

The Tyree Organization, Ltd.

New England

9 Otis Street, Westborough, MA 01581 • Fax: 508-871-8301 • Phone: 508-871-8300

August 27, 2006

MAG-910256

SEP - 5 2006

US Environmental Protection Agency
RGP-NOC Processing
Municipal Assistance Unit
1 Congress Street, Suite 1100
Boston, MA 02114-2023

RE: Notice of Intent
Getty Station #30317
1744 Center Street
West Roxbury, MA
(RTN 3-25466)

To Whom It May Concern:

Tyree Organization, Ltd., (Tyree), on behalf of Getty Petroleum Marketing, Inc. (Getty), is submitting the attached Notice of Intent (NOI) for the above referenced location. The facility is a service station that has experienced a release of petroleum to the subsurface and has been assigned Release Tracking Number (RTN) 3-25466 by the Massachusetts Department of Environmental Protection (DEP). Permission to discharge to surface water per the US Environmental Protection Agency's (EPA) Remediation General Permit (RGP) procedure is requested at this time in order to operate a groundwater treatment system that is anticipated to be in operation by September 2006. The groundwater treatment system is required by the DEP as an Immediate Response Action (IRA) per the Massachusetts Contingency Plan (MCP). A Site Location Map and a Site Plan has been included as Figure 1 and Figure 2, respectively.

In February 2006, a NOI was submitted and approved (MAG910204) in order to dewater an excavation and install underground storage tanks (USTs) for the same site. The USTs have been installed and Tyree terminated RGP permit MAG910204 in May 2006. Per a call with George Papadopoulos of the US EPA, a separate NOI is now required for the groundwater treatment system.

The treatment system to be implemented is Dual Phase Extraction (DPE). Groundwater containing soluble petroleum hydrocarbons (gasoline) will be removed from 6 to 10 extraction wells for treatment via an air stripper and granular activated carbon units placed in series. It is anticipated that this system will be operational by November 2006. A conceptual design of DPE system components is included in Appendix A.

After discussions with Frank McLaughlin of the Boston Water and Sewer Commission, and Lori Paradise of the MWRA, Manhole #175 on Map 11D, provided by the Boston



Getty Station # 30317
RTN 3-25466

Water and Sewer Commission, discharges to the Stony Brook Conduit, which discharges to the Charles River. With the nearest surface water feature located approximately one half mile to the north, and the subsurface soils consisting of fine sand and silt which would preclude subsurface injection, this appears to be the only feasible option for continuous discharge from the groundwater treatment system.

Please find the following attachments as supporting information:

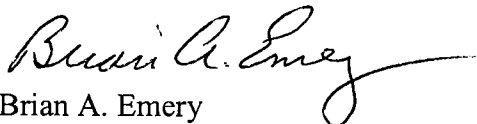
- Attachment A – Treatment System Conceptual Design
- Attachment B – Boston Water & Sewer Commission Map 23H 231, showing the point of discharge (Outfall #23) of the Stony Brook Conduit to the Charles River.
- Attachment C – Boston Water & Sewer Commission Map 11D, showing site and Manhole #173 that discharges to the Stony Brook Conduit.
- Attachment D – MADEP Bureau of Waste Site Cleanup Site Scoring Map showing nearest surface water feature located over one-half mile of the site.
- Attachment E – Email from George Papadopoulos, EPA, indicating the 7Q10 value of the Charles River at the point of discharge.
- Attachment F – Copies of Laboratory Report, groundwater sample collected from site monitoring well MW-1 on February 1, 2006.

Please note that the operator for this system will be Mr. Stephen Hebenstreit, a Tyree employee and a licensed Grade 2M Wastewater Treatment Operator (MADEP #604).

If you have any questions please do not hesitate to call me at (508) 871-8300, ext. 249.

Sincerely,

Tyree Organization, Ltd.



Brian A. Emery
Environmental Scientist III

Attachments: Attachment A – Conceptual Groundwater Treatment System
Attachment B – Boston Water & Sewer Commission Map 23H 231
Attachment C – Boston Water & Sewer Commission Map 11D
Attachment D – MADEP Bureau of Waste Site Cleanup Site Scoring Map
Attachment E – Email from George Papadopoulos, EPA
Attachment F – Copies of Laboratory Report (Groundwater)

cc James Stewart, Getty Petroleum Marketing, Inc.
Massachusetts Department of Environmental Protection

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

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

a) Name of facility/site: Getty Station #30317		Facility/site address:	
Location of facility/site: longitude: <u>71° 09' 01" W</u> latitude: <u>42° 17' 14" N</u>	Facility SIC code(s):	Street: 1744 Centre Street	
b) Name of facility/site owner: Getty Petroleum Marketing, Inc.		Town: West Roxbury	
Email address of owner:		State: MA	Zip: 02132 County:
Telephone no of facility/site owner: (516) 542-4900			
Fax no. of facility/site owner:			
Address of owner (if different from site):	Owner is (check one): 1. Federal _____ 2. State/Tribal _____ 3. Private ☒ 4. other, if so, describe: _____		
Street: 1500 Hempstead Turnpike			
Town: East Meadow	State: NY	Zip: 11554	County: USA
c) Legal name of operator: Tyree Organization, Ltd.		Operator telephone no: (508) 871-8300	
		Operator fax no.: (508) 871-8301	Operator email: shebenstreit@tyreeorg.com
Operator contact name and title: Steve Hebenstreit, Senior Technician			

Address of operator (if different from owner):		Street: 9 Otis Street	
Town: Westborough	State: MA	Zip: 01581	County:

d) Check "yes" or "no" for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Yes No ✓, if "yes," number: _____

2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes No ✓, if "yes," date and tracking #: _____

3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes No ✓

4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes No ✓

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes No ✓

If "yes," please list:

1. site identification # assigned by the state of NH or MA: RTN 3-25466

2. permit or license # assigned: NA

3. state agency contact information: name, location, and telephone number: DEP NERO, 978.694.3373

f) Is the site/facility covered by any other EPA permit, including:

1. multi-sector storm water general permit? Y N ✓, if Y, number: _____

2. phase I or II construction storm water general permit? Y N ✓, if Y, number: _____

3. individual NPDES permit? Y N ✓, if Y, number: _____

4. any other water quality related permit? Y N ✓, if Y, number: _____

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

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

Operation of a treatment system for a release of gasoline to soil and groundwater at a gasoline service station.

b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow <u>.045</u> Average flow <u>.011</u> Is maximum flow a design value ? Y <u>N</u> ✓ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
3) Latitude and longitude of each discharge within 100 feet:		
pt. 4: long. _____ lat. _____; pt. 5: long. _____ lat. _____; pt. 6: long. _____ lat. _____; pt. 7: long. _____ lat. _____; pt. 8: long. _____ lat. _____; etc.	71° 5.47' W, 42° 21.15' N	

4) If hydrostatic testing, total volume of the discharge (gals): NA	5) Is the discharge intermittent or seasonal ? Is discharge ongoing Yes ___ No ☒ ?
c) Expected dates of discharge (mm/dd/yy): start 12/01/06 end 12/01/11	
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. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants ☒	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids		☒	1	g	160.2	4.58ppm	0.032	.000004	0.032	.000004
2. Total Residual Chlorine	☒		1	g	Total	0				
3. Total Petroleum Hydrocarbons		☒	1	g	1664	3.05ppm	0.004	.000001	0.004	.000001
4. Cyanide	☒		1	g	335.2	0.01ppm				
5. Benzene		☒	1	g	8260B	12ppb	4950	0.65392	4950	0.65392
6. Toluene		☒	1	g	624	280ppb	39900	5.2710	39900	5.2710
7. Ethylbenzene		☒	1	g	624	36ppb	3660	0.4835	3660	0.4835
8. (m,p,o) Xylenes		☒	1	g	624	61ppb	26140	3.45324	26140	3.45324
9. Total BTEX ⁴		☒	1	g	624	389ppb	74650	9.86168	74650	9.86168

⁴ BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)										
11. Methyl-tert-Butyl Ether (MTBE)		✓	1	g	8260B	75ppb	19200	2.5364	19200	2.5364
12. tert-Butyl Alcohol (TBA)		✓	1	g	8260B	251ppb	3330	.439911	3330	.439911
13. tert-Amyl Methyl Ether (TAME)		✓	1	g	8260B	13ppb	82.7	.010925	82.7	.010925
14. Naphthalene		✓	1	g	8260B	17ppb	417	.05508	417	.05508
15. Carbon Tetra-chloride	✓		1	g	8260B	8.10ppb				
16. 1,4 Dichlorobenzene	✓		1	g	8260B	12 ppb				
17. 1,2 Dichlorobenzene	✓		1	g	8260B	8.60ppb				
18. 1,3 Dichlorobenzene	✓		1	g	8260B	9.80ppb				
19. 1,1 Dichloroethane	✓		1	g	8260B	4.60ppb				
20. 1,2 Dichloroethane	✓		1	g	8260B	11.0ppb				
21. 1,1 Dichloroethylene			1	g	8260B					
22. cis-1,2 Dichloro-ethylene	✓		1	g	8260B	23.0ppb				
23. Dichloromethane (Methylene Chloride)			1	g	8260B					
24. Tetrachloroethylene	✓		1	g	8260B	16ppb				

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	✓		1	g	8260B	11.0ppb				
26. 1,1,2 Trichloroethane	✓		1	g	8260B					
27. Trichloroethylene			1	g		10.0ppb				
28. Vinyl Chloride	✓		1	g	8260B	23.0ppb				
29. Acetone	✓		1	g	8260B	150ppb				
30. 1,4 Dioxane	✓		1	g	624	642ppb				
31. Total Phenols		✓	1	g	625	2.47ppb	5.17	.000682	5.17	.000682
32. Pentachlorophenol	✓		1	g	625	3.53ppb				
33. Total Phthalates ⁵ (Phthalate esters)	✓		1	g	625	0.55ppb				
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		1	g	625	1.30ppb				
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)			1	g						
a. Benzo(a) Anthracene	✓		1	g	8270C	1.21ppb				
b. Benzo(a) Pyrene	✓		1	g	8270C	1.15ppb				
c. Benzo(b)Fluoranthene	✓		1	g	8270C	1.13ppb				
d. Benzo(k) Fluoranthene	✓		1	g	8270C	1.09ppb				
e. Chrysene	✓		1	g	8270C	1.14ppb				

⁵ The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	✓		1	g	8270C	1.15ppb				
g. Indeno(1,2,3-cd) Pyrene	✓		1	g	8270C	1.15ppb				
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)			1	g	8270C					
h. Acenaphthene		✓	1	g	8270C	0.84ppb	1.05	.000139	1.05	.000139
i. Acenaphthylene	✓		1	g	8270C	0.91ppb				
j. Anthracene	✓		1	g	8270C	1.09ppb				
k. Benzo(ghi) Perylene	✓		1	g	8270C	1.21ppb				
l. Fluoranthene	✓		1	g	8270C	1.14ppb				
m. Fluorene		✓	1	g	8270C	1.14ppb	2.78	.000367	2.78	.000367
n. Naphthalene-		✓	1	g	8270C	7.90ppb	329	.04346	329	.04346
o. Phenanthrene		✓	1	g	8270C	0.99ppb	3.51	.00463	3.51	.00463
p. Pyrene	✓		1	g	8270C	1.18ppb				
37. Total Polychlorinated Biphenyls (PCBs)	✓		1	g	608	0.00011				
38. Antimony	✓		1	g	200.7	0.002				
39. Arsenic	✓		1	g	200.7	0.0034				
40. Cadmium	✓		1	g	200.7	0.00030				
41. Chromium III		✓		g	200.7	0.0016	.0001	.00001	.0001	.00001
42. Chromium VI										

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper		✓	1	g	200.7	0.0029	0.00058	8×10^{-9}	0.00058	8×10^{-9}
44. Lead		✓	1	g	200.7	0.0017	0.00068	9×10^{-9}	0.00068	9×10^{-9}
45. Mercury		✓	1	g	200.7	0.00004	0.00077	1×10^{-11}	0.00077	1×10^{-11}
46. Nickel		✓	1	g	200.7	0.0017	0.00068	9×10^{-9}	0.00068	9×10^{-9}
47. Selenium	✓		1	g	200.7	0.0043				
48. Silver	✓		1	g	200.7	0.0010				
49. Zinc		✓	1	g	200.7	0.0044	0.00011	1.5×10^{-8}	0.00011	1.5×10^{-8}
50. Iron		✓	1	g	200.7	0.018	0.0381	5×10^{-6}	0.0381	5×10^{-6}
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

<i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ___ N ☒	If yes, which metals?
<i>Step 2:</i> For any metals which have reasonable potential to 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? Metals: _____ DF: _____	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 "Yes," 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:
Groundwater will be extracted from 7-10 four-inch diameter PVC wells located on the Getty property. Groundwater will be passed through a bag filter, and oil/water separator, a shallow tray air stripper, and two 500-pound (min.) liquid phase carbon units placed in series. A schematic is attached.
Each monitoring well produces less than 1 gpm, so the total max flow is conservative at 20 gpm, the average flow is estimated to be 5 gpm.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter	GAC filter
	Chlorination	Dechlorination	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 5 Maximum flow rate of treatment system 20 Design flow rate of treatment system >20

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

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

a) Identify the discharge pathway:	Direct	Within facility	Storm drain	River/brook	Wetlands	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Discharge will be directed to Manhole #173 per Map 11D from the Boston Water & Sewer Commission, through the Stoney Brook Conduit, to Outfall #23 which discharges to the Charles River (Map 23H 231, attached). The actual discharge location to the Charles River is just West of the Harvard Bridge.						

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 discharges, 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 <u>B</u> _____,
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water <u>22</u> _____ 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? Yes ☒ No ☐ If yes, for which pollutant(s)? Online information indicates that the Charles River, in years past, has had impaired water quality for a variety of pollutants, including oil and grease, and metals. Is there a TMDL? Yes ☐ No ☒ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☐ No ☒ Has any consultation with the federal services been completed? No ☒ or is consultation underway? Yes ☐ No ☒ What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one): a "no jeopardy" opinion? _____ or written concurrence _____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?
b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge? Yes ☐ No ☒ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☐ No ☒

7. Supplemental information. :

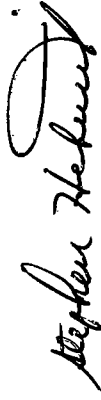
Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit. This is the only feasible pathway from this site to a surface water discharge. The closest surface water is located greater than one half mile to the north.

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.

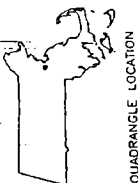
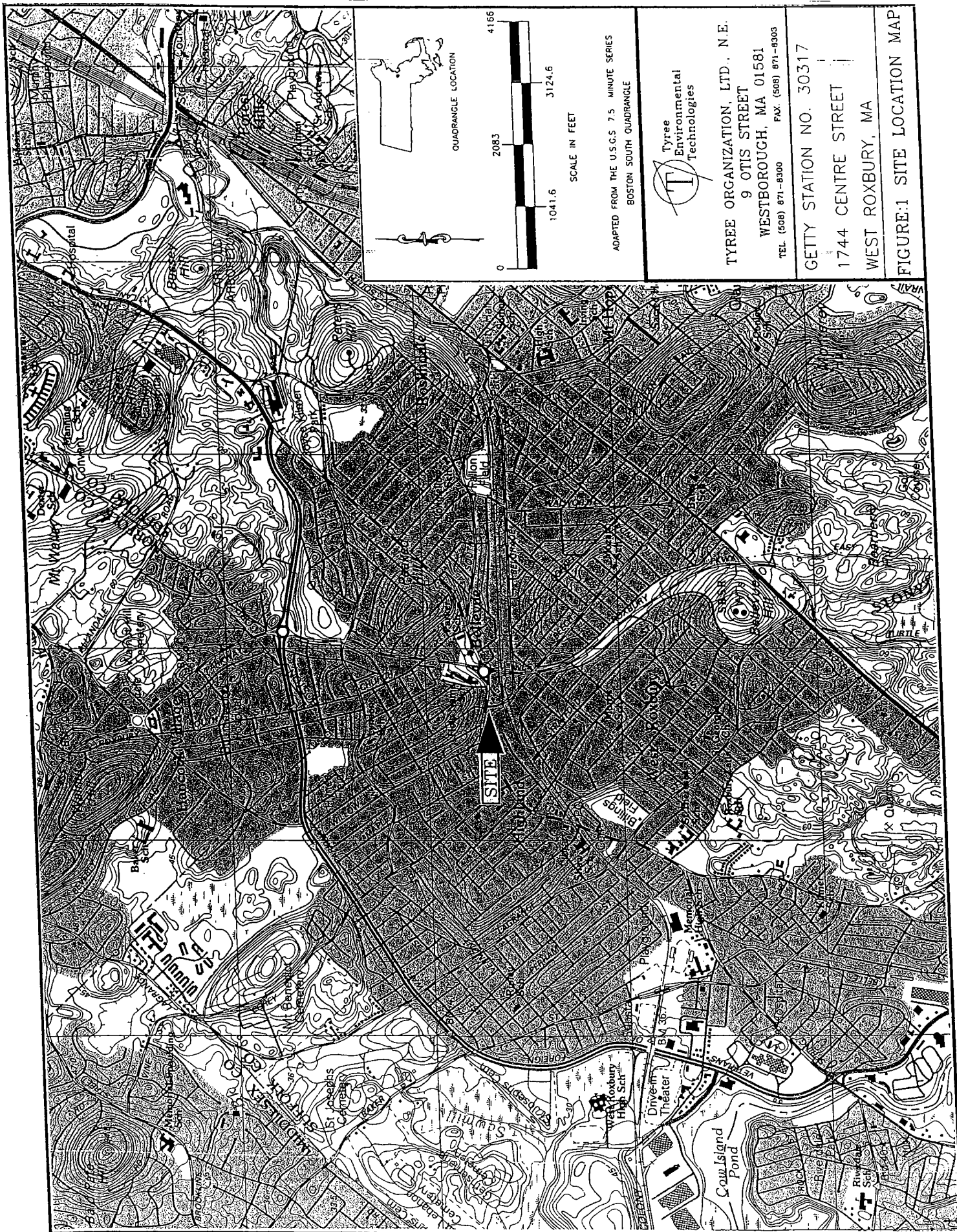
Facility/Site Name: Getty Station #30317

Operator signature:



Title: Senior Technician

Date:



QUADRANGLE LOCATION



SCALE IN FEET

ADAPTED FROM THE U.S.G.S 7.5 MINUTE SERIES
BOSTON SOUTH QUADRANGLE



Tyree
Environmental
Technologies

TYREE ORGANIZATION, LTD., N.E.
9 OTIS STREET
WESTBOROUGH, MA 01581

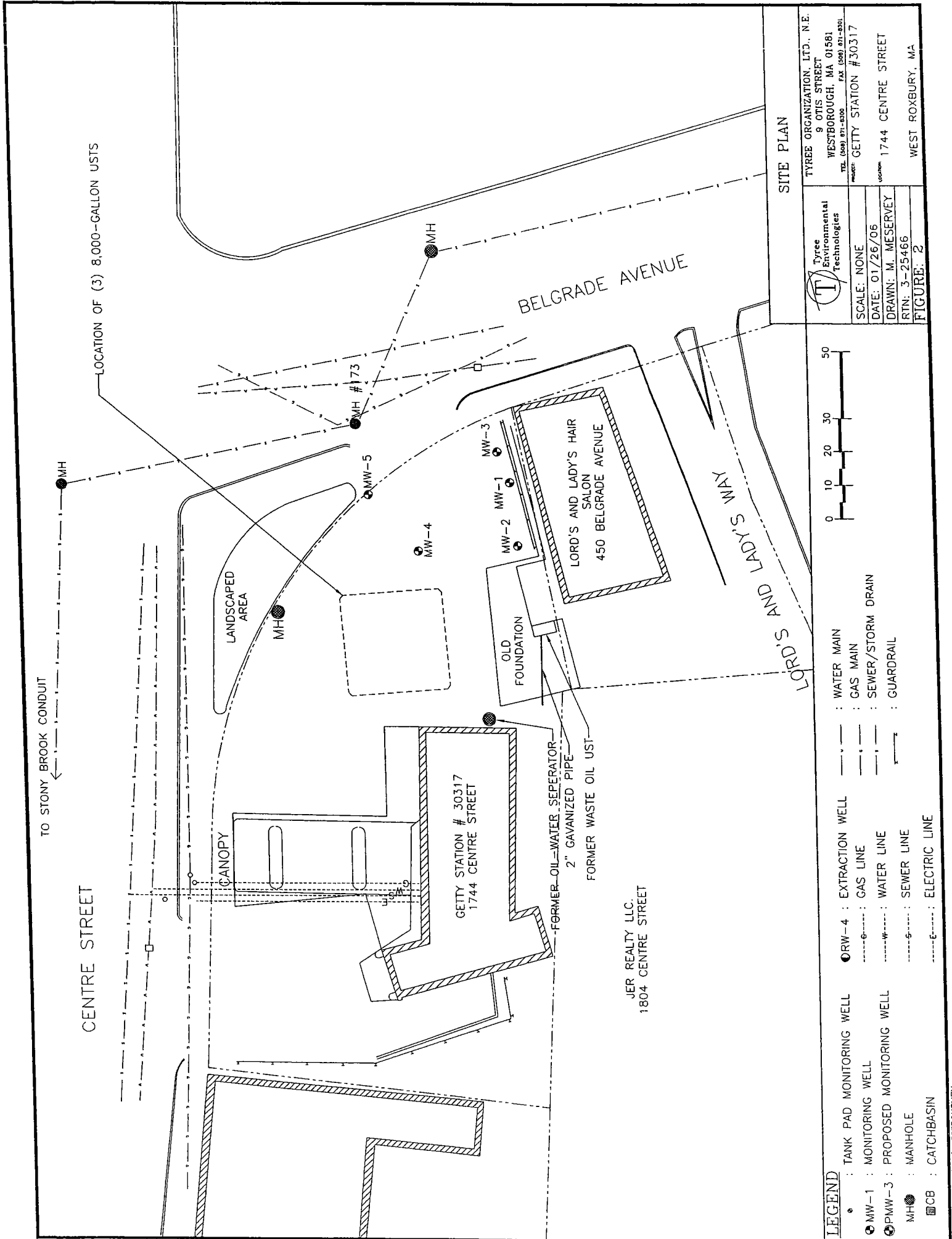
TEL (508) 871-8300 FAX (508) 871-8303

GETTY STATION NO. 30317

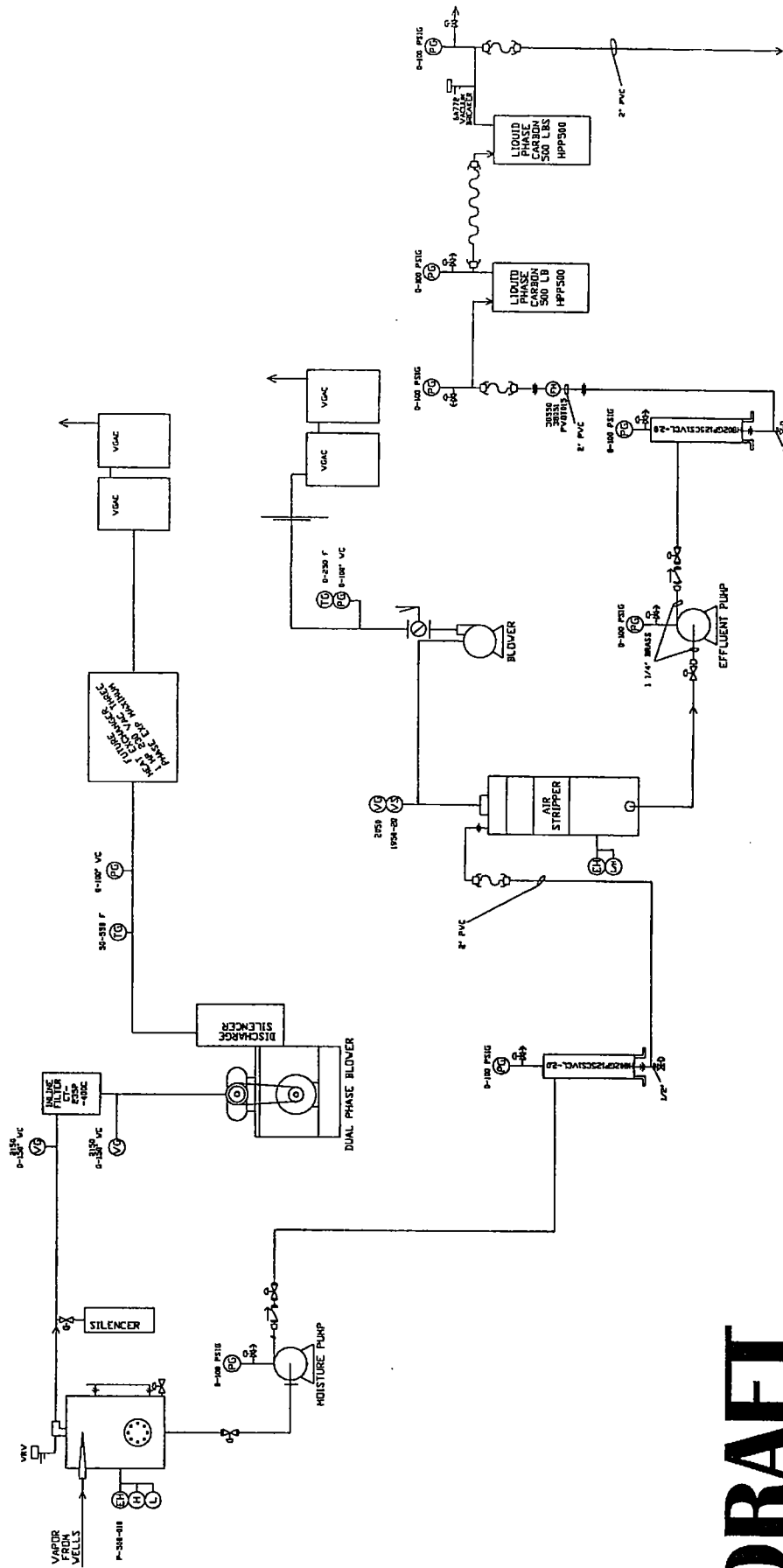
1744 CENTRE STREET

WEST ROXBURY, MA

FIGURE:1 SITE LOCATION MAP



ATTACHMENT A



DRAFT

NATIONAL ENVIRONMENTAL SYSTEMS			
36 MAPLE AVENUE, SECONOMAC, MA 02771			
PROCESS AND INSTRUMENTATION DIAGRAM			
JOB NAME: TYREC			
NES PROJECT:	DRAWN: TJC	SHEET	REV.
DATE: 5/10/86	DESIGN: JLB		
SCALE: N.T.S.			

LEGEND CH CHECK VALVE EM EMERGENCY HIGH SWITCH L LOW LEVEL FOR PUMP PS PRESSURE SWITCH VS VACUUM SWITCH TG TEMPERATURE GAUGE VG VACUUM GAUGE FM FLOW METER	EM EMERGENCY HIGH SWITCH L LOW LEVEL FOR PUMP PS PRESSURE SWITCH VS VACUUM SWITCH TG TEMPERATURE GAUGE VG VACUUM GAUGE FM FLOW METER
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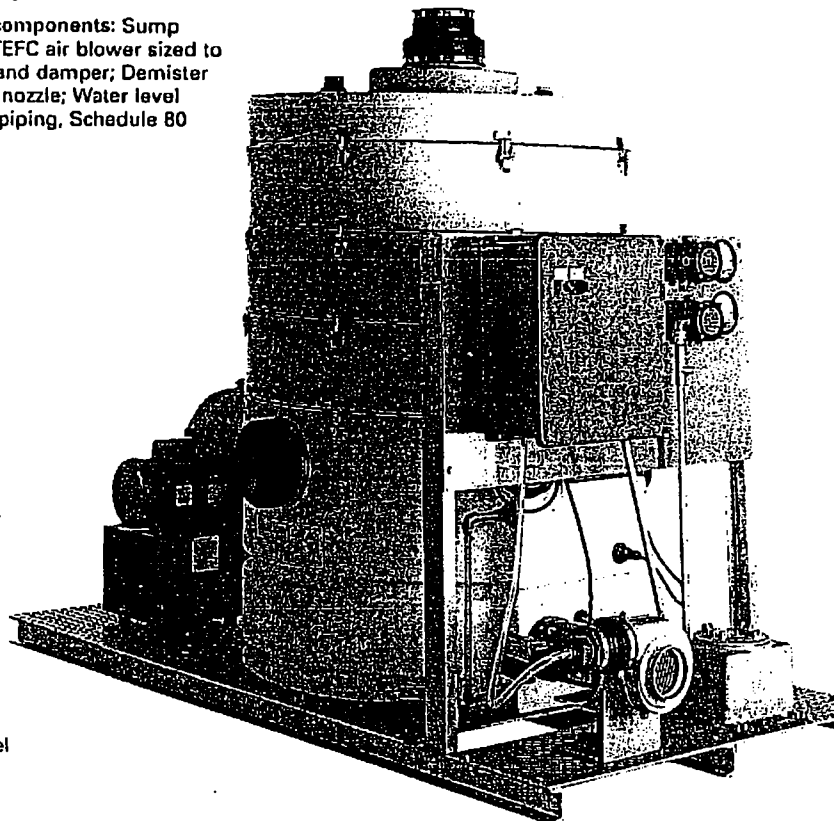
2300-P Series

Model Pictured: 2331-P

Basic system includes the following components: Sump tank, cover, and trays, Polyethylene; TEFC air blower sized to number of trays; Blower inlet screen and damper; Demister pad, stainless steel; Water inlet spray nozzle; Water level sight tube; Gaskets; Latches; Internal piping, Schedule 80 PVC.

Options chosen for model pictured:

- ☒ Air pressure gauge
- ☐ Gravity discharge
- ☒ Steel frame
- ☒ EXP blower motors
- ☐ Discharge and/or feed pump, TEFC or EXP
- ☐ Blower start/stop panel only
- ☐ Main disconnect switch
- ☐ Standard NEMA 3R system control panel with alarm interlocks, motor starter, relays, alarm light, UL listed
- ☐ NEMA 3R control panel with level controls for pumps, alarm interlocks, motor starters, relays, alarm light, UL listed
- ☒ PurgePanel™: NEMA 4X enclosure, small blower, pressure switch, and a small explosion-proof enclosure (NEMA 7)
- ☐ Control panel IS components for remote mounted NEMA 3R panel, UL listed
- ☐ NEMA 7 and/or custom control panel
- ☐ Strobe alarm light
- ☐ Alarm horn
- ☒ Low air pressure alarm switch
- ☒ High water level alarm switch
- ☒ Discharge pump level switch
- ☐ Water pressure gauges
- ☐ Digital water flow indicator and totalizer
- ☐ Air flow meter
- ☐ Temperature gauges
- ☐ Line sampling ports
- ☐ Air blower silencer
- ☐ Auto dialer
- ☐ Automatic operation components for multiple wells
- ☐ Other custom requirements (Please call)



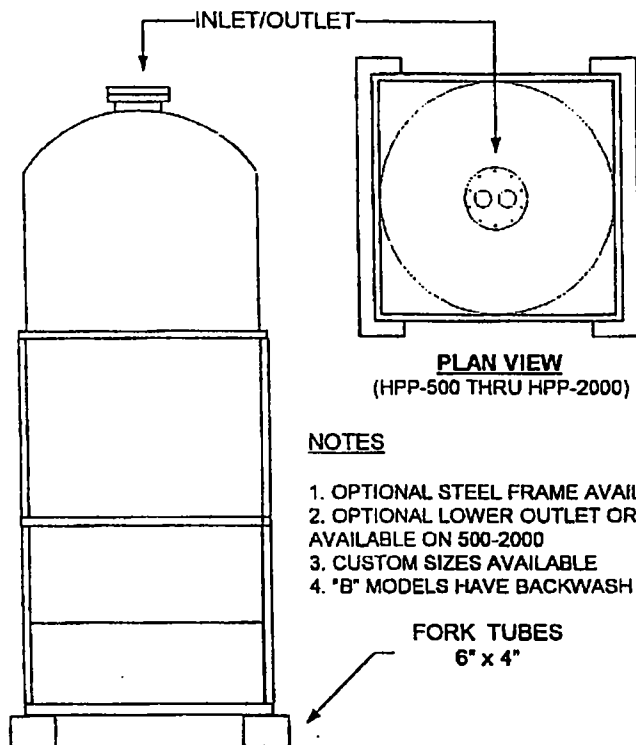
*The full range of options are available
to meet your project's specifications.*

Models	flow rate	# trays	width	length	height	min. cfm
2311-P	1-50gpm	1	5'2"	3'7"	4'2"	300
	0.2-11.4m ³ /hr		1.6m	1.1m	1.2m	509.6m ³ /hr
2321-P	1-50gpm	2	5'2"	3'7"	4'11"	300
	0.2-11.4m ³ /hr		1.6m	1.1m	1.5m	509.6m ³ /hr
2331-P	1-50gpm	3	5'2"	3'7"	5'8"	300
	0.2-11.4m ³ /hr		1.6m	1.1m	1.7m	509.6m ³ /hr
2341-P	1-50gpm	4	5'2"	3'7"	6'5"	300
	0.2-11.4m ³ /hr		1.6m	1.1m	2m	509.6m ³ /hr



PRODUCT DIMENSIONS HPP SERIES FILTERS

DRAFT



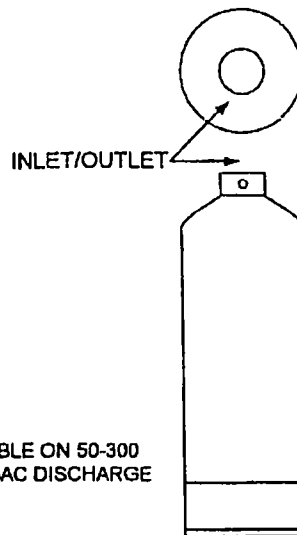
PLAN VIEW
(HPP-500 THRU HPP-2000)

NOTES

1. OPTIONAL STEEL FRAME AVAILABLE ON 50-300
2. OPTIONAL LOWER OUTLET OR GAC DISCHARGE AVAILABLE ON 500-2000
3. CUSTOM SIZES AVAILABLE
4. "B" MODELS HAVE BACKWASH CAPACITY

FORK TUBES
6" x 4"

ELEVATION VIEW
(HPP-500 THRU HPP-2000)



ELEVATION & PLAN VIEW
(HPP-50 THRU HPP-300)

DETAILED DRAWINGS AVAILABLE FOR INDIVIDUAL PRODUCTS

HPP SERIES STANDARD DIMENSIONS							
Model # (HPP-)	50	100/100B	200/200B	300	500	1000	2000
Overall Height	3' 11"	4' 7" / 5' 9"	5' 9" / 6'	6'	7' 2"	7' 5"	8' 1"
Footprint	2' 6" x 2' 6"	1' 2" x 1' 2"	1' 6" x 1' 6"	2' x 2'	2' 6" x 2' 6"	3' x 3'	4' x 4'
Diameter	30"	12"/14"	16"/18"	21"	30"	36"	48"
Inlet/Outlet (FNPT)	¾"	¾"	1"	1"	1 ½"	2"	2"
Drain / Vent (FNPT)	NA	NA	NA	OPT	OPT	OPT	OPT
GAC Fill (Lbs)	50	100	200	300	500	1,000	2,000
Shipping Weight (Lbs)	60	120/130	235/270	380	845	1,475	2,680
Operational Weight (Lbs)	155	245/405	520/695	905	2,065	3,020	5,330

1200 E. 26th Street • Anderson, Indiana 46016
Phn: 765-643-3941 Fax: 765-643-3949 Email: info@tetrasolv.com



PRODUCT DATA SHEET
HPP SERIES FILTERS
MODEL HPP-500

DRAFT

GENERAL DESCRIPTION

The HPP-500 filter is a media filter vessel designed to treat liquid streams. While the typical design application is a activated carbon adsorption unit, the filter can easily accommodate many medias. Some applications include:

- Dissolved Organic Removal (Activated Carbon)
- Suspended Solids Removal (Sand Filter)
- Dissolved Minerals (Softener Resin)
- Oil and Grease Removal (Organo-Clays)
- Dissolved and Precipitated Metals Removal
- Special Organics (Resin/Carbon Blends)
- Catalytic Reactor (Chlorine and Peroxide Removal)
- Bio-Remediation Contactor Unit

HPP-500 STANDARD SPECIFICATIONS

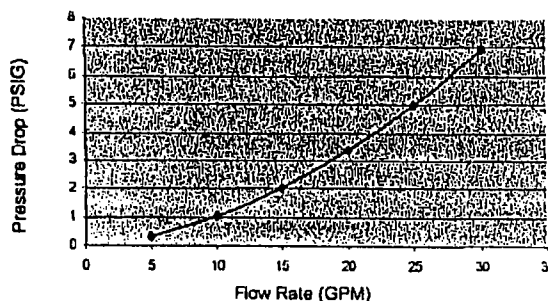
Specification	Specification Value	Options
Materials (Vessel)	Polyethylene	FRP
Materials (Internal Piping)	SCH 80 PVC	Polypropylene, CPVC, 304SS, 316SS
Materials (Collector Nozzles)	Polypropylene	304SS, 316SS
Internal Coating	-NA-	-NA-
External Coating	Epoxy Mastic (Carbon Steel Surfaces)	Any available coating
Maximum Pressure	125 PSIG	Up to 250 PSIG
Maximum Temperature	120° F	Up to 150° F
Cross Sectional Bed Area	4.7 FT ²	Custom sizes available
Bed Depth	3.5 FT (Using 500 Lbs. 8*30 GAC)	Dependent upon supplied media
Bed Volume	17 FT ³ (Using 500 Lbs. 8*30 GAC)	Up to 24 FT ³

CONTACT TIME VS. FLOW RATE
(8*30 GAC)

Flow Rate	Single Bed	Dual Bed
10 GPM	12 Minutes	24 Minutes
20 GPM	6 Minutes	12 Minutes
30 GPM	4 Minutes	8 Minutes
40 GPM	3 Minutes	6 Minutes

Related Bulletins:
B99-M116A - O&M Manual - HPP-500 Filter
B99-04A - Contact Time in Filters
B99-05A - About Backwashing
B99-06A - About Pressure Drop
B99-07A - Usage Rates

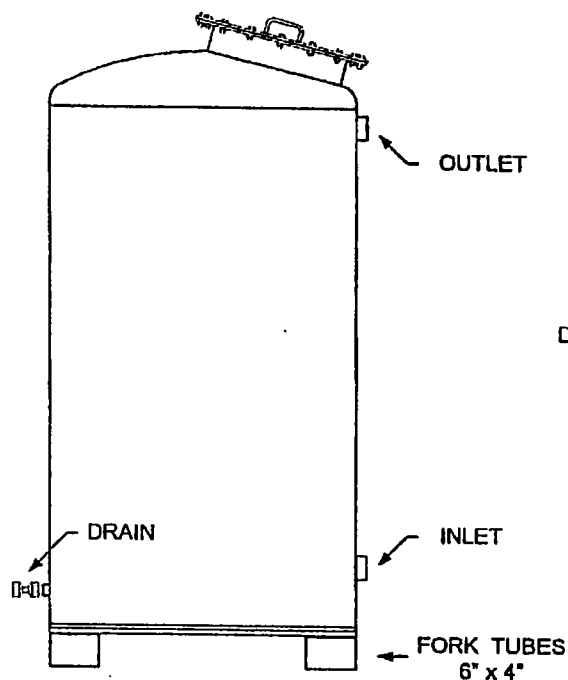
PRESSURE DROP GRAPH
(As Filled - 8*30 GAC)



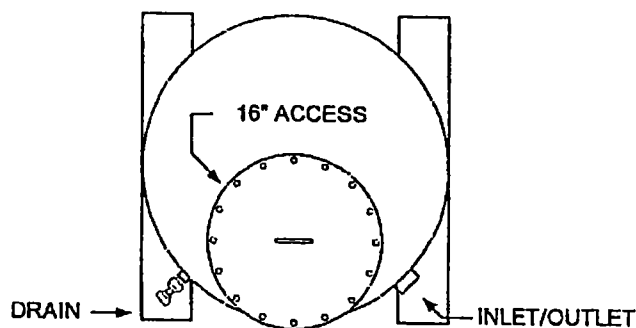


PRODUCT DIMENSIONS VFV SERIES FILTERS

DRAFT



ELEVATION VIEW
NOT TRUE ORIENTATION



PLAN VIEW
TRUE ORIENTATION

NOTES

1. VFV-250 HAS 8" FLANGED ACCESS NOT 16"
2. FORK TUBES OPTIONAL ON VFV-250

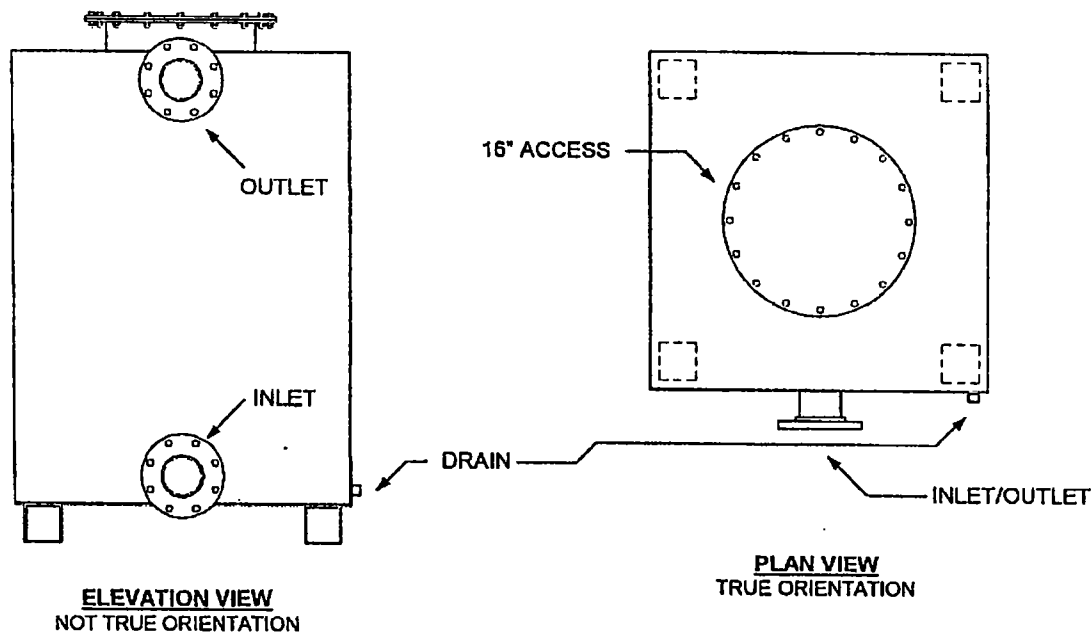
DETAILED DRAWINGS AVAILABLE FOR INDIVIDUAL PRODUCTS

VFV SERIES STANDARD DIMENSIONS							
Model # (VFV-) ➡	250	500	1000	2000	3000	5000	10000
Overall Height	3' 11"	5' 3"	6' 5"	7' 7"	7' 10"	9' 0"	9' 4"
Footprint	2' x 2'	2' 6" x 2' 6"	3' x 3'	4' x 4'	5' x 5'	6' x 6'	8' x 8'
Diameter	24"	30"	36"	48"	60"	72"	96"
Inlet/Outlet (FNPT)	2"	2"	3"	4"	4"	6"	6"
Drain (FNPT)	OPT.	1/2"	1/2"	3/4"	1"	1 1/2"	2"
GAC Fill (Lbs)	250	500	1000	2000	3000	5000	10000
Shipping Weight (Lbs)	415	875	1,500	2,925	4,375	7,300	13,150
Operational Weight (Lbs)	475	1,000	1,750	3,425	5,125	8,500	15,000



PRODUCT DIMENSIONS VF SERIES FILTERS

DRAFT



DETAILED DRAWINGS AVAILABLE FOR INDIVIDUAL PRODUCTS

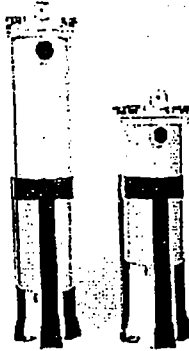
VF SERIES STANDARD DIMENSIONS

Model # (VF-) ➡	500	1000	1500	2000	3000	5000	10000
Overall Height	4' 8"	4' 8"	5' 8"	6' 8"	6' 8"	6' 8"	7' 8"
Footprint	3' x 3'	4' x 4'	4' x 4'	4' x 4'	5' x 5'	6' x 8'	8' x 10'
Inlet/Outlet (150# FLNG)	4"	6"	6"	6"	8"	10"	12"
Drain (FNPT)	1/4"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"
GAC Fill (Lbs)	500	1,000	1,500	2,000	3,000	5,000	10,000
Shipping Weight (Lbs)	900	1,450	2,050	2,650	4,500	7,100	14,500
Operational Weight (Lbs)	1,025	1,600	2,400	3,200	5,150	8,200	17,000

SINGLE BAG GENERAL PURPOSE BAG FILTER HOUSINGS

MODEL 80 GP SERIES

DRAFT



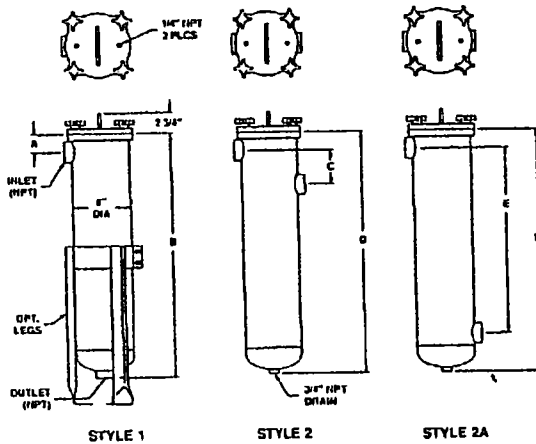
SIZE 801 - 80 GPM
SIZE 802 - 180 GPM

- 3/4" through 3" NPT side inlet
- Bottom or side outlets
- Flanges optional
- Stainless steel filter bag baskets
- Unique speed bar cover closure
- Light weight cover with handle
- Two 1/4" NPT taps in cover
- ΔP Ports optional
- Positively sealed, safe cover
- Low pressure drops
- Maximum pressure - 125 psi
- Maximum temperature - 300° F

MAXIMUM RECOMMENDED FLOW RATES

The following maximum recommended flow rates for Model 80 housings with filter bags are guides only and are dependant on variables such as fluid viscosity, temperature, amount and type of contaminants, type and size of filter bag and micron rating. They are in general agreement with other manufacturers recommendations. The maximum rates (GPM water @ 77°F) are normally achieved under ideal conditions. Consult the factory for detailed flow rate - pressure drop data.

DIMENSIONS



MODEL 80	PIPE SIZE IN. NPT	A	B	C	D	E
#1 SIZE	0.75	1.7	19.4	4.3	19.4	13
	1.00	1.8	19.8	4.3	19.7	13
	1.25	2.1	20.3	4.8	20.1	13
	1.50	2.1	20.6	4.8	20.3	13
	2.00	2.4	21.2	4.8	20.8	13
	2.50	2.6	21.9	6.6	21.4	13
	3.00	3	22.8	8.8	22	13

MODEL 80	PIPE SIZE IN. NPT	A	B	C	D	E
#2 SIZE	0.75	1.7	33.4	4.3	33.4	27
	1.00	1.8	33.8	4.3	33.7	27
	1.25	2	34.3	4.8	34.1	27
	1.50	2.1	34.6	4.8	34.3	27
	2.00	2.4	35.2	4.8	34.8	27
	2.50	2.6	35.9	6.6	35.4	27
	3.00	3	36.8	8.8	36	27

ENGINEERING DRAWINGS AVAILABLE

Economical GP series housings for commercial, industrial and process applications. Aluminum housings are offered in addition to carbon steel & 304 stainless steel. Aluminum can be used in place of carbon steel, stainless steel or plastic in many applications with superior results. It is especially effective in water and water based applications such as machine tool coolants and cooling towers, as well as many others.

The Model 80 is a side entry single bag housing with a 8" outside diameter offered in two standard lengths for flow rates up to 180 gpm.

Polypropylene speed bar knobs injection molded to grade 8 bolts, thread into stainless steel helicoils in the housings top collar to provide a unique cover closure. This closure mechanism is safer and much easier to use than clamps.

Filter bag sizes are industry standard size #1 (7.06" Dia. x 16 1/2" L.) & size #2 (7.06 Dia. x 32" L.) are offered in polyester, polypropylene, nomex and nylon materials in micron ratings of 1 to 1000. Filter bags are ordered separately.

Adjustable tripod legs (22" high) or wall mounting brackets are optional.

HOUSING SIZE	FILTER BAG SIZE	DIA. IN.	LGTH. IN.	AREA FT ²	MAXIMUM FLOW GPM
801	1	7.06	16-1/2	2.0	80
802	2	7.06	32	4.5	180

HOW TO ORDER

STEP 1 - HOUSING

EXAMPLE:

HOUSING MODEL NO.
Model 80

HOUSING SIZE
#1 Size (14" Long Basket)
#2 Size (28" Long Basket)

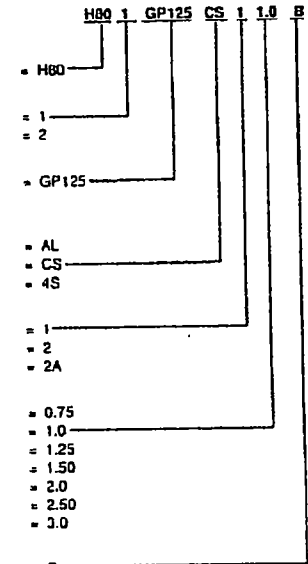
PRESSURE RATING
General Purpose 125 PSI
(Speed Bar Closures)

HOUSING MATERIAL
Aluminum
Carbon Steel
304 Stainless Steel

HOUSING OUTLET STYLE
Bottom Outlet
Side Outlet - Top
Side Outlet - Bottom

INLET & OUTLET SIZE
0.75" NPT
1.00" NPT
1.25" NPT
1.50" NPT
2.00" NPT
2.50" NPT
3.00" NPT

BASKET TYPE
Perforated Stainless Steel
Filter Bag Basket



STEP 2 - COVER GASKET

MATERIAL	PART NO.
BUNA N	P80CG-B
EPR	P80CG-E
VITON	P80CG-V
TEFLON	P80CG-T

STEP 3 - OPTIONS

DESCRIPTION	PART NO.
ADJUSTABLE LEGS	P80CSL

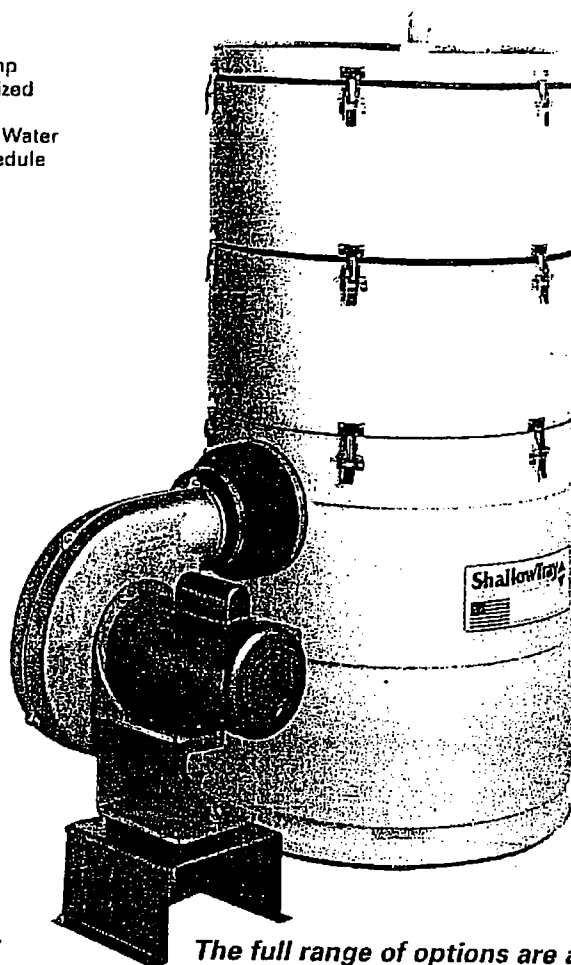
1300-P Series

Model Pictured: 1331-P

Basic system includes the following components: Sump tank, cover, and trays; Polyethylene; TEFC air blower sized to number of trays; Blower inlet screen and damper; Demister pad, stainless steel; Water inlet spray nozzle; Water level sight tube; Gaskets; Latches; Internal piping, Schedule 80 PVC.

Options chosen for model pictured:
(None)

- ☐ Air pressure gauge
- ☐ Gravity discharge
- ☐ Steel frame
- ☐ EXP blower motors
- ☐ Discharge and/or feed pump, TEFC or EXP
- ☐ Blower start/stop panel only
- ☐ Main disconnect switch
- ☐ Standard NEMA 3R system control panel with alarm interlocks, motor starter, relays, alarm light, UL listed
- ☐ NEMA 3R control panel with level controls for pumps, alarm interlocks, motor starters, relays, alarm light, UL listed
- ☐ PurgePanel™: NEMA 4X enclosure, small blower, pressure switch, and a small explosion-proof enclosure (NEMA 7)
- ☐ Control panel IS components for remote mounted NEMA 3R panel, UL listed
- ☐ NEMA 7 and/or custom control panel
- ☐ Strobe alarm light
- ☐ Alarm horn
- ☐ Low air pressure alarm switch
- ☐ High water level alarm switch
- ☐ Discharge pump level switch
- ☐ Water pressure gauges
- ☐ Digital water flow indicator and totalizer
- ☐ Air flow meter
- ☐ Temperature gauges
- ☐ Line sampling ports
- ☐ Air blower silencer
- ☐ Auto dialer
- ☐ Automatic operation components for multiple wells
- ☐ Other custom requirements (Please call)



The full range of options are available to meet your project's specifications.

Models	flow rate	# trays	width	length	height	min. cfm
1311-P	0.5-15gpm	1	4'6"	2'6"	3'4"	150
	0.1-3.4m ³ /hr		1.4m	0.75m	1m	254.8m ³ /hr
1321-P	0.5-15gpm	2	4'6"	2'6"	4'4"	150
	0.1-3.4m ³ /hr		1.4m	0.75m	1.3m	254.8m ³ /hr
1331-P	0.5-15gpm	3	4'6"	2'6"	5'4"	150
	0.1-3.4m ³ /hr		1.4m	0.75m	1.6m	254.8m ³ /hr
1341-P	0.5-15gpm	4	4'6"	2'6"	6'4"	150
	0.1-3.4m ³ /hr		1.4m	0.75m	2m	254.8m ³ /hr



ATTACHMENT B

Charles River

CSO023
MWRA
UN

JAMES J STORROW MEMORIAL DRIVE

MWRA
MWRA

JAMES J STORROW MEMORIAL DRIVE

16x92 MWRA

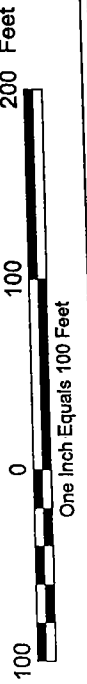
76x92 MWRA

130

15

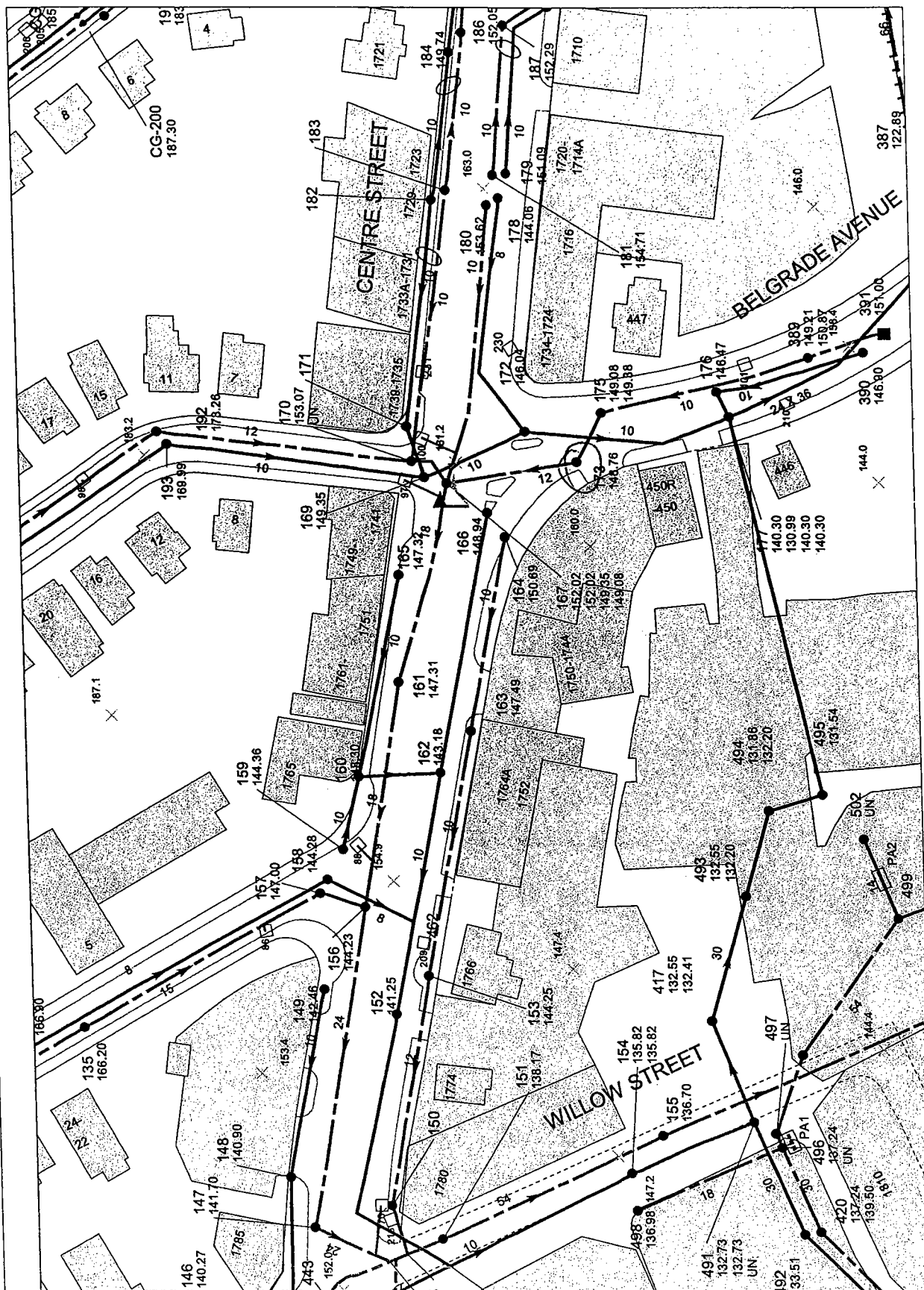
PARKING

23H 23I



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Printed on: January 12, 2006

ATTACHMENT C



11D



ATTACHMENT D

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

Getty West Roxbury 30317
1744 Centre Street
Boston, MA 02132
893014n 228846ew

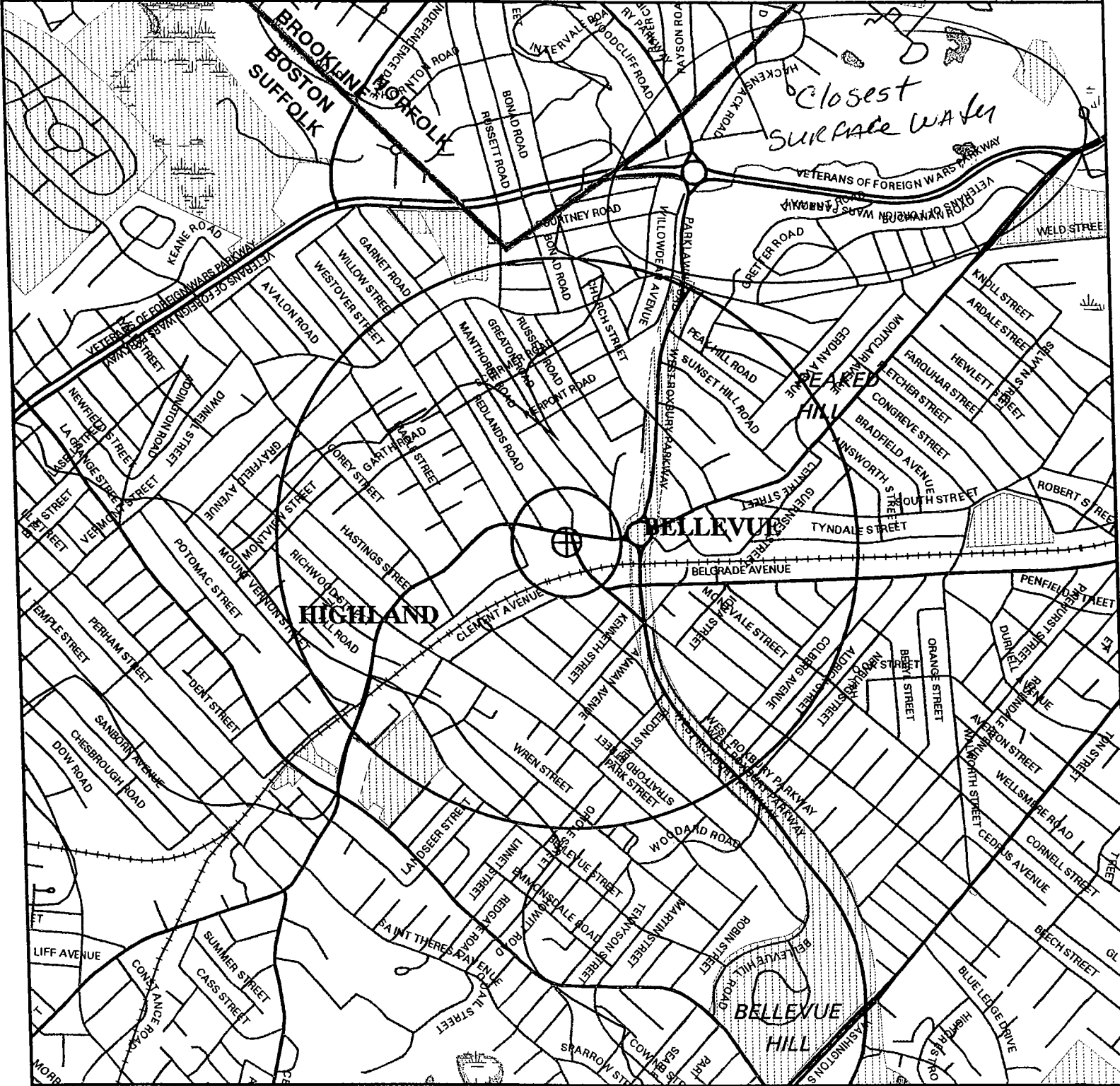
Site Location



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

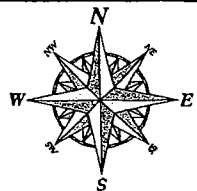
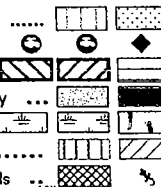


Office of Geographic and Environmental Information
Massachusetts Executive Office of Environmental Affairs - 2006



- 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 KILOMETERS

January 20, 2006

ATTACHMENT E

Brian Emery - Re: RGP question

From: <papadopoulos.george@epamail.epa.gov>
To: Brian Emery <BEmery@tyreeorg.com>
Date: 2/9/2006 10:55 AM
Subject: Re: RGP question

Brian, the 7Q10 of the Charles River close to the Kendall Station power plant was estimated at 22 cfs.
This should be a good number to use for your RGP NOI.

@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

George Papadopoulos
USEPA
1 Congress Street - Suite 1100
Mailcode CIP
Boston, MA 02114-2023

Phone: (617) 918-1579 FAX: (617) 918-1505

Brian Emery <BEmery@tyreeorg.com>	To
George 02/09/2006 10:18 AM	Papadopoulos/R1/USEPA/US@EPA cc
RGP question	Subject

Hi, George,

one quick question, I have been searching all over for a 7Q10 for the Charles River, at at point just north of the Harvard Bridge.

Any suggestions?

Brian

ATTACHMENT F

Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735
Phone - 631-249-1456 Fax - 631-249-8344

02/07/2006

Laboratory Identifier: 0602049

Custody Document: N4001

Received: 02/02/2006 10:15

Sampled by: Stephen Hebenstreit

Job Number: 67125

Client: The Tyree Organization Dept. #20 (83337)

9 Otis Street

Westborough,

MA 01581-3311

Project: GETTY 30317

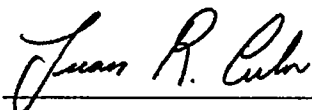
1744 Centre Street

West Roxbury,

MA

Manager: Brian Emery

Respectfully submitted,



Technical Director

NYS Lab ID # 10969
NJ Cert. # 73812
CT Cert. # PH0645
MA Cert. # NY061
PA Cert. # 68-535
NH Cert. # 252592-BA
RI Cert. # 161

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Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735
Phone - 631-249-1456 Fax - 631-249-8344

02/07/2006

Volatile Compounds by EPA Method 624

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/05/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
123-91-1	1,4-Dioxane	D2716-2734	642	642	ppb	U

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
17060-07-0	1,2-DICHLOROETHANE-D4	D2716-2734	101.0 %	(80 - 125)	
460-00-4	4-BROMOFLUOROBENZENE	D2716-2734	99.3 %	(89 - 112)	
2037-26-5	TOLUENE-D8	D2716-2734	98.1 %	(85 - 122)	



Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735
Phone - 631-249-1456 Fax - 631-249-8344

02/07/2006

Volatile Compounds by EPA Method 8260B

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/04/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-55-6	1,1,1-Trichloroethane	C 2072-3152	11.0	11.0	ppb	U
79-00-5	1,1,2-Trichloroethane	C 2072-3152	10.0	10.0	ppb	U
75-34-3	1,1-Dichloroethane	C 2072-3152	4.60	4.60	ppb	U
106-93-4	1,2-Dibromoethane	C 2072-3152	11.0	11.0	ppb	U
95-50-1	1,2-Dichlorobenzene	C 2072-3152	8.60	8.60	ppb	U
107-06-2	1,2-Dichloroethane	C 2072-3152	9.70	9.70	ppb	U
541-73-1	1,3-Dichlorobenzene	C 2072-3152	9.80	9.80	ppb	U
106-46-7	1,4-Dichlorobenzene	C 2072-3152	12.0	12.0	ppb	U
67-64-1	Acetone	C 2072-3152	150	150	ppb	U
71-43-2	Benzene	C 2072-3152	12.0	4950	ppb	
56-23-5	Carbon tetrachloride	C 2072-3152	8.10	8.10	ppb	U
1634-04-4	Methyl t-butyl ether	C 2074-3201	75.0	19200	ppb	
75-09-2	Methylene chloride	C 2072-3152	11.0	11.0	ppb	U
91-20-3	Naphthalene	C 2072-3152	17.0	417	ppb	Y
994-05-8	TAME	C 2072-3152	13.0	82.7	ppb	Y
75-65-0	Tertiary butyl alcohol	C 2072-3152	251	3330	ppb	Y
127-18-4	Tetrachloroethylene	C 2072-3152	16.0	16.0	ppb	U
79-01-6	Trichloroethene	C 2072-3152	20.0	20.0	ppb	U
75-01-4	Vinylchloride	C 2072-3152	23.0	23.0	ppb	U
156-59-2	cis-1,2-Dichloroethene	C 2072-3152	23.0	23.0	ppb	U

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2072-3152	96.5 %	(88 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2072-3152	101.0 %	(84 - 113)	
2037-26-5	TOLUENE-D8	C2072-3152	95.9 %	(85 - 117)	
460-00-4	4-BROMOFLUOROBENZENE	C2074-3201	96.6 %	(88 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2074-3201	102.0 %	(84 - 113)	
2037-26-5	TOLUENE-D8	C2074-3201	99.9 %	(85 - 117)	



Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735
Phone - 631-249-1456 Fax - 631-249-8344

02/07/2006

BTEX - EPA 624

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/06/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	D2716-2734	27.0	4180	ppb	
108-88-3	Toluene	D2717-2768	280	39900	ppb	
100-41-4	Ethylbenzene	D2716-2734	36.0	3660	ppb	
1330-20-7	Xylenes	D2716-2734	87.0	26100	ppb	
108-38-3	m+p-Xylene	D2716-2734	61.0	17600	ppb	
95-47-6	o-Xylene	D2716-2734	26.0	8540	ppb	

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
17060-07-0	1,2-DICHLOROETHANE-D4	D2716-2734	101.0 %	(80 - 125)	
460-00-4	4-BROMOFLUOROBENZENE	D2716-2734	99.3 %	(89 - 112)	
2037-26-5	TOLUENE-D8	D2716-2734	98.1 %	(85 - 122)	
17060-07-0	1,2-DICHLOROETHANE-D4	D2717-2768	106.0 %	(80 - 125)	
460-00-4	4-BROMOFLUOROBENZENE	D2717-2768	98.8 %	(89 - 112)	
2037-26-5	TOLUENE-D8	D2717-2768	97.1 %	(85 - 122)	



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02/07/2006

EPA 625 Compounds by Method EPA 625

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/04/2006

Preparation Date(s) : 02/03/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
62-75-9	N-Nitrosodimethylamine	B 1917-8640	0.60	0.60	ppb	U
108-95-2	Phenol	B 1917-8640	2.47	5.17	ppb	Y
111-44-4	bis(2-Chloroethyl)ether	B 1917-8640	0.94	0.94	ppb	U
95-57-8	2-Chlorophenol	B 1917-8640	1.43	1.43	ppb	U
541-73-1	1,3-Dichlorobenzene	B 1917-8640	0.84	0.84	ppb	U
106-46-7	1,4-Dichlorobenzene	B 1917-8640	0.85	0.85	ppb	U
95-50-1	1,2-Dichlorobenzene	B 1917-8640	0.84	0.84	ppb	U
108-60-1	bis(2-Chloroisopropyl)ether	B 1917-8640	0.84	0.84	ppb	U
621-64-7	N-Nitrosodi-n-propylamine	B 1917-8640	0.70	0.70	ppb	U
67-72-1	Hexachloroethane	B 1917-8640	0.87	0.87	ppb	U
98-95-3	Nitrobenzene	B 1917-8640	0.54	0.54	ppb	U
78-59-1	Isophorone	B 1917-8640	0.78	0.78	ppb	U
88-75-5	2-Nitrophenol	B 1917-8640	1.53	1.53	ppb	U
105-67-9	2,4-Dimethylphenol	B 1917-8640	0.65	45.6	ppb	
111-91-1	bis(2-Chloroethoxy)methane	B 1917-8640	0.77	0.77	ppb	U
120-83-2	2,4-Dichlorophenol	B 1917-8640	1.56	1.56	ppb	U
120-82-1	1,2,4-Trichlorobenzene	B 1917-8640	0.85	0.85	ppb	U
91-20-3	Naphthalene	A 1475-8467	7.90	329	ppb	B
87-68-3	Hexachlorobutadiene	B 1917-8640	0.98	0.98	ppb	U
59-50-7	4-Chloro-3-methylphenol	B 1917-8640	0.77	0.77	ppb	U
77-47-4	Hexachlorocyclopentadiene	B 1917-8640	1.78	1.78	ppb	U
88-06-2	2,4,6-Trichlorophenol	B 1917-8640	1.34	1.34	ppb	U
91-58-7	2-Chloronaphthalene	B 1917-8640	0.83	0.83	ppb	U
131-11-3	Dimethylphthalate -	B 1917-8640	0.55	0.55	ppb	U
606-20-2	2,6-Dinitrotoluene	B 1917-8640	1.02	1.02	ppb	U
208-96-8	Acenaphthylene	B 1917-8640	0.91	0.91	ppb	U
83-32-9	Acenaphthene	B 1917-8640	0.84	1.05	ppb	Y
51-28-5	2,4-Dinitrophenol	B 1917-8640	3.90	3.90	ppb	U
100-02-7	4-Nitrophenol	B 1917-8640	5.09	5.09	ppb	U
121-14-2	2,4-Dinitrotoluene	B 1917-8640	0.92	0.92	ppb	U
84-66-2	Diethylphthalate	B 1917-8640	0.72	0.33	ppb	J
86-73-7	Fluorene	B 1917-8640	1.14	2.78	ppb	Y
7005-72-3	4-Chlorophenyl phenyl ether	B 1917-8640	1.02	1.02	ppb	U
534-52-1	4,6-Dinitro-2-methylphenol	B 1917-8640	3.79	3.79	ppb	U



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02/07/2006

EPA 625 Compounds by Method EPA 625

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/04/2006

Preparation Date(s) : 02/03/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
86-30-6	N-Nitrosodiphenylamine	B 1917-8640	1.03	1.03	ppb	U
101-55-3	4-Bromophenyl phenyl ether	B 1917-8640	0.96	0.96	ppb	U
118-74-1	Hexachlorobenzene	B 1917-8640	0.94	0.94	ppb	U
87-86-5	Pentachlorophenol	B 1917-8640	3.53	3.53	ppb	U
85-01-8	Phenanthrene	B 1917-8640	0.99	3.51	ppb	Y
120-12-7	Anthracene	B 1917-8640	1.09	0.70	ppb	J
84-74-2	Di-n-butylphthalate --	B 1917-8640	1.10	0.35	ppb	J
206-44-0	Fluoranthene	B 1917-8640	1.16	0.46	ppb	J
92-87-5	Benzidine	B 1917-8640	18.3	18.3	ppb	U
129-00-0	Pyrene	B 1917-8640	1.18	0.67	ppb	J
85-68-7	Butylbenzylphthalate --	B 1917-8640	0.96	0.96	ppb	U
91-94-1	3,3'-Dichlorobenzidine	B 1917-8640	9.35	9.35	ppb	U
117-81-7	bis(2-Ethylhexyl)phthalate --	B 1917-8640	1.30	1.29	ppb	JB
56-55-3	Benzo(a)anthracene	B 1917-8640	1.21	1.21	ppb	U
218-01-9	Chrysene	B 1917-8640	1.14	1.14	ppb	U
117-84-0	Di-n-octylphthalate --	B 1917-8640	1.20	1.20	ppb	U
205-99-2	Benzo(b)fluoranthene	B 1917-8640	1.13	1.13	ppb	U
207-08-9	Benzo(k)fluoranthene	B 1917-8640	1.09	1.09	ppb	U
50-32-8	Benzo(a)pyrene	B 1917-8640	1.15	1.15	ppb	U
193-39-5	Indeno(1,2,3-cd)pyrene	B 1917-8640	1.15	1.15	ppb	U
53-70-3	Dibenz(a,h)anthracene	B 1917-8640	1.15	1.15	ppb	U
191-24-2	Benzo(g,h,i)perylene	B 1917-8640	1.21	1.21	ppb	U
86-74-8	Carbazole	B 1917-8640	0.96	0.96	ppb	U

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
118-76-6	2,4,6-TRIBROMOPHENOL	B1917-8640	86.7 %	(10 - 123)	
321-60-8	2-FLUOROBIPHENYL	B1917-8640	60.3 %	(43 - 116)	
367-12-4	2-FLUOROPHENOL	B1917-8640	3.2 %	(21 - 110)	*
4165-60-0	NITROBENZENE-D5	B1917-8640	48.4 %	(35 - 114)	
13127-88-3	PHENOL-D6	B1917-8640	19.9 %	(10 - 110)	
1718-51-0	TERPHENYL-D14	B1917-8640	70.4 %	(33 - 141)	



Environmental Testing Laboratories, Inc.

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02/07/2006

Semivolatile PAH Compounds - EPA Method 8270C

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 02/04/2006

Preparation Date(s) : 02/03/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
83-32-9	Acenaphthene	B 1917-8640	0.84	1.05	ppb	Y
208-96-8	Acenaphthylene	B 1917-8640	0.91	0.91	ppb	U
120-12-7	Anthracene	B 1917-8640	1.09	0.70	ppb	J
56-55-3	Benzo(a)Anthracene	B 1917-8640	1.21	1.21	ppb	U
50-32-8	Benzo(a)Pyrene	B 1917-8640	1.15	1.15	ppb	U
205-99-2	Benzo(b)Fluoranthene	B 1917-8640	1.13	1.13	ppb	U
191-24-2	Benzo(g,h,i)Perylene	B 1917-8640	1.21	1.21	ppb	U
207-08-9	Benzo(k)Fluoranthene	B 1917-8640	1.09	1.09	ppb	U
218-01-9	Chrysene	B 1917-8640	1.14	1.14	ppb	U
53-70-3	Dibenzo(a,h)Anthracene	B 1917-8640	1.15	1.15	ppb	U
206-44-0	Fluoranthene	B 1917-8640	1.16	0.46	ppb	J
86-73-7	Fluorene	B 1917-8640	1.14	2.78	ppb	Y
193-39-5	Indeno(1,2,3-cd)pyrene	B 1917-8640	1.15	1.15	ppb	U
91-20-3	Naphthalene	A 1475-8467	7.90	329	ppb	B
85-01-8	Phenanthrene	B 1917-8640	0.99	3.51	ppb	Y
129-00-0	Pyrene	B 1917-8640	1.18	0.67	ppb	J
91-57-6	2-Methylnaphthalene	A 1475-8467	9.70	146	ppb	BY

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
321-60-8	2-FLUOROBIPHENYL	B1917-8640	60.3 %	(43 - 116)	
4165-60-0	NITROBENZENE-D5	B1917-8640	48.4 %	(35 - 114)	
1718-51-0	TERPHENYL-D14	B1917-8640	70.4 %	(33 - 141)	



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02/07/2006

PCB Aroclors by SW846 8082/EPA 608

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 02/03/2006

Preparation Date(s) : 02/03/2006

Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
12674-11-2	PCB 1016	G 1069-66	0.000080	0.000080	ppm	U
11104-28-2	PCB 1221	G 1069-66	0.000030	0.000030	ppm	U
11141-16-5	PCB 1232	G 1069-66	0.00011	0.00011	ppm	U
53469-21-9	PCB 1242	G 1069-66	0.00011	0.00011	ppm	U
12672-29-6	PCB 1248	G 1069-66	0.000090	0.000090	ppm	U
11097-69-1	PCB 1254	G 1069-66	0.000040	0.000040	ppm	U
11096-82-5	PCB 1260	G 1069-66	0.000080	0.000080	ppm	U

Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
2051-24-3	DECACHLOROBIPHENYL	G1069-66	64.2 %	(30 - 150)	
877-09-8	TETRACHLORO M-XYLENE	G1069-66	68.1 %	(30 - 150)	



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02/07/2006

Metals by Method SW846 6010/EPA 200.7

Sample: 0602049-1

Client Sample ID: MW-1

Matrix: Liquid

Remarks:

Analyzed Date: 02/04/2006

Preparation Date(s) : 02/03/2006

Type: Grab

Collected: 02/01/2006 08:00

Analytical Results

Cas No	Analyte	MDL	Concentration	Units	Q
7440-36-0	Antimony	0.0020	0.0020	ppm	U
7440-38-2	Arsenic	0.0034	0.0034	ppm	U
7440-43-9	Cadmium	0.00030	0.00030	ppm	U
7440-47-3	Chromium	0.0016	0.030	ppm	
7440-50-8	Copper	0.0029	0.058	ppm	
7439-89-6	Iron	0.018	38.1	ppm	
7439-92-1	Lead	0.0017	0.068	ppm	
7440-02-0	Nickel	0.00050	0.023	ppm	
7782-49-2	Selenium	0.0043	0.0043	ppm	U
7440-22-4	Silver	0.0010	0.0010	ppm	U
7440-66-6	Zinc	0.0044	0.11	ppm	



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02/07/2006

Mercury by SW846 7470/7471/EPA 245.1

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 02/02/2006

Preparation Date(s) : 02/02/2006

Analytical Results

Cas No	Analyte	MDL	Concentration	Units	Q
7439-97-6	Mercury	0.000014	0.000077	ppm	



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02/07/2006

Total Chlorine

Sample: 0602049-1

Client Sample ID: MW-1

Matrix: Liquid

Remarks:

Analyzed Date: 02/02/2006

Type: Grab

Collected: 02/01/2006 08:00

Analytical Results

Cas No	Analyte	MDL	Result	Units	Q
7782-50-5	Chlorine	0	ND	ppm	



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02/07/2006

Total Cyanide - EPA 335.2

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 02/03/2006

Analytical Results

Cas No	Analyte	MDL	Result	Units	Q
57-12-5	Cyanide	0.010	0.010	mg/L	U



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02/07/2006

EPA 1664 Non-Polar Material (TPH)

Sample: 0602049-1

Client Sample ID: MW-1

Matrix: Liquid

Remarks:

Analyzed Date: 02/06/2006

Type: Grab

Collected: 02/01/2006 08:00

Analytical Results

Cas No	Analyte	MDL	Result	Units	Q
	1664 Non-Polar Material (TPH)	3.05	4.15	mg/L	



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02/07/2006

Total Suspended Solids - EPA 160.2/SM 2540D

Sample: 0602049-1

Client Sample ID: MW-1

Collected: 02/01/2006 08:00

Matrix: Liquid

Type: Grab

Remarks:

Analyzed Date: 02/02/2006

Analytical Results

Cas No	Analyte	MDL	Result	Units	Q
	Total Suspended Solids	4.58	32.0	mg/L	

✓



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02/07/2006

Case Narrative

625:

Bis(2-ethylhexyl)phthalate, which was found in the blank associated with this sample at 0.47ppb, is a common laboratory contaminant.

Naphthalene was detected in the blank associated with sample at 0.44ppb which is below our detection/reporting limit.

The response for Bis (2-chloroisopropyl) ether in the continuing calibration has a 21% deviation from the average response of the initial calibration. All other compounds meet the +/- 20% criteria.

The acid surrogate 2-Fluorophenol did not pass QC requirements in the un-diluted sample. This is due to matrix interference in the form of high concentrations of non-target compounds. The surrogate recovery passes in the diluted extract at 25.3%.

PAHs:

Naphthalene and 2-Methylnaphthalene were detected in the blank associated with sample at 0.44ppb and 0.22ppb respectively. Both are below our detection/reporting limit.

EPA 8260 VOLATILE ANALYSIS:

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

- Acetone
- 2-Butanone
- 4-Methyl-2-pentanone
- 2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50,100,150,200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50,200,500,1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.

EPA 624 VOLATILE ANALYSIS:

Acrolein and Acrylonitrile were calibrated at 25, 100, 250, 500 and 750 ppb levels in the Method 624 initial calibration curve.

MTBE, m&p-Xylenes and 2-Chloroethylvinyl ether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Tert butyl alcohol(TBA) and 1,4-Dioxane were calibrated at 50, 200, 500, 1000 and 1500 ppb levels.

Ethanol and tert-amyl alcohol were calibrated at 200,500,750,1000 and 1250 ppb levels.



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02/07/2006

Case Narrative

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.



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02/07/2006

ORGANIC METHOD QUALIFIERS

Q - Qualifier - specified entries and their meanings are as follows:

- U - The analytical result is not detected above the Method Detection Limit (MDL).
All MDL's are lower than the lowest calibration standard concentration.
- J - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit (MDL).
- Y - The concentration reported was detected below the lowest calibration standard concentration.
- B - The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- E - The concentration of the analyte exceeded the calibration range of the instrument.
- D - This flag indicates a system monitoring compound diluted out.

INORGANIC METHOD QUALIFIERS

C - (Concentration) qualifiers are as follows:

- B - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- U - Entered when the analyte was analyzed for, but not detected above the Method Detection Limit (MDL) which is less than the lowest calibration standard concentration.

Q - Qualifier specific entries and their meanings are as follows:

- E - Reported value is estimated because of the presence of interferences.

M - (Method) qualifiers are as follows:

- A - Flame AA
- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- C - Manual Spectrophotometric
- F - Furnace AA
- P - ICP
- T - Titrimetric

OTHER QUALIFIERS

ND - Not Detected

