D.	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?					Yes
E.	VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).					n/a
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
Responses to questions G, H and I below are required for "Presumptive Certainty" status.						
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?					Yes
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.						
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?					No
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?					No
All negative responses must be addressed in an attached laboratory 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: Operations Manager				
Printed Name: Eric H. Jensen		Date: 11-02-10				

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **Influent**
Project: **Medway Block Company/5558**
Client: **PES Associates, Inc.**

Laboratory ID: **137280-1**
Sampled: **10-21-10 11:30**
Received: **10-22-10 18:45**
Analyzed: **10-27-10 02:20**
Analyst: **EMC**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1162-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
67-64-1	Acetone	BRL		ug/L	10
71-43-2	Benzene	BRL		ug/L	0.5
108-88-3	Toluene	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	99 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	102 %	70 - 130 %
Toluene-d ₈	10	10	104 %	70 - 130 %
4-Bromofluorobenzene	10	10	103 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8270C Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID: Effluent
Project: Medway Block Company/5558
Client: PES Associates, Inc.

Laboratory ID: 137280-02
Sampled: 10-21-10 10:00
Received: 10-22-10 18:45
Extracted: 10-28-10 23:00
Analyzed: 11-01-10 17:41
Analyst: MJB

Matrix: Aqueous
Container: 1 L Amber Glass
Preservation: Cool

QC Batch ID: SV-2572-L
Instrument ID: MS-6 HP 6890
Sample Volume: 1,000 mL
Final Volume: 1 mL
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	BRL		ug/L	0.2
86-73-7	Fluorene	BRL		ug/L	0.2
85-01-8	Phenanthrene	BRL		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	10	7.3	73 %	30 - 130 %
2-Fluorobiphenyl	10	6.4	64 %	30 - 130 %
Terphenyl-d14	10	4.7	47 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Sample extraction performed by EPA Method 3520C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

EPA Method 8270C Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID: **Influent**
Project: **Medway Block Company/5558**
Client: **PES Associates, Inc.**

Laboratory ID: **137280-03**
Sampled: **10-21-10 11:30**
Received: **10-22-10 18:45**
Extracted: **10-28-10 23:00**
Analyzed: **11-01-10 19:02**
Analyst: **MJB**

Matrix: **Aqueous**
Container: **1 L Amber Glass**
Preservation: **Cool**

QC Batch ID: **SV-2572-L**
Instrument ID: **MS-6 HP 6890**
Sample Volume: **1,000 mL**
Final Volume: **1 mL**
Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	0.3		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	0.3		ug/L	0.2
86-73-7	Fluorene	0.4		ug/L	0.2
85-01-8	Phenanthrene	0.3		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	10	6.5	65 %	30 - 130 %
2-Fluorobiphenyl	10	6.0	61 %	30 - 130 %
Terphenyl-d14	10	5.4	54 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
Sample extraction performed by EPA Method 3520C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Trace Metals

Field ID: **Influent**
Project: **Medway Block Company/5558**
Client: **PES Associates, Inc.**

Matrix: **Aqueous**
Container: **250 mL Plastic**
Preservation: **HNO₃ / Cool**
Preserved: **10-21-10 11:30**

Laboratory ID: **137280-4**
Sampled: **10-21-10 11:30**
Received: **10-22-10 18:45**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7 ¹	MB-4220-W	EPA 200.7	10-26-10 00:00	50 mL	ICP-1 PE 3000	LS

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-47-3	Chromium, Total	BRL		mg/L	0.01	1	10-26-10 18:00	EPA 200.7 ¹
7439-89-6	Iron, Total	14		mg/L	0.1	1	10-26-10 18:00	EPA 200.7 ¹
7440-02-0	Nickel, Total	BRL		mg/L	0.04	1	10-26-10 18:00	EPA 200.7 ¹
7440-66-6	Zinc, Total	BRL		mg/L	0.05	1	10-26-10 18:00	EPA 200.7 ¹

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	Effluent	Matrix:	Aqueous
Project:	Medway Block Company/5558	Container:	1 L Amber Glass
Client:	PES Associates, Inc.	Preservation:	H2SO4/ Cool
Laboratory ID:	137280-5	QC Batch ID:	HF-2266-F
Sampled:	10-21-10 10:00	Instrument ID:	GC4 HP 5890
Received:	10-22-10 18:45	Sample Volume:	990 mL
Extracted:	10-28-10 21:00	Final Volume:	1 mL
Analyzed:	10-29-10 15:52	Dilution Factor:	1
Analyst:	MB		

Analyte	Concentration		Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.4			mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.029	72 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	Influent	Matrix:	Aqueous
Project:	Medway Block Company/5558	Container:	1 L Amber Glass
Client:	PES Associates, Inc.	Preservation:	H2SO4/ Cool
Laboratory ID:	137280-6	QC Batch ID:	HF-2266-F
Sampled:	10-21-10 11:30	Instrument ID:	GC4 HP 5890
Received:	10-22-10 18:45	Sample Volume:	990 mL
Extracted:	10-28-10 21:00	Final Volume:	1 mL
Analyzed:	10-29-10 17:42	Dilution Factor:	1
Analyst:	MB		

Analyte	Concentration		Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	5.2			mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
ortho-Terphenyl	0.040	0.027	67 %	60 - 140 %	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Inorganic Chemistry

Field ID: **Influent**
 Project: **Medway Block Company/5558**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **10-22-10 18:45**

Lab ID: **137280-07** Sampled: **10-21-10 11:30** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chloride	170	mg/L	6	100	0.05 mL	10-24-10 09:00	IC-1864-W	EPA 300.0	2	JR
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	10-23-10 10:00	HC-0206-W	SM 3500-Cr D	3	JK

Lab ID: **137280-09** Sampled: **10-21-10 11:30** Container: **1L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	14	mg/L	2	1	500 mL	10-23-10 14:41	TSS-1833-W	SM 2540 D	4	JR

Lab ID: **137280-11** Sampled: **10-21-10 11:30** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	10-28-10 13:36	TCN-1601-W	Lachat 10-204-00-1-A (EPA 335.3)	1	JR

Lab ID: **137280-13** Sampled: **10-21-10 11:30** Container: **250 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	10-23-10 07:00	TRC-0885-W	SM 4500-Cl G	3	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Lachat 8000 Autoanalyzer
- 2 Instrument ID: Dionex DX-500 IC
- 3 Instrument ID: Thermo Electron Genesys 20
- 4 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **Medway Block Company/5558**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **10-22-10 18:45**

Lab ID: **137280-08** Sampled: **10-21-10 10:00** Container: **1L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	13	mg/L	2	1	500 mL	10-23-10 14:41	TSS-1833-W	SM 2540 D	3	JR

Lab ID: **137280-10** Sampled: **10-21-10 10:00** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	10-28-10 13:34	TCN-1601-W	Lachat 10-204-00-1-A (EPA 335.3)	1	JR

Lab ID: **137280-12** Sampled: **10-21-10 10:00** Container: **250 mL Glass** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	10-23-10 07:00	TRC-0885-W	SM 4500-Cl G	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

Project Narrative

Project: **Medway Block Company/5558**
Client: **PES Associates, Inc.**

Lab ID: **137280**
Received: **10-22-10 18:45**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . Samples 137280-2 and -3 were analyzed by EPA Method 8270C for PAHs only, per Munch Feldman, 10-26-10.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . EPA 8260B Note: Sample 137280-1. Sample was analyzed for only selected target analytes, as requested by client.
- 2 . EPA 8270C Note: Samples 137280-2 and -3. Samples were analyzed for only selected polynuclear aromatic hydrocarbons (PAH) target analytes, as requested by client.
- 3 . EPA 8270C PAH Non-conformance: Laboratory control sample (LCS) analytes Naphthalene and 2-Methylnaphthalene were below recommended recovery limits for QC batch SV-2572-L.

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CHAIN-OF-CUSTODY RECORD AND WORK ORDER

CHAIN-OF-CUSTODY RECORD

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
QC Batch ID: **HF-2266-F**
Matrix: **Aqueous**
Units: **mg/L**

Instrument ID: **GC4 HP 5890**
Extracted: **10-28-10 21:00**
Analyzed: **10-29-10 14:03**
Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	0.9	45 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.022	54 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
QC Batch ID: **HF-2266-F**
Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
Extracted: **10-28-10 21:00**
Analyzed: **10-29-10 13:12**
Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.023	57 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report Laboratory Control Sample

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	54	60	111 %	80 - 120 %	10-23-10 14:41	TSS-1833-W	SM 2540 D	4	JR
Chlorine, Total Residual	mg/L	0.05	0.05	102 %	80 - 120 %	10-23-10 07:00	TRC-0885-W	SM 4500-Cl G	3	JR
Chromium, Hexavalent	mg/L	0.1	0.1	99 %	80 - 120 %	10-23-10 00:00	HC-0206-W	SM 3500-Cr D	3	JK
Cyanide, Total	mg/L	0.45	0.46	103 %	80 - 120 %	10-28-10 13:01	TCN-1601-W	Lachat 10-204-00-1-A (EPA 335.3)	1	JR
Chloride	mg/L	2.5	2.7	109 %	80 - 120 %	10-24-10 08:35	IC-1864-W	EPA 300.0	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Lachat 8000 Autoanalyzer
- 2 Instrument ID: Dionex DX-500 IC
- 3 Instrument ID: Thermo Electron Genesys 20
- 4 Instrument ID: Mettler AT 200 Balance

Quality Control Report Method Blank

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	10-23-10 14:41	TSS-1833-W	SM 2540 D	4	JR
Chlorine, Total Residual	BRL	mg/L	0.02	10-23-10 07:00	TRC-0885-W	SM 4500-Cl G	3	JR
Chromium, Hexavalent	BRL	mg/L	0.01	10-23-10 00:00	HC-0206-W	SM 3500-Cr D	3	JK
Cyanide, Total	BRL	mg/L	0.01	10-28-10 13:01	TCN-1601-W	Lachat 10-204-00-1-A (EPA 335.3)	1	JR
Chloride	BRL	mg/L	0.6	10-24-10 08:35	IC-1864-W	EPA 300.0	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Dionex DX-500 IC

3 Instrument ID: Thermo Electron Genesys 20

4 Instrument ID: Mettler AT 200 Balance

Quality Control Report Laboratory Control Sample

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-4220-WL	EPA 200.7	10-26-10 00:00	ICP-1 PE 3000	JK

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-47-3	Chromium	1.0	0.92	92 %	85-115 %	10-26-10 16:39	EPA 200.7
7439-89-6	Iron	5.0	4.5	90 %	85-115 %	10-26-10 16:39	EPA 200.7
7440-02-0	Nickel	1.0	0.95	95 %	85-115 %	10-26-10 16:39	EPA 200.7
7440-66-6	Zinc	1.0	0.94	94 %	85-115 %	10-26-10 16:39	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-4220-WB	EPA 200.7	10-26-10 00:00	50 mL	ICP-1 PE 3000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-47-3	Chromium	BRL		mg/L	0.01	1	10-26-10 16:35	EPA 200.7
7439-89-6	Iron	BRL		mg/L	0.1	1	10-26-10 16:36	EPA 200.7
7440-02-0	Nickel	BRL		mg/L	0.04	1	10-26-10 16:36	EPA 200.7
7440-66-6	Zinc	BRL		mg/L	0.05	1	10-26-10 16:36	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Quality Control Report Laboratory Control Samples

Category: EPA Method 8260B QC Batch ID: VM10-1162-W Matrix: Aqueous Units: ug/L	LCS Instrument ID: MS-10 HP 6890 Analyzed: 10-26-10 18:41 Analyst: EMC	LCSD Instrument ID: MS-10 HP 6890 Analyzed: 10-26-10 19:05 Analyst: EMC
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CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
67-64-1	Acetone	20	21	103 %	20	20	99 %	3 %	70 - 130 %	20%
71-43-2	Benzene	10	9.0	90 %	10	9.1	91 %	1 %	70 - 130 %	20%
108-88-3	Toluene	10	8.9	89 %	10	9.1	91 %	1 %	70 - 130 %	20%
100-41-4	Ethylbenzene	10	9.4	94 %	10	9.9	99 %	5 %	70 - 130 %	20%
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	20	19	95 %	20	19	96 %	1 %	70 - 130 %	20%
95-47-6	<i>ortho</i> -Xylene	10	9.6	96 %	10	9.5	95 %	1 %	70 - 130 %	20%
91-20-3	Naphthalene	10	9.5	95 %	10	9.9	99 %	5 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits	
Dibromofluoromethane	10	10	96 %	10	9.6	96 %	70 - 130 %	
1,2-Dichloroethane-d ₄	10	9	90 %	10	9.4	94 %	70 - 130 %	
Toluene-d ₈	10	10	101 %	10	9.9	99 %	70 - 130 %	
4-Bromofluorobenzene	10	10	102 %	10	11	107 %	70 - 130 %	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

Quality Control Report Method Blank

Category: **EPA Method 8260B**
 QC Batch ID: **VM10-1162-W**
 Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
 Analyzed: **10-26-10 19:49**
 Analyst: **EMC**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
67-64-1	Acetone	BRL		ug/L	10
71-43-2	Benzene	BRL		ug/L	0.5
108-88-3	Toluene	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	100 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	97 %	70 - 130 %
Toluene-d ₈	10	10	101 %	70 - 130 %
4-Bromofluorobenzene	10	10	103 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Quality Control Report Laboratory Control Samples

Category: EPA Method 8270C PAHs	LCS	LCSD
QC Batch ID: SV-2572-L	MS-6 HP 6890	Instrument ID: MS-6 HP 6890
Matrix: Aqueous	Extracted: 10-28-10 23:00	Extracted: 10-28-10 23:00
Units: ug/L	Analyzed: 11-01-10 15:40	Analyzed: 11-01-10 16:20
	Analyst: MJB	Analyst: MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	2.1	41 %	5.0	1.9	37 % q	11 %	40 - 140 %	20%
91-57-6	2-Methylnaphthalene	5.0	2.2	44 %	5.0	2.0	39 % q	11 %	40 - 140 %	20%
208-96-8	Acenaphthylene	5.0	3.1	62 %	5.0	2.8	55 %	11 %	40 - 140 %	20%
83-32-9	Acenaphthene	5.0	2.8	56 %	5.0	2.5	49 %	13 %	40 - 140 %	20%
86-73-7	Fluorene	5.0	3.3	66 %	5.0	3.2	63 %	5 %	40 - 140 %	20%
85-01-8	Phenanthrene	5.0	3.8	77 %	5.0	3.6	73 %	6 %	40 - 140 %	20%
120-12-7	Anthracene	5.0	4.2	84 %	5.0	3.9	78 %	7 %	40 - 140 %	20%
206-44-0	Fluoranthene	5.0	4.4	87 %	5.0	4.2	84 %	4 %	40 - 140 %	20%
129-00-0	Pyrene	5.0	4.3	86 %	5.0	4.2	84 %	2 %	40 - 140 %	20%
56-55-3	Benzo[a]anthracene	5.0	4.2	84 %	5.0	4.1	81 %	3 %	40 - 140 %	20%
218-01-9	Chrysene	5.0	4.2	83 %	5.0	4.0	79 %	4 %	40 - 140 %	20%
205-99-2	Benzo[b]fluoranthene	5.0	4.5	91 %	5.0	4.2	84 %	8 %	40 - 140 %	20%
207-08-9	Benzo[k]fluoranthene	5.0	4.4	88 %	5.0	4.2	85 %	4 %	40 - 140 %	20%
50-32-8	Benzo[a]pyrene	5.0	4.2	83 %	5.0	3.9	77 %	7 %	40 - 140 %	20%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	3.8	76 %	5.0	3.4	68 %	11 %	40 - 140 %	20%
53-70-3	Dibenzo[a,h]anthracene	5.0	3.6	71 %	5.0	3.2	63 %	12 %	40 - 140 %	20%
191-24-2	Benzo[g,h,i]perylene	5.0	3.8	75 %	5.0	3.5	70 %	7 %	40 - 140 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Nitrobenzene-d5	10	7.4	74 %	10	7.1	71 %		30 - 130 %
2-Fluorobiphenyl	10	6.8	68 %	10	6.1	61 %		30 - 130 %
Terphenyl-d14	10	7.6	77 %	10	7.5	75 %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3520C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

Quality Control Report Method Blank

Category: **EPA Method 8270C-SIM PAHs**
 QC Batch ID: **SV-2572-L**
 Matrix: **Aqueous**

Instrument ID: **MS-6 HP 6890**
 Extracted: **10-28-10 23:00**
 Analyzed: **11-01-10 17:01**
 Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	BRL		ug/L	0.2
86-73-7	Fluorene	BRL		ug/L	0.2
85-01-8	Phenanthrene	BRL		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Nitrobenzene-d5	10	6.7	67 %	30 - 130 %
2-Fluorobiphenyl	10	5.2	52 %	30 - 130 %
Terphenyl-d14	10	7.3	73 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 Sample extraction performed by EPA Method 3520C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586

Potable Water, Wastewater, Solid Waste and Soil

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Potable Water and Non-Potable Water

<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor,

Asbestos Analytical Services, Class A

Division of Occupational Safety, AA000195

http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708

Potable Water, Non-Potable Water, Solid and Chemical Materials

<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754

Potable Water, Non-Potable Water, Solid and Hazardous Waste

<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health,

Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry

Division of Laboratories, LAO00054

<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921

Foreign soil import permit

VERMONT

Department of Health, VT-87643

Potable Water

http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS
Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Haloacetic Acids	EPA 552.2
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7

Non-Potable Water (Wastewater)

Analyte	Method
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Gamma-BHC	EPA 608
Hardness (CaCO ₃), Total	EPA 200.7
Hardness (CaCO ₃), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

**Non-Potable Water (Wastewater)
Analyte****Method**

Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Index by State and City

National Register Information System

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<i>Row</i>	STATE ▾	COUNTY ▾	RESOURCE NAME ▾	ADDRESS ▾	CITY ▾	LISTED ▾	MULTIPLE ▾
<i>1</i>	MA	Norfolk	Rabbit Hill Historic District	Roughly bounded by Highland, Main, Franklin, and Milford Sts.	Medway	1988-04-01	

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The Medway Historical Society

Medway, Massachusetts

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The Historic Districts of Medway, MA

Rabbit Hill

The Rabbit Hill National Historic District was designated as a National Historic District by the Massachusetts Historical Commission on April 1, 1988. The district is located in West Medway on Rabbit Hill. Its central point is the Community Church built in 1814. There are 58 buildings located on nearly 30 acres in the district.

The district draws its name from the most significant geographical feature in the area – RABBIT HILL. Originally the entire area was a stony pasture with scrub growth and largely inhabited by rabbits. The land was deeded to the Second Church of Christ by Jabez Shumway in 1814 (now the site of the Community Church).

Almost all the houses in the district are 100 years old or more. Main Street (Route 109) was opened in 1810, Milford and Highland Streets in 1829 and 1834-5 respectively. Most of the building within the district took place within the first 75 years of the 19th century. The significant quality of the district is the preservation of an earlier New England village scene. Its cohesive nature along with the quality and styles of the homes adds distinction to the area. The district has some of Medway's best examples of Federal, Greek Revival and Victorian buildings. Enjoy them as you walk through the Rabbit Hill Historic District.

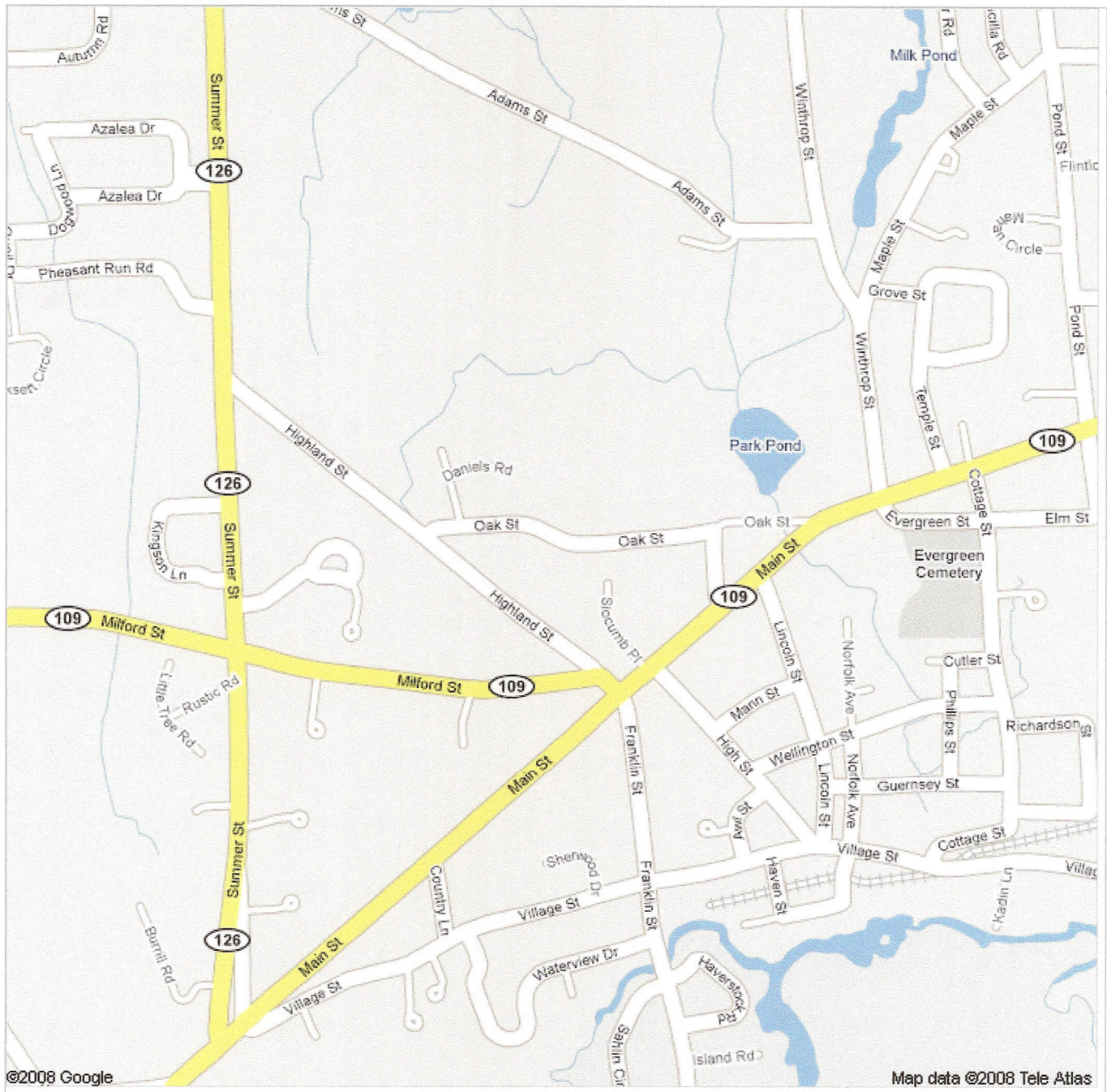
Medway Historical Society, 223 Main Street, Medway, MA 02053 (508) 533-7222



Address **Medway**
Massachusetts

Get Google Maps on your phone

Text the word "GMAPS" to 466453





Material Safety Data Sheet

TOLCIDE PS20A

Date Prepared: 10/15/08

Supersedes Date: 8/15/08

1. PRODUCT AND COMPANY DESCRIPTION

RHODIA INC.
RHODIA NOVECARE
CN7500
8 Cedar Brook Drive
Cranbury NJ 08512-7500

Emergency Phone Numbers:

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 within the United States or 703-527-3887 for international collect calls) or Rhodia CAERS (Communication and Emergency Response System) at 800-916-3232.

For Product Information:

(888) 776-7337

EPA FIFRA Registration Number:

4564-18

Chemical Name or Synonym:

TETRAKIS(HYDROXYMETHYL) PHOSPHONIUM SULFATE; THPS

Molecular Formula:

$2(C_4H_{12}O_4P) \cdot O_4S$

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	Percentage
TETRAKIS(HYDROXYMETHYL) PHOSPHONIUM SULFATE	55566-30-8	Y	18 - 22

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:

colorless / liquid, characteristic odor.

Warning Statements:

DANGER! RISK OF SERIOUS DAMAGE TO EYES. HARMFUL IF INHALED. MAY BE HARMFUL IF INGESTED. MAY CAUSE ALLERGIC SKIN REACTION. POSSIBLE DEVELOPMENTAL HAZARD, MAY ADVERSELY EFFECT THE DEVELOPING FETUS (BASED ON ANIMAL DATA).

B. POTENTIAL HEALTH EFFECTS:

Acute Eye:

Expected to cause significant irritation to the eyes. Can cause tearing, pain, burns, permanent damage to the cornea.

Acute Skin:

May cause irritation upon prolonged contact. May cause sensitization.

Acute Inhalation:

Harmful if inhaled. May cause coughing, shortness of breath, chest pain.

Acute Ingestion:

May be harmful if swallowed. May cause nausea, vomiting.

Chronic Effects:

Repeated, prolonged ingestion may cause liver damage, (See Section 11-Chronic for a discussion of animal studies.) In a rabbit study, animals fed this product during pregnancy produced an increase in the numbers of offspring with eye abnormalities and/or minor skeletal variations, only at doses that also caused maternal (parental) toxicity. (See Section 11 for details of chronic studies).

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:**Eye Exposure:**

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention.

Skin Exposure:

In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.

Inhalation:

Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Ingestion:

Wash out mouth with water and keep at rest. Seek immediate medical attention. Do not induce vomiting unless instructed to do so by a physician.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Skin contact may aggravate existing skin disease.

NOTES TO PHYSICIAN:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:**Flash Point:**

Not Applicable

Extinguishing Media:

Recommended: water fog, carbon dioxide, dry chemical, foam.

Special Fire Fighting Procedures:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate residents who are downwind of fire.

Unusual Fire and Explosion Hazards:

Containers may explode (due to the build-up of pressure) when exposed to extreme heat.

Hazardous Decomposition Materials (Under Fire Conditions):

oxides of sulfur
oxides of phosphorus
oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:

Ventilate closed spaces before entering. Personnel handling this material should be thoroughly trained to handle spills and releases. Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Evacuate and isolate spill area.

Containment of Spill:

Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Dike area to prevent runoff. Collect and contain contaminated absorbent and dike material for disposal.

Cleanup and Disposal of Spill:

Recover material, if possible. DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER. Absorb with an inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Clean up residual material by washing area with water. Collect washings for disposal. The material should be properly packaged and disposed of in compliance with applicable regulations. Decontaminate tools and equipment following cleanup.

Environmental and Regulatory Reporting:

Do not flush to drain. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures:

Not Available

Handling:

Personnel handling this product should be thoroughly trained as to its hazards. Do not get on skin or in eyes. Do not breathe vapors and mists. Avoid direct or prolonged contact with skin and eyes. Use only as directed.

**** HAZARD WARNING]**This product belongs to a chemical family that HAS BEEN TESTED in combination with Trimethylolpropane , Trimethylolpropane derived products or their corresponding Trimethylolpropane homologs for toxicity of the thermal decomposition products in the absence of flame. Products in this chemical family PRODUCED OBSERVABLE ADVERSE HEALTH EFFECTS in laboratory animals. There is a possibility that this thermal decomposition produces bicyclic phosphates and/or phosphites. Bicyclic phosphates and phosphites have acute neurotoxic properties and may cause convulsive seizures in laboratory test animals. Therefore, this product should not be used in conjunction with Trimethylolpropane or Trimethylolpropane derived products unless tested to determine their decomposition toxicity. Follow all precautionary measures outlined in this Material Safety Data Sheet and/or contact Rhodia Inc.

Storage:

Store in an area that is clean, cool, dry, well-ventilated, Store away from; bases, oxidizers, reducing agents, Store in tightly closed containers. Container material to avoid: ordinary steel, Recommended container material: high density, high

molecular weight polyethylene containers. Store in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

TETRAKIS(HYDROXYMETHYL) PHOSPHONIUM SULFATE

ACGIH	Notes	TWA 2 mg/cu m	STEL
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Engineering Controls:

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation.

Respiratory Protection:

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Eye/Face Protection:

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. Face contact should be prevented through use of a face shield.

Skin Protection:

Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance:

colorless / liquid.

Odor:

characteristic odor.

pH:

3 to 6 at 100 wt/wt%.

Specific Gravity:

Not Available

Density:

1.08 to 1.13 g/ml at 25 C (77 F).

Water Solubility:

soluble

Melting Point Range:

Not Available

Freezing Point Range:

~ -3 C (27 F)

Boiling Point Range:

108 C (226 F) at 759 mmHg

Vapor Pressure:

Not Available

Vapor Density:

Not Available

Molecular Weight:

406.3

10. STABILITY AND REACTIVITY

Chemical Stability:

This material is stable under normal handling and storage conditions described in Section 7. Under unusual conditions, such as very high temperatures and/or in the presence of strong reducing agents, the product may break down to form hazardous decomposition products noted below. The customer is advised to seek further advice from Rhodia Water Technical Service personnel when considering such applications.

Conditions To Be Avoided:

heat

Temperatures above 160C.

See HAZARD WARNING under HANDLING : in Section 7.

Materials/Chemicals To Be Avoided:

strong bases

strong acids

strong oxidizing agents

strong reducing agents

Decomposition Temperature Range:

> 160 C (320 F)

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal

oxides of sulfur
oxides of phosphorus
oxides of carbon
phosphine gas

Hazardous Polymerization Will Not Occur.

Avoid The Following To Inhibit Hazardous Polymerization:
not applicable

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:

Toxicological Information and Interpretation:

eye - eye irritation, rabbit. Severely irritating. This material is expected to cause significant irritation to the eyes.

Acute Skin Irritation:

Toxicological Information and Interpretation:

skin - skin irritation, rabbit. Minimally irritating. This material is not expected to cause significant irritation to the skin.
skin - sensitization, guinea pig. Sensitizing. May cause significant allergic skin reaction.

Acute Dermal Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, > 2000 mg/kg, rat. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate.

Acute Respiratory Irritation:

No test data found for product.

Toxicological Information and Interpretation:

lung - lung irritation (qualitative), **. This material is not expected to cause significant irritation to the respiratory tract.

Acute Inhalation Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

LC50 - lethal concentration 50% of test species, 0.59 mg/l/4 hr, rat. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate.

Acute Oral Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, 575 mg/kg, rat. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate.

Chronic Toxicity:

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

The following data is for similar or related products.

Toxicological Information and Interpretation - REPRODUCTIVE TOXICITY, rat. No impairment of fertility was observed in a two generation feeding study. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate. - CARCINOGENICITY, **. There was no evidence of carcinogenicity in F344/N rats and B6C3F1 mice (both sexes) dosed by gavage at 5 or 10 mg THPS/kg/day for 2 years. ^aref. NTP study report TR296, 1987]. - MUTAGENICITY, **. Ames Test: Negative. - MUTAGENICITY, **. Chinese hamster ovary cells (chromosomal aberrations): Positive. - TERATOGENICITY, **. A developmental toxicity study in rabbits resulted in statistically significant developmental effects in offspring, principally including eye malformations, hydrocephaly and skeletal variations, at doses that also caused maternal (parental) bodyweight gain reduction. The No Observed Effect Level (NOEL) for development toxicity and maternal toxicity (rabbit) = 18 mg/kg/day. A developmental toxicity study in rats showed a statistically significant increase

only in one skeletal variation (supernumary ribs), at doses that also caused maternal toxicity. The No Observed Effect Level for development toxicity (rat) = 30 mg/kg/day; No observed effect level for maternal toxicity (rat) = 15 mg/kg/day. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate. Medical surveillance for over 30 years of employees in our manufacturing facility has shown no evidence of developmental toxicity from long-term exposure nor from exposure following an acute incident, for example, a major or minor spillage. - MUTAGENICITY, **. Dominant Lethal Assay ^arat| (in vivo): Negative. - MUTAGENICITY, **. Mouse micronucleus (in vivo): Negative. - MUTAGENICITY, **. Unscheduled DNA synthesis assay: Negative. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate. - SUB-CHRONIC EXPOSURE, 1 mg/kg/90 days, rat. Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

The following data is based on the technical grade active ingredient(s) (TGA).

Ecotoxological Information and Interpretation:

LC50 - lethal concentration 50% of test species, 19.4 mg/l/48 hr, *Daphnia magna*.

LC50 - lethal concentration 50% of test species, 93 mg/l/96 hr, bluegill sunfish (*Lepomis macrochirus*).

LC50 - lethal concentration 50% of test species, 119 mg/l/96 hr, rainbow trout (*Oncorhynchus mykiss*).

LC50 - lethal concentration 50% of test species, 86 mg/l/96 hr, Juvenile Plaice.

LC50 - lethal concentration 50% of test species, 340 mg/l/96 hr, Brown Shrimp.

LC50 - ecotox Method for association with dry sediment weight., 2174 mg/kg/10 days, *Corophium volutator*. (dry sediment weight).

LD50 - lethal dose 50% of test species, 311 mg/kg, Mallard duck (*Anas platyrhynchos*). Material tested was a 75% aqueous solution of Tetrakis (hydroxymethyl) phosphonium sulfate.

Chemical Fate Information:

Product is not expected to bioaccumulate. THPS has been shown to degrade rapidly once diluted to sub-ppm concentrations and forms trishydroxymethyl phosphine oxide which is classified as non-toxic.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

EPA Hazardous Waste - NO

14. TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed transport classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US Department of Transportation

Shipping Name:

NOT REGULATED

15. REGULATORY INFORMATION

Inventory Status

Inventory	Status
UNITED STATES (TSCA)	E
CANADA (DSL)	N
EUROPE (EINECS/ELINCS)	P
AUSTRALIA (AICS)	N
JAPAN (MITI)	N
SOUTH KOREA (KECL)	N

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

FEDERAL REGULATIONS**Inventory Issues:**

This product is excluded from TSCA because it is solely for FIFRA regulated use.

SARA Title III Hazard Classes:

Fire Hazard	- NO
Reactive Hazard	- NO
Release of Pressure	- NO
Acute Health Hazard	- YES
Chronic Health Hazard	- YES

STATE REGULATIONS:

This product contains the following components that are regulated under California Proposition 65:

Ingredient Name	Cancer List	Reprod. List	No Sign. Risk Lvl (ug/day) California	RPI
FORMALDEHYDE	Y	N	40	ND

16. OTHER INFORMATION**National Fire Protection Association Hazard Ratings--NFPA(R):**

2	Health Hazard Rating--Moderate
0	Flammability Rating--Minimal
1	Instability Rating--Slight

National Paint & Coating Hazardous Materials Identification System--HMIS(R):

2	Health Hazard Rating--Moderate
0	Flammability Rating--Minimal
1	Reactivity Rating--Slight

Reason for Revisions:

Change and/or addition made to Section 12.

Key Legend Information:

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

TLV - Threshold Limit Value

PEL - Permissible Exposure Limit

TWA - Time Weighted Average

STEL - Short Term Exposure Limit

NTP - National Toxicology Program

IARC - International Agency for Research on Cancer

ND - Not determined
RHODIA - Rhodia Established Exposure Limits

Disclaimer:

The information herein is given in good faith but no warranty, expressed or implied, is made.

**** End of MSDS Document ****