



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1**

**5 Post Office Square, Suite 100
BOSTON, MA 02109-3912**

CERTIFIED MAIL RECEIPT REQUESTED

MAY 10 2011

Ms. Grady Konieczko
Senior Project Environmental Scientist
Geo Trans, Inc.

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Former High Voltage Engineering Corporation/Bellofram site located at 85
South Bedford Street, Burlington, MA 01803, Middlesex County; Authorization #
MAG910026 - Reissuance

Dear Ms. Konieczko :

Based on the review of a Notice of Intent (NOI) submitted on behalf of American
Landmark III, LLC by your firm GeoTrans, 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.

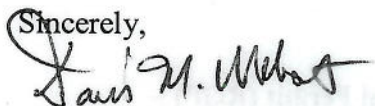
The checklist enclosed with this RGP authorization indicates the pollutants which you are
required to monitor. Also indicated on the checklist are the effluent limits, test methods
and minimum levels (MLs) for each pollutant. Please note that the check list does not
represent the complete requirements 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>.

Please note that in the enclosed checklist we have included the parameters which you
have marked believed present. Also, we have included total petroleum hydrocarbons
(TPH) which you have marked believed absent. TPH was included because this
parameter was detected in the laboratory records above the effluent limit in more than
one occasion.

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 regulations.

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 prior to the permit 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,


David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP

**2010 Remediation General Permit
Summary of Monitoring Parameters⁽¹⁾**

NPDES Permit Number:	MAG910026 - Reissuance
Permit Issued Month:	May, 2011
Facility/Site Name:	Former High Voltage Engineering/ Bellofram site
Facility/Site Address:	85 South Bedford Street, Burlington, MA 01803, Middlesex County
	Email address of owner: Not Provided; Phone n: 781-229-1996
Legal Name of Operator:	GeoTrans, Inc.
Operator contact name, title, and Address:	Grady M. Konieczko, Senior Project Environmental Scientist One Monarch Drive, Suite 101, Littleton, MA 01460 Email grady.konieczko@geotransinc.com
Estimated Date of Completion:	Unknown
Category and Sub-Category:	Category II. Non Petroleum Site Remediation. Subcategory A. Volatile Organic Compound (VOC) Only Sites.
Receiving Water:	Wetland near Vine 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	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)
	(MtBE)	
	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,

	<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)
		Me#610/ML 5ug/L& Me#625/ML 5ug/L
	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>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) ¹¹</u>		
		<u>Freshwater</u>		
	39. Antimony	5.6/10mL		
	40. Arsenic **	10/20mL		
	41. Cadmium **	0.2/10ml		
	42. Chromium III (trivalent) **	48.8/15mL		
	43. Chromium VI (hexavalent)	11.4/10mL		

	Metal parameter	<u>Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)¹¹</u>			
		<u>Freshwater</u>			
	**				
	44. Copper **	5.2/15mL			
	45. Lead **	1.3/20mL			
	46. Mercury **	0.9/0.2mL			
	47. Nickel **	29/20mL			
	48. Selenium **	5/20mL			
	49. Silver	1.2/10mL			
	50. Zinc **	66.6/15mL			
	51. Iron	1,000/20mL			

	<u>Other Parameters</u>	<u>Limit</u>
✓	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 10, 2010

Electronic submission via NPDES.Generalpermits@epa.gov

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912
ATTN: Remediation General Permit NOI Processing

RE: Notice of Intent for Remediation General Permit
American Landmark III, LLC
85 South Bedford Street
Burlington, Massachusetts
MassDEP Release Tracking Number 3-0981

To Whom It May Concern:

GeoTrans, Inc., on the behalf of American Landmark III, LLC is submitting this Notice of Intent (NOI) for a Remediation General Permit (RGP) to the United States Environmental Protection Agency (USEPA) for discharge to surface water from the groundwater treatment system located at the property referenced above. This property is a known Disposal Site per 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP), and Release Tracking Number (RTN) 3-0981 was provided by the Massachusetts Department of Environmental Protection (MassDEP). The location of the site is shown on Figure 1 as an Attachment to this letter. Figure 1 is based on the USGS quadrangle map of the area. A PDF of this NOI is being sent via the email address identified above with a hardcopy to follow via the US mail system.

Please note that per instruction received from Victor Alvarez of USEPA on December 9, 2010, this NOI is being submitted without all of the required laboratory analytical data. We are currently waiting for additional laboratory data (Pentachlorophenol, Phthalate compounds, and 1,4 Dioxane with lower detection levels) that we anticipate will be available for submission to the USEPA during the first part of next week.

BACKGROUND

Two Disposal Sites, the former High Voltage and former Bellofram Sites, RTN 3-0981 and 3-0669, were officially linked in July 2009 with a Tier Classification Form. The former High Voltage Site, RTN 3-0981, is listed as the primary RTN for the Disposal Site. Operation of the groundwater extraction and treatment system began in 1994 on the High Voltage site and in 1995 on the Bellofram site. The systems were modified in June 2002 in order to combine groundwater extraction and treatment from both of these sites. The system is currently operating under an

existing 2005 RGP, Permit Authorization #MAG910026. The system that is currently operating consists of nine recovery wells designed to limit off-site migration of contaminated groundwater and to decrease source area groundwater contaminant concentrations. Figure 2 shows the location of the nine pumping wells and the below grade piping that leads to the groundwater treatment system, and the point of discharge to the wetlands of Vine Brook. The capture zone of the pumping system inhibits the migration of groundwater containing soluble volatile organic compounds (VOCs) to the Zone II area of the Vine Brook aquifer. Figure 3 shows the former High Voltage and Bellofram properties, the location of the groundwater treatment system, and the approved Zone II boundary.

CONTAMINANT INFORMATION

The laboratory data used to complete Section 3 Contaminant Information was based upon six influent sampling events collected over the past year that were analyzed via USEPA Method 8260B, which is the standard laboratory method for the treatment system. This information is summarized on Table 1. In order to include data for all parameters required by the NOI, the data was supplemented by one influent sampling event performed in November 2010. Copies of all laboratory reports used to prepare the NOI are included in the Attachments to this letter.

The point of collection for the influent sampling data is a sampling port located just prior to any of the treatment components. Therefore, the influent data is representative of groundwater from all nine recovery wells prior to any treatment.

GROUNDWATER TREATMENT SYSTEM DESCRIPTION

Groundwater is continuously extracted by nine submersible pumps located in nine separate recovery wells. Groundwater is pumped through below grade piping to the groundwater treatment system. The total flow rate from the nine recovery wells averages approximately 50 gallons per minute (gpm). The groundwater passes through a bag filter with a design capacity of 150 gpm. The bag filter has a straight high-pressure switch to read filter back-pressure that is wired to the control panel to shut down the well pumps upon a high-pressure alarm condition. The bag filter is used to remove fines prior to treatment. The system is equipped with an in-line magnetic drive vertical turbine meter that measures total flow and flow rate.

The air stripper is a stainless steel tray design. The system was designed by BISCO Environmental (Randolph, Massachusetts) in 2001 to treat four specific influent VOCs with a total concentration of 5,650 ppb to less than one part per billion (ppb) at 65 gpm. There have been no issues with the system meeting discharge goals. Total influent VOC concentrations over the past nine years of operation have dropped to 700-800 ppb. With current VOC influent concentrations six times lower than the actual design specification (5,650 ppb), the system has a “built-in” safety factor regarding the treatment of VOCs.

Off-gas from the air stripper is treated by one granular activated carbon unit with a capacity of 2,000 pounds of activated carbon. Groundwater from the air stripper is pumped by a transfer pump through below grade piping to the discharge point located in the wetlands of the Vine Brook. The transfer pump is equipped with on/off/high-level controls which are wired to the control panel to shut down the well pumps in case of a high water level alarm condition. The transfer pump rate is set at 65 gpm and pumps intermittently. The Attachments to this letter

include a Groundwater Treatment Equipment Process & Instrumentation Diagram, an Air Stripper Skid Layout, and additional design information as provided by BISCO Environmental.

PROPOSED SYSTEM SAMPLING SCHEDULE

Based on the fact that the treatment system has operated since 2001 and that influent concentrations are currently six times lower than the actual design specification used in 2001, GeoTrans, Inc. recommends retaining the following sampling schedule:

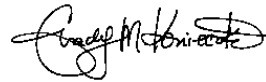
- Bi-Monthly (six times per year) influent and effluent sampling from the existing groundwater treatment system for analysis of VOCs via USEPA Method 8260B.

It should be noted that iron fouling has not been a problem for this system. The air stripper has operated as designed without significant cleaning, chemical additives, or additional maintenance activities. Total Iron was not detected by laboratory analysis in the influent.

The Wastewater Treatment Operator for this system is Ms. Grady Konieczko and a copy of her certification is included in the Attachments. If there are any questions regarding this NOI please do not hesitate to call Ms. Grady Konieczko at (978) 952-0120.

Sincerely,

GeoTrans, Inc.



Grady Konieczko
Senior Project Scientist

Attachments: Notice of Intent Form

Table 1 - Treatment System Influent Water VOC Concentration (ug/L)

Analytical Data

Figure 1 - Site Locust

Figure 2 – As-Built Extraction System Layout

Figure 3 – Property Ownership Map

Groundwater Treatment Equipment Process & Instrumentation Diagram
(Bisco Environmental)

Air Stripper Skid Layout (Bisco Environmental)

Bisco Environmental Specification Cut Sheets for System Components

Supporting Documentation for ESA Eligibility

Wastewater Treatment Operator Certification

CC: Mara Riemer-Goldstein

Town of Burlington Conservation Commission
MassDEP Northeast Regional Office

NOTICE OF INTENT FORM

Remediation General Permit Appendix V

Notice of Intent (NOI) Suggested Forms & Instructions

I. Notice of Intent (NOI) Suggested Form and Instructions

In order to be covered by the remediation general permit (RGP), applicants must submit a completed Notice of Intent (NOI) to EPA Region I and the appropriate state agency. The owner or operator, as defined by 40 CFR § 122.2, means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

The following are three general “operator” scenarios (variations on any of these three are possible, especially as the number of owners and contractors increases):

- ▶ *“Owner” as “Operator” - sole permittee.* The property owner designs the structures and control systems for the site, develops and implements the BMPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). Under the definition of operator, in this case, the “Owner” would be considered the “operator” and therefore the only party that needs permit coverage. Everyone else working on the site may be considered subcontractors and do not need to apply for permit coverage.
- ▶ *“Contractor” as “Operator” - sole permittee.* The property owner hires a company (e.g., a contractor) to design the project and oversee all aspects, including preparation and implementation of the BMPP and compliance with the permit (e.g., a “turnkey” project). Here, the contractor would likely be the only party needing a permit. Similarly, EPA expects that property owners hiring a contractor or consultant to perform groundwater remediation work (e.g., due to a leaking fuel oil tank) would come under this type of scenario. EPA believes that the contractor, being a professional in the industry, should be the responsible entity rather than the individual. The contractor is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing the plans needed to comply with the permit. However, property owners would also meet the definition of “operator” and require permit coverage in instances where they perform any of the required tasks on their personal properties.
- ▶ *“Owner” and “Contractor” as “Operators” - co-permittees.* The owner retains control over any changes to site plans, BMPPs, or wastewater conveyance or control designs, but the contractor is responsible for conducting and overseeing the actual activities (e.g., excavation, installation and operation of treatment train, etc.) and daily implementation of BMPP and other permit conditions. In this case, both parties need to apply for coverage.

Generally, a person would not be considered an “operator,” and subsequently would not need permit coverage, if: 1) that person is a subcontractor hired by, and under the supervision of, the owner or a general contractor (e.g., if the contractor directs the

subcontractor's activities on-site, it is probably not an operator); or 2) the person's activities would otherwise result in the need for coverage under the RGP but another operator has legally assumed responsibility for the impacts of project activities.

A. Instructions for the Suggested Notice of Intent (NOI) - At a minimum, the Notice of Intent must include the following for each individual facility or site. Additional information may be attached as needed.

1. General facility/site information.

- a) Provide the facility/site name, mailing address, and telephone and fax numbers. Provide the facility Standard Industrial Classification (SIC) code(s), which can be found online at http://www.osha.gov/pls/imis/sic_manual.html. Provide the site location, including longitude and latitude.
- b) Provide the facility/site owner's name, address, email address, telephone and fax numbers, if different from the site information. Indicate whether the owner is a Federal, State/Tribal, private, or other entity.
- c) Provide the site operator's (e.g., contractor's) name, mailing address, telephone and fax numbers, and email address if different from the owner's information.
- d) For the site for which the application is being submitted, indicate whether:
 - 1) a prior NPDES permit exclusion has been granted for the discharge (if so, provide the tracking number of the exclusion letter);
 - 2) a prior NPDES application (Form 1 & 2C – for reference, please visit http://www.epa.gov/region1/npdes/epa_attach.html) has ever been filed for the discharge (if so, provide the tracking number and date that the application was submitted to EPA);
 - 3) the discharge is a “new discharge” as defined by 40 CFR 122.2; and
 - 4) for sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 and exempt from state permitting.
- e) Indicate whether there is any ongoing state permitting, licensing, or other action regarding the facility or site which is generating the discharge. If “yes,” provide any site identification number assigned by the state of NH or MA, any permit or license number assigned, and the state agency contact information (e.g. name, location, telephone no.).
- f) Indicate whether or not the facility is covered by other EPA permits including:
 - 1) the Multi-Sector General Permit (MSGP) <http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>;
 - 2) the Final NPDES General Permit for Dewatering Activity Discharges in Massachusetts and New Hampshire <http://www.epa.gov/region1/npdes/dewatering.html>;
 - 3) the EPA Construction General Permit <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>;
 - 4) an individual NPDES permit; or
 - 5) any other water quality-related individual or general permit.If so, provide permit tracking number(s).
- g) Indicate if the site/facility discharge(s) to an Area of Critical Environmental Concern (ACEC), as shown on the tables and maps in Appendix I.

h) Based on the nature of the facility/site and any historical sampling data, the applicant must indicate which of the sub-categories within which the potential discharge falls.

2. Discharge information.

- a) Describe the discharge activities to be covered by the permit. Attach additional sheets as needed.
- b) Provide the following information about each discharge:
- 1) the number of discharge points;
 - 2) the maximum and average flow rate of the discharge in cubic feet per second. For the average flow magnitude, include the units and appropriate notation if this value is a calculated design value or estimate if technical/design information is not available;
 - 3) the latitude and longitude of each discharge with an accuracy of 100 feet (see EPA's siting tool at: http://www.epa.gov/tri/report/siting_tool);
 - 4) the total volume of potential discharge (gal), only if hydrostatic testing;
 - 5) whether the discharge(s) is intermittent or seasonal and if ongoing.
- c) Provide the expected start and end dates of discharge (month/day/year).
- d) 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 the NOI, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for the parameters applicable to the sub-category into which the discharge falls, as listed in Appendix III of the permit and selected in Part 1 of the NOI form, except as noted below.

Permittees shall provide additional sampling results with the NOI if such sampling already exists, or if the permittee has reason to believe the site contains additional contaminants not listed in Appendix III for that sub-category or contains additional contaminants not included in Appendix III.

The applicant may use historical data as a substitute for the new sample if the data was collected no more than 2 years prior to the "Submittal of the NOI" and if collected pursuant to:

- i. for sites in Massachusetts, 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E");
- ii. for sites in New Hampshire, New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act;

a) 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.

Based on the required sampling and analysis, the applicant must fill in the table, or provide a narrative description, with the following additional information for each chemical that is believed present (chemical that violate EPA's criteria limitations):

- 1) the number of samples taken (minimum of one sample for applicable parameters per Appendix III);
- 2) the type of sample (e.g. grab, composite, etc.);
- 3) the analytical method used, including the method number;
- 4) the minimum level (ML) of the method used (based on Appendix VI);
- 5) the maximum daily amount (concentration (ug/l) and mass (kg)) of each pollutant, based on the sampling data
 $\text{lb/day (pounds per day) equals flow (in million gallons per day, MGD) times concentration in milligrams per liter (mg/l) times 8.34.}$
Example: $2.5 \text{ MGD} \times 30 \text{ mg/l TSS} \times 8.34 = 625.5 \text{ lb TSS/day}$
 $\text{MGD} = \text{gallons per minute (gpm)} \times 0.00144$
 $1 \text{ kg} = 2.2 \text{ lbs}$

And;

- 6) the average daily amount (concentration and mass) of each pollutant, based on the sampling data.

If the results of any sampling indicate that pollutants exist in addition to those listed in Appendix III of the RGP of the permit, the applicant must also describe those contaminants on the NOI in boxes in section I.3.c.) on the line marked "Other," or use additional sheets as needed. Subsequently, EPA may require monitoring for such parameters or will decide if an individual permit is necessary.

c) Determination of Reasonable Potential and Allowable Dilution for Discharges of Metals:

If any *metals* are believed present in the potential discharge to freshwater¹, the applicant must follow the procedures below to determine the dilution factor for each metal.

Step 1: Initial Evaluation

- 1) The applicant must evaluate all metals believed present in the discharge subject to this permit, including "naturally occurring" metals such as dissolved and/or total Iron. Applicants must enter the highest detected concentration of the metal at zero dilution in the "Maximum value" column of the NOI.
- 2) Based on the maximum concentration of each metal, the applicant must perform an initial evaluation assuming zero dilution in the receiving water. The applicant must compare the metals concentrations in the untreated (intake) waters to the effluent limits contained in Appendix III.

¹Dilution factors may be available for discharges to saline waters but only with approval of the flow modeling information from the State prior to the submission of the NOI.

- i. If potential discharges (untreated influent) with metals contain concentrations above the concentration limits listed in Appendix III, applicant must proceed to step 2.
- ii. If potential discharges (untreated influent) with metals contain concentrations below the concentrations listed in Appendix III, the applicant may skip step 2 and those metals will **not** be subject to permit limitations or monitoring requirements.

Step 2: Calculation of Dilution Factor

1) For applicants in NH: If a metal concentration in a potential discharge (untreated influent) to **freshwater** exceeds the limits in Appendix III with zero dilution, the applicant shall evaluate the potential concentration considering a dilution factor (DF) using the formula below. **For sites in New Hampshire, the applicant must contact NH DES to determine the 7Q10 and dilution factor.**

$$DF = [(Q_d + Q_s)/Q_d] \times 0.9$$

Where:

DF	= Dilution Factor
Q_d	= Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)
Q_s	= Receiving water 7Q10 flow, in cfs, where 7Q10 is the annual minimum flow for 7 consecutive days with a recurrence interval of 10 years
0.9	= Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Wq 1700, Surface Water Quality Regulations

i. Using the DF calculated from the formula above, the applicant must refer to the corresponding dilution range column in Appendix IV. The applicant then compares the maximum concentration of the metal entered on the NOI to the corresponding total recoverable metals limits listed in Appendix IV. Please note that for this reissuance the applicant will be permitted to determine a limit using any fraction within the 1-5 dilution factor range times the metal limit (for all regulated metals). For example: if the DF is 1.5, the Iron limit is 1,500 ug/L; if the DF is 1.5, the antimony limit is 8.4, etc. All limits above a dilution factor of 5 are maintained.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in the potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

ii. In either case, the applicant must submit the results of this calculation as part of the NOI. EPA and NH DES will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

2) **For applicants in MA:** If a metal concentration in a potential discharge (untreated influent) to **freshwater** exceeds the limits in Appendix III with zero dilution, the applicant must evaluate the potential concentration considering a dilution factor (DF) using the formula below.

$$DF = (Q_d + Q_s)/Q_d$$

Where: **DF** = Dilution Factor
Q_d = Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)
Q_s = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

i. The applicant may estimate the 7Q10 for receiving water by using available information such as nearby USGS stream gauging stations directly or by application of certain “flow factors,” using historic streamflow publication information, calculations based on drainage area, information from state water quality offices, or other means. In many cases Massachusetts has calculated 7Q10 information using “flow factors” for a number of streams in the state. The source of the low flow value(s) used by the applicant must be included on NOI application form. Flow data can also be obtained from web applications such as the one located at: <http://ma.water.usgs.gov/streamstats/>.

ii. Using the DF calculated from the formula above, the applicant must refer to the corresponding dilution range column in Appendix IV. The applicant then shall compare the maximum concentration of each metal entered on the NOI to the corresponding total recoverable metals limit listed in Appendix IV. Please note that for this reissuance the applicant will be permitted to determine a limit using any fraction of the 0-5 of DF times the metal limit (for all regulated metals). For example: if the DF is 1.5, the Iron limit is 1,500 ug/L; if the DF is 1.5, the antimony limit is 8.4, etc. Not to exceed DF of 5.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in a potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

iii. The applicant must submit the results of this calculation as part of the NOI. EPA (and MassDEP where the discharge is not covered by 310 CMR 40.0000) will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

4. Treatment system information.

- a) Provide a written description of the treatment train and how the system will be set up for each discharge and attach a schematic of the proposed or existing treatment system(s).
- b) Identify each major treatment unit (e.g. frac tanks, filters, air stripper, liquid phase/vapor phase activated carbon, oil/water separators, etc.) by checking all that apply and describing any additional equipment not listed. Attach additional sheets as needed.
- c) Provide the proposed average and maximum flow rates (in gallons per minute, gpm) for the discharge and the design flow rates (in gpm) of the treatment system. Clearly identify the component of the treatment with the most limited flow, i.e., the part of the treatment train that establishes the design flow.
- d) Describe any chemical additives being used, or planned to be used, and attach MSDS sheets for each. EPA may request further information regarding the chemical composition of the additive, potential toxic effects, or other information to insure that approval of the use of the additive will not cause or contribute to a violation of State water quality standards. Approval of coverage under the RGP will constitute approval of the use of the chemical additive(s). If coverage of the discharge under the RGP has already been granted and the use of a chemical additive becomes necessary, the permittee must submit a Notice of Change (NOC).

5. Receiving surface water(s) information.

- a) Identify the discharge pathway by checking whether it is discharged: directly to the receiving water (river, stream, or brook), within the facility (e.g., through a sewer drain), to a storm drain, to a wetland, or other receiving body.
- b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters into which discharge will occur.
- c) Provide a detailed map(s) indicating the location of the site and outfall(s) to the receiving water(s):
 - 1) For multiple discharges, the discharges should be numbered sequentially.
 - 2) In the case of indirect dischargers (to municipal storm sewer, etc) the map(s) must be sufficient to indicate the location of the discharge to the indirect conveyance and the discharge to the state classified 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 and the basin (for Massachusetts, the Surface Water Quality Standards (314 CMR 4.00) are available at <http://www.mass.gov/dep/water/laws/regulati.htm#wqual>) (for New Hampshire, contact the NH DES at (603) 271-2984).
- e) Specify the reported seven day-ten year low flow (7Q10) of the receiving water (see Section I.A.3) c. above). In New Hampshire, the 7Q10 must be provided by to the applicant by the New Hampshire Department of Environmental Services.

f) Indicate whether the receiving water is a listed 303(d) water quality impaired or limited water and if so, for which pollutants (see Section IX of the Fact Sheet for additional information).

For MA, the most updated integrated list of waters (CWA 303(d) and 305(b)) is available at <http://www.mass.gov/dep/water/resources/tmdls.htm#info>.

For NH, the most updated integrated list of waters (CWA 303(d) and 305(b)) is available at <http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>.

Also, indicate if there is a final TMDL for any of the listed pollutants. For MA, final TMDLs can be found at: <http://www.mass.gov/dep/water/resources/tmdls.htm> and for NH, final TMDLs can be found at

<http://des.nh.gov/organization/divisions/water/wmb/tmdl/index.htm>. For more information, contact the states at: New Hampshire Department of Environmental Services, Watershed Management Bureau at 603-271-3503 or the Massachusetts Department of Environmental Protection at 508-767-2796 or 508-767-2873.

6. ESA and NHPA Eligibility.

As required in Parts I.A.4 and Appendix VII the operator of a site/facility must ensure that the potential discharge will not adversely affect endangered species, designated critical habitat, or national historic places that are in proximity to the potential discharge. If the potential discharge is to certain water bodies, the applicant must also submit a formal certification with the NOI that indicates the consultation, with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the Services), resulted in either a no jeopardy opinion or a written concurrence on a finding that the discharge is not likely to adversely affect any endangered species or critical habitat. Facilities should begin the consultation as early in the process as possible.

- a) Using the instructions in Appendix VII and information in Appendix II, indicate under which criterion listed you are eligible for coverage under this general permit.
- b) If you selected criterion D or F, indicate if consultation with the federal services has been completed or if it is underway.
- c) If consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, indicate if a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat was received.
- d) Attach documentation of ESA eligibility as described below and required in Appendix VII, Part I.C, Step 4.

Criterion A - No federally-listed threatened or endangered species or federally-designated critical habitat are present: A copy of the most current county species list pages for the county(ies) where your site or facility and discharges are located. You must also include a statement on how you determined that no listed species or critical habitat are in proximity to your site or facility or discharge locations.

Criterion B - Section 7 consultation completed with the Service(s) on a prior project: A copy of the USFWS and/or NOAA Fisheries, as appropriate, biological opinion or concurrence on a finding of “unlikely to adversely effect” regarding the ESA Section 7 consultation.

Criterion C - Activities are covered by a Section 10 Permit: A copy of the USFWS and/or the NOAA Fisheries, as appropriate, letter transmitting the ESA Section 10 authorization.

Criterion D - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" federally-listed species or federally-designated critical habitat (not including the four species of concern identified in Section I of Appendix I): A copy of the USFWS and/or the NOAA Fisheries, as appropriate, letter or memorandum concluding that the discharge is consistent with the general permit's "not likely to adversely affect" determination.

Criterion E - Activities are covered by certification of eligibility: A copy of the documents originally used by the other operator of your site or facility (or area including your site) to satisfy the documentation requirement of Criteria A, B, C or D.

Criterion F - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" species of concern, as identified in Section I of Appendix I: A copy of the USFWS and/or the NOAA Fisheries, as appropriate, concurrence with the applicant's determination that the discharge is "not likely to adversely affect" listed species.

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

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. Applicants should provide any supplemental information needed to meet the requirements of the permit, including any analytical data used to support the application, and any certification(s) required.

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.

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: FMR HIGH VOLTAGE ENG CORP/BELL		Facility/site mailing address:	
Location of facility/site:		Street:	
longitude: 71.19	Facility SIC code(s): NA	85 South Bedford Street	
latitude: 42.48			
b) Name of facility/site owner:		Town: BURLINGTON	
Email address of facility/site owner: NA		State: MA	Zip: 01803
Telephone no. of facility/site owner: 781-229-1996		County: MIDDLESEX	
Fax no. of facility/site owner: NA	Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐		
Address of owner (if different from site): AMERICAN LANDMARK III, LLC			
Street: 85 South Bedford Street			
Town: BURLINGTON	State: MA	Zip: 01803	County: MIDDLESEX
c) Legal name of operator: GRADY M. KONIECZKO		Operator telephone no.: 978-952-0120 EXT. 106	
Operator fax no.: 978-952-0122		Operator email: grady.konieczko@geotransinc.com	
Operator contact name and title: GRADY M. KONIECZKO, SENIOR PROJECT ENVIRONMENTAL SCIENTIST			
Address of operator (if different from owner):		Street: GEOTRANS, INC. ONE MONARCH DRIVE, SUITE 101	
Town: LITTLETON	State: MA	Zip: 01460	County: MIDDLESEX

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: 02-038 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: MASSACHUSETTS RELEASE TRACKING NUMBER 3-0981 2. permit or license # assigned: TIER 1B 83010 3. state agency contact information: name, location, and telephone number: MASSDEP NORTHEAST REGION 205B LOWELL STREET, WILMINGTON, MA 01887 PHONE (978) 694-3200	f) Is the site/facility covered by any other EPA permit, including: 1. Multi-Sector General Permit? Y ☐ N ☒ , if Y, number: 2. Final Dewatering General Permit? Y ☐ N ☒ , if Y, number: 3. EPA Construction General Permit? Y ☐ N ☒ , if Y, number: 4. Individual NPDES permit? Y ☐ N ☒ , if Y, number: 5. any other water quality related individual or general permit? Y ☐ N ☒ , if Y, number:
g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ☐ N ☒	
h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.	
Activity Category I - Petroleum Related Site Remediation II - Non Petroleum Site Remediation III - Contaminated Construction Dewatering	Activity Sub-Category A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐ A. Volatile Organic Compound (VOC) Only Sites ☒ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐ 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:	
DISCHARGE TO SURFACE WATER IS FROM A TREATMENT SYSTEM THAT IS REMEDIATING GROUNDWATER IMPACTED WITH VOCs AT MADEP DISPOSAL SITE RTN 3-0981. AVERAGE FLOW TO TREATMENT SYSTEM IS 50 GPM, FLOW RATE FROM SYSTEM TO VINE BROOK IS INTERMITTENT AT 65 GPM.	
b) Provide the following information about each discharge:	
1) Number of discharge points: ONE	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow 0.14482 CU FT/SEC Is maximum flow a design value ? Y ☒ N ☐ Average flow (include units) 0.1114 CU FT/SEC Is average flow a design value or estimate? NO
3) Latitude and longitude of each discharge within 100 feet:	
pt.1: lat 42.48 long -71.19	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) NA	5) Is the discharge intermittent ☒ or seasonal ☐ ? Is discharge ongoing? Y ☒ N ☐
c) Expected dates of discharge (mm/dd/yy): start 06/17/2002 end UNKNOWN	
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). SEE ATTACHED FLOW SCHEMATIC	

3. Contaminant information.

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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☒	☐	1	GRAB	SM2540D	1.0 mg/L ⁺	0	0	0	0
2. Total Residual Chlorine (TRC)		☐	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	GRAB	1664	4.7 mg/L	0	0	0	0
4. Cyanide (CN)	57125	☐	☐								
5. Benzene (B)	71432	☒	☐	6	GRAB	8260B	2.5-5.0 PPB	0	0	0	0
6. Toluene (T)	108883	☒	☐	6	GRAB	8260B	2.5-5.0 PPB	0	0	0	0
7. Ethylbenzene (E)	100414	☒	☐	6	GRAB	8260B	2.5-5.0 PPB	0	0	0	0
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	6	GRAB	8260B	2.5-5.0 PPB ⁺	0	0	0	0
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	☐	☐								

* 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	☒	☐	6	GRAB	8260B	5-13 PPB	0	0	0	0
15. Carbon Tetrachloride	56235	☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
18a. Total dichlorobenzene		☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
19. 1,1 Dichloroethane (DCA)	75343	☐	☒	6	GRAB	8260B	2.5 PPB	14	0.008	14	0.008
20. 1,2 Dichloroethane (DCA)	107062	☐	☒	7	GRAB	8260B/C	2.5 PPB	9.1	0.005	9.1	0.005
21. 1,1 Dichloroethene (DCE)	75354	☐	☒	6	GRAB	8260B	2.5 PPB	30	0.018	30	0.018
22. cis-1,2 Dichloroethene (DCE)	156592	☐	☒	6	GRAB	8260B	2.5 PPB	5.9	0.004	5.9	0.004
23. Methylene Chloride	75092	☐	☐								
24. Tetrachloroethene (PCE)	127184	☐	☒	6	GRAB	8260B	5.0 PPB	510	0.306	510	0.306
25. 1,1,1 Trichloro-ethane (TCA)	71556	☐	☒	6	GRAB	8260B	2.5 PPB	440	0.264	440	0.264
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	6	GRAB	8260B	2.5 PPB	0	0	0	0
27. Trichloroethene (TCE)	79016	☐	☒	6	GRAB	8260B	2.5 PPB	61	0.037	61	0.037

<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	☒	☐	6	GRAB	8260B	5-10 PPB	0	0	0	0
29. Acetone	67641	☒	☐	6	GRAB	8260B	25-50 PPB	0	0	0	0
30. 1,4 Dioxane	123911	☒	☐	1	GRAB	8260C	22 ug/L	0	0	0	0
31. Total Phenols	108952	☒	☐	1	GRAB	420.4 Mod.	0.0050 mg/L	0	0	0	0
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)		☐	☐								

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☐	☐								
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.	☒	☐	1	GRAB	8082A	1.9 ug/l	0	0	0	0
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	☒	☐	1	GRAB	6010C	100 ug/L	0	0	0	0
Other (describe):		☐	☐								

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

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

<i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ☐ N ☒	If yes, which metals?
<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: Groundwater is extracted from 9 recovery wells and pumped to a treatment system designed by Bisco Environmental. System consists of a low profile air stripper EZ-Tray Model 12.4-SS. The design was based on treatment of 5,650 ppb influent VOC concentration down to less than 1 ppb at 65 gpm. The system operates at 50 gpm and currently has 700-800 ppb influent VOC concentration. Vapor phase VOCs are treated by a granular activated carbon system prior to discharge to the atmosphere. The bag filter and transfer pump have a high alarm that is wired to the control panel. The bag filter (Model CQX 1-180) is rated for 150 gpm. See attached Bisco's PID and Air Stripper Skid Layout schematics.						
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):	vapor phase GAC filter, 2000 pounds		

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 50 gpm Maximum flow rate of treatment system 65 gpm

Design flow rate of treatment system 65 gpm

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

CHEMICAL ADDITIVES ARE NOT USED.

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

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

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Discharge from treatment system passes through 500 feet of underground piping to a wetland that is a tributary to Vine Brook. See Figure 1, Site Location Map.

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 CLASS B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water dilution not needed for metals 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)? BACTERIA

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.

ESA eligibility was determined by reviewing online information. According to the web page of the Massachusetts Division of Fisheries and Wildlife, which was updated on October 27, 2009, there are two federally listed Endangered plants in Burlington, MA, the Lion's Foot and the Variable Sedge. The Lion's Foot has been observed only one to five times in Burlington, and has not been observed since 1906. According to the paper reviewed online entitled *Nabalus serpentarius* Pursh (Lion's Foot) Conservation and Research Plan for New England, prepared in 2002, the Lion's Foot is found in dry woods, thickets, sandy soil, fields, roadsides, and open woods. Similarly, the wetland also does not appear to be the correct habitat for the Variable Sedge. According to the New York Natural Heritage Program web page, the Variable Sedge prefers an upland location with sandy soils and thin woods. The location of the discharge in the wetland does not appear to be the preferred habitat for either of these plants. The habitat of the discharge area being wetland and the lack of recent observation of the Lion's Foot makes it unlikely that either of these plants exist in the area of the discharge. A copy of the online information referred to above is included in the attachments to this NOI.

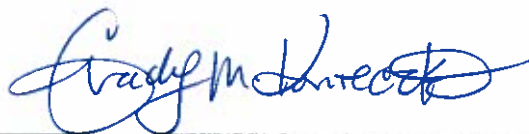
It should be noted that the system, including all of the discharge piping and the discharge location in the wetland, was installed in 2001 with the approval of the Town of Burlington Conservation Commission.

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: FRM HIGH VOLTAGE ENG CORP/BELLOF FRAM SITE

Operator signature:



Printed Name & Title: GRADY M. KONIECZKO, SENIOR PROJECT ENVIRONMENTAL SCIENTIST

Date: 12/9/10

B. Submission of NOI to EPA - All operators applying for coverage under this General Permit must submit a completed Notice of Intent (NOI) to EPA. Signed and completed NOI forms and attachments must be submitted to EPA-NE at:

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
ATTN: Remediation General Permit NOI Processing

or electronically mailed to NPDES.Generalpermits@epa.gov

or faxed to the EPA Office at 617-918-0505

If filling out the suggested NOI form electronically on EPA's website, the signature page must be signed and faxed or mailed to EPA at the fax number and/or address listed above.

1. Filing with the states - A copy of any NOI form filed with EPA-NE must also be filed with state agencies. The state agency may elect to develop a state specific form or other information requirements.

a) **Discharges in Massachusetts** - In addition to the NOI, permit applicants must submit copies of the State Application Form BRPWM 12, Request for General Permit coverage for the RGP. The application form and the Transmittal Form for Permit Application and Payment may be obtained from the Massachusetts Department of Environmental Protection (MassDEP) website at www.state.ma.us/dep. Municipalities are fee-exempt, but should send a copy of the transmittal form to that address for project tracking purposes. All applicants should keep a copy of the transmittal form and a copy of the application package for their records.

1) A copy of the NOI, the transmittal form, a copy of the check, and Form BRPWM 12 should be sent to:

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd floor
Worcester, MA 01608

2) A copy of the transmittal form and the appropriate fee should be sent to:

Massachusetts Department of Environmental Protection
P.O. Box 4062
Boston, MA 02111

Please note: Applicants for discharges in Massachusetts should note that under 310 CMR 40.000, *as a matter of state law*, the general permit only applies to discharges that are **not** subject to the

Massachusetts Contingency Plan (MCP) and 310 CMR 40.000. Therefore, discharges subject to the MCP are **not** required to fill out and submit the State Application Form BRPWM 12 or pay the state fees. However, they must submit a NOI to EPA.

b) Discharges in New Hampshire - applicants must provide a copy of the Notice of Intent to:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
P.O. Box 95
Concord, New Hampshire 03302-0095.

2. Filing with Municipalities - A copy of the NOI must be submitted to the municipality in which the proposed discharge would be located.

TABLE 1
TREATMENT SYSTEM INFLUENT WATER VOC CONCENTRATION (UG/L)

TABLE 1. TREATMENT SYSTEM INFLUENT WATER VOC CONCENTRATIONS (µg/L)

Date Sampled	PCE	1,1,1-TCA	TCE	1,1-DCE	1,1-DCA	cis-1,2-DCE	trans-1,2-DCE	Other VOCs	Total VOCs
1/20/2010	380	310	61	19	11	5.1	2.5 U	0	786.1
2/19/2010	510 D	440	48	30	14	5.9	2.5 U	0	1047.9
3/22/2010	370	260	34	14	8.7	4.4	2.5 U	0	691.1
4/8/2010	450	350	41	18	12	4.8	2.5 U	0	875.8
5/13/2010	420	240	35	15	8.4	4.2	2.5 U	0	722.6
6/18/2010	380	200	33	13	8.5	4.3	2.5 U	0	638.8

Notes:

Concentrations in µg/L

4 U=Sample was not detected above the detection limit of 4 µg/L

J=Estimated value

D=Result for compound exceeded instrument calibration range and sample was reanalyzed at a higher dilution. Result of the higher dilution is presented. Please check laboratory reports in the Attachments for results of both diluted and undiluted samples.

ANALYTICAL DATA

February 04, 2010

Service Request No: R1000337

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: HVEC - 1/21/10/117-7013.001.01

Dear Mr. Bridge:

Enclosed are the results of the sample(s) submitted to our laboratory on January 21, 2010. For your reference, these analyses have been assigned our service request number **R1000337**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.


Carlton Beechler
Project Manager

Page 1 of 28

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC – 1/10
Sample Matrix: Water

Service Request No.: R1000337
Date Received: 1/21/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 1/21/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

No analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

No other analytical or quality control problems were encountered during analysis.

Approved by



Date

2/4/10

00002

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1000337

<u>Lab ID</u>	<u>Client ID</u>
R1000337-001	TB-012010
R1000337-002	INF-012010
R1000337-003	EFF-012010



REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: HVEC - 1/21/10/117-7013.001.01
 Sample Matrix: Water
 Sample Name: TB-012010
 Lab Code: R1000337-001

Service Request: R1000337
 Date Collected: 1/20/10 0700
 Date Received: 1/21/10
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,1-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	1/27/10 16:00		187689	
1,2-Dibromoethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2-Dichloroethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,3-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
2,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
2-Butanone (MEK)	5.0	U	5.0	1	NA	1/27/10 16:00		187689	
2-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
2-Hexanone	5.0	U	5.0	1	NA	1/27/10 16:00		187689	
4-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
p-Isopropyltoluene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	1/27/10 16:00		187689	
Acetone	10	U	10	1	NA	1/27/10 16:00		187689	
Acrylonitrile	100	U	100	1	NA	1/27/10 16:00		187689	
Benzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Bromobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Bromochloromethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Bromodichloromethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-012010
Lab Code: R1000337-001

Service Request: R1000337
Date Collected: 1/20/10 0700
Date Received: 1/21/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Bromomethane	2.0	U	2.0	1	NA	1/27/10 16:00		187689	
Carbon Tetrachloride	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Chlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Chloroethane	2.0	U	2.0	1	NA	1/27/10 16:00		187689	
Chloroform	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Chloromethane	2.0	U	2.0	1	NA	1/27/10 16:00		187689	
Dibromochloromethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Dibromomethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Dichloromethane	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Ethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Hexachlorobutadiene	0.60	U	0.60	1	NA	1/27/10 16:00		187689	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Naphthalene	5.0	U	5.0	1	NA	1/27/10 16:00		187689	
Styrene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Toluene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
Vinyl Chloride	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
m,p-Xylenes	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
n-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
n-Propylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
o-Xylene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
sec-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
tert-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 16:00		187689	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	1/27/10 16:00		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-012010
Lab Code: R1000337-001

Service Request: R1000337
Date Collected: 1/20/10 0700
Date Received: 1/21/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	1/27/10 16:00		
Dibromofluoromethane	105	89-119	1/27/10 16:00		
Toluene-d8	97	87-121	1/27/10 16:00		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Collected: 1/20/10
Date Received: 1/21/10
Date Analyzed: 1/27/10 1600

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: TB-012010
Lab Code: R1000337-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-012010
Lab Code: R1000337-002

Service Request: R1000337
Date Collected: 1/20/10 0955
Date Received: 1/21/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.1	U	mg/L	5.1	1	NA	1/27/10 09:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-012010
Lab Code: R1000337-002

Service Request: R1000337
Date Collected: 1/20/10 0955
Date Received: 1/21/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,1,1-Trichloroethane (TCA)	310		2.5	2.5	NA	1/27/10 16:27		187689	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,1-Dichloroethane (1,1-DCA)	11		2.5	2.5	NA	1/27/10 16:27		187689	
1,1-Dichloroethene (1,1-DCE)	19		2.5	2.5	NA	1/27/10 16:27		187689	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	1/27/10 16:27		187689	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
2-Butanone (MEK)	13	U	13	2.5	NA	1/27/10 16:27		187689	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
2-Hexanone	13	U	13	2.5	NA	1/27/10 16:27		187689	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
p-Isopropyltoluene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
4-Methyl-2-pentanone	13	U	13	2.5	NA	1/27/10 16:27		187689	
Acetone	25	U	25	2.5	NA	1/27/10 16:27		187689	
Acrylonitrile	250	U	250	2.5	NA	1/27/10 16:27		187689	
Benzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Bromobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Bromochloromethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Bromodichloromethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-012010
Lab Code: R1000337-002

Service Request: R1000337
Date Collected: 1/20/10 0955
Date Received: 1/21/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Bromomethane	5.0	U	5.0	2.5	NA	1/27/10 16:27		187689	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Chlorobenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Chloroethane	5.0	U	5.0	2.5	NA	1/27/10 16:27		187689	
Chloroform	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Chloromethane	5.0	U	5.0	2.5	NA	1/27/10 16:27		187689	
Dibromochloromethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Dibromomethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Dichloromethane	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Ethylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	1/27/10 16:27		187689	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Naphthalene	13	U	13	2.5	NA	1/27/10 16:27		187689	
Styrene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Tetrachloroethene (PCE)	380		2.5	2.5	NA	1/27/10 16:27		187689	
Toluene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Trichloroethene (TCE)	61		2.5	2.5	NA	1/27/10 16:27		187689	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
Vinyl Chloride	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
cis-1,2-Dichloroethene	5.1		2.5	2.5	NA	1/27/10 16:27		187689	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
m,p-Xylenes	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
n-Butylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
n-Propylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
o-Xylene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	1/27/10 16:27		187689	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	1/27/10 16:27		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-012010
Lab Code: R1000337-002

Service Request: R1000337
Date Collected: 1/20/10 0955
Date Received: 1/21/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	1/27/10 16:27		
Dibromofluoromethane	104	89-119	1/27/10 16:27		
Toluene-d8	97	87-121	1/27/10 16:27		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Collected: 1/20/10
Date Received: 1/21/10
Date Analyzed: 1/27/10 1627

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: INF-012010
Lab Code: R1000337-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-012010
Lab Code: R1000337-003

Service Request: R1000337
Date Collected: 1/20/10 0950
Date Received: 1/21/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7 U	mg/L	4.7	1	NA	1/27/10 09:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-012010
Lab Code: R1000337-003

Service Request: R1000337
Date Collected: 1/20/10 0950
Date Received: 1/21/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,1-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	1/27/10 16:55		187689	
1,2-Dibromoethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2-Dichloroethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,3-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
2,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
2-Butanone (MEK)	5.0	U	5.0	1	NA	1/27/10 16:55		187689	
2-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
2-Hexanone	5.0	U	5.0	1	NA	1/27/10 16:55		187689	
4-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
p-Isopropyltoluene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	1/27/10 16:55		187689	
Acetone	10	U	10	1	NA	1/27/10 16:55		187689	
Acrylonitrile	100	U	100	1	NA	1/27/10 16:55		187689	
Benzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Bromobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Bromochloromethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Bromodichloromethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-012010
Lab Code: R1000337-003

Service Request: R1000337
Date Collected: 1/20/10 0950
Date Received: 1/21/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Bromomethane	2.0	U	2.0	1	NA	1/27/10 16:55		187689	
Carbon Tetrachloride	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Chlorobenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Chloroethane	2.0	U	2.0	1	NA	1/27/10 16:55		187689	
Chloroform	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Chloromethane	2.0	U	2.0	1	NA	1/27/10 16:55		187689	
Dibromochloromethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Dibromomethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Dichloromethane	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Ethylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Hexachlorobutadiene	0.60	U	0.60	1	NA	1/27/10 16:55		187689	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Naphthalene	5.0	U	5.0	1	NA	1/27/10 16:55		187689	
Styrene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Toluene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
Vinyl Chloride	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
m,p-Xylenes	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
n-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
n-Propylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
o-Xylene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
sec-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
tert-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 16:55		187689	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	1/27/10 16:55		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-012010
Lab Code: R1000337-003

Service Request: R1000337
Date Collected: 1/20/10 0950
Date Received: 1/21/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	102	85-122	1/27/10 16:55		
Dibromofluoromethane	106	89-119	1/27/10 16:55		
Toluene-d8	98	87-121	1/27/10 16:55		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Collected: 1/20/10
Date Received: 1/21/10
Date Analyzed: 1/27/10 1655

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: EFF-012010
Lab Code: R1000337-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1000337-MB

Service Request: R1000337
Date Collected: NA
Date Received: NA
Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	1/27/10 09:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1000617-01

Service Request: R1000337
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,1-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	1/27/10 10:57		187689	
1,2-Dibromoethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2-Dichloroethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,3-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
2,2-Dichloropropane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
2-Butanone (MEK)	5.0	U	5.0	1	NA	1/27/10 10:57		187689	
2-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
2-Hexanone	5.0	U	5.0	1	NA	1/27/10 10:57		187689	
4-Chlorotoluene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
p-Isopropyltoluene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	1/27/10 10:57		187689	
Acetone	10	U	10	1	NA	1/27/10 10:57		187689	
Acrylonitrile	100	U	100	1	NA	1/27/10 10:57		187689	
Benzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Bromobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Bromochloromethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Bromodichloromethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1000617-01

Service Request: R1000337
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Bromomethane	2.0	U	2.0	1	NA	1/27/10 10:57		187689	
Carbon Tetrachloride	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Chlorobenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Chloroethane	2.0	U	2.0	1	NA	1/27/10 10:57		187689	
Chloroform	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Chloromethane	2.0	U	2.0	1	NA	1/27/10 10:57		187689	
Dibromochloromethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Dibromomethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Dichloromethane	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Ethylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Hexachlorobutadiene	0.60	U	0.60	1	NA	1/27/10 10:57		187689	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Naphthalene	5.0	U	5.0	1	NA	1/27/10 10:57		187689	
Styrene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Toluene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
Vinyl Chloride	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
m,p-Xylenes	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
n-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
n-Propylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
o-Xylene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
sec-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
tert-Butylbenzene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	1/27/10 10:57		187689	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	1/27/10 10:57		187689	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1000617-01

Service Request: R1000337
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	1/27/10 10:57		
Dibromofluoromethane	102	89-119	1/27/10 10:57		
Toluene-d8	97	87-121	1/27/10 10:57		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Collected: NA
Date Received: NA
Date Analyzed: 1/27/10 1057

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1000617-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Analyzed: 1/27/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1000337-LCS			% Rec Limits
		Result	Expected	% Rec	
Oil and Grease, Nonpolar (SGT-HEM)	1664	39.7	41.4	96	64 - 132

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: HVEC - 1/21/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1000337
 Date Analyzed: 1/27/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 187689

Analyte Name	Lab Control Sample RQ1000617-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	19.5	20.0	98	70 - 130
1,1,1-Trichloroethane (TCA)	18.4	20.0	92	70 - 130
1,1,2,2-Tetrachloroethane	19.2	20.0	96	70 - 130
1,1,2-Trichloroethane	20.0	20.0	100	70 - 130
1,1-Dichloroethane (1,1-DCA)	19.5	20.0	97	70 - 130
1,1-Dichloroethene (1,1-DCE)	18.3	20.0	91	70 - 130
1,1-Dichloropropene	20.4	20.0	102	70 - 130
1,2,3-Trichlorobenzene	19.5	20.0	98	70 - 130
1,2,3-Trichloropropane	18.4	20.0	92	70 - 130
1,2,4-Trichlorobenzene	19.4	20.0	97	70 - 130
1,2,4-Trimethylbenzene	18.1	20.0	90	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	20.6	20.0	103	50 - 150
1,2-Dibromoethane	20.2	20.0	101	70 - 130
1,2-Dichlorobenzene	19.6	20.0	98	70 - 130
1,2-Dichloroethane	20.0	20.0	100	70 - 130
1,2-Dichloropropane	21.3	20.0	106	70 - 130
1,3,5-Trimethylbenzene	18.0	20.0	90	70 - 130
1,3-Dichlorobenzene	19.2	20.0	96	70 - 130
1,3-Dichloropropane	19.9	20.0	99	70 - 130
1,4-Dichlorobenzene	19.2	20.0	96	70 - 130
2,2-Dichloropropane	18.5	20.0	93	70 - 130
2-Butanone (MEK)	19.6	20.0	98	50 - 150
2-Chlorotoluene	18.0	20.0	90	70 - 130
2-Hexanone	19.4	20.0	97	70 - 130
4-Chlorotoluene	18.3	20.0	91	70 - 130
p-Isopropyltoluene	18.1	20.0	91	70 - 130
4-Methyl-2-pentanone	20.3	20.0	102	70 - 130
Acetone	19.3	20.0	97	50 - 150
Acrylonitrile	102	100	102	50 - 150
Benzene	19.9	20.0	100	70 - 130
Bromobenzene	19.2	20.0	96	70 - 130
Bromochloromethane	20.4	20.0	102	70 - 130
Bromodichloromethane	20.4	20.0	102	70 - 130
Bromoform	19.6	20.0	98	70 - 130
Bromomethane	15.4	20.0	77	50 - 150
Carbon Tetrachloride	18.9	20.0	95	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC - 1/21/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000337
Date Analyzed: 1/27/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 187689

Analyte Name	Lab Control Sample RQ1000617-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	19.8	20.0	99	70 - 130
Chloroethane	17.8	20.0	89	70 - 130
Chloroform	19.4	20.0	97	70 - 130
Chloromethane	15.4	20.0	77	70 - 130
Dibromochloromethane	20.5	20.0	103	70 - 130
Dibromomethane	19.3	20.0	97	70 - 130
Dichloromethane	18.9	20.0	94	70 - 130
Ethylbenzene	19.5	20.0	97	70 - 130
Hexachlorobutadiene	20.1	20.0	100	70 - 130
Isopropylbenzene (Cumene)	19.2	20.0	96	70 - 130
Naphthalene	19.2	20.0	96	50 - 150
Styrene	19.5	20.0	98	70 - 130
Tetrachloroethene (PCE)	21.0	20.0	105	70 - 130
Toluene	19.1	20.0	95	70 - 130
Trichloroethene (TCE)	19.1	20.0	96	70 - 130
Trichlorofluoromethane (CFC 11)	18.8	20.0	94	70 - 130
Vinyl Chloride	20.0	20.0	100	70 - 130
cis-1,2-Dichloroethene	19.2	20.0	96	70 - 130
cis-1,3-Dichloropropene	19.8	20.0	99	70 - 130
m,p-Xylenes	39.5	40.0	99	70 - 130
n-Butylbenzene	18.3	20.0	91	70 - 130
n-Propylbenzene	17.9	20.0	90	70 - 130
o-Xylene	19.3	20.0	97	70 - 130
sec-Butylbenzene	18.0	20.0	90	70 - 130
tert-Butylbenzene	18.2	20.0	91	70 - 130
trans-1,2-Dichloroethene	18.6	20.0	93	70 - 130
trans-1,3-Dichloropropene	19.0	20.0	95	70 - 130

Comments: _____



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

25

CAS Contact

[illegible]

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1102-08

Cooler Receipt And Preservation Check Form

Project/Client ECOTRANS Submission Number R10-337

Cooler received on 1/21/10 by: BD COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? 40 CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 40

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 1/21/10 10:12

Thermometer ID: IR GUN#3 IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: 1/21/10

Cooler Breakdown: Date: 1/21/10 by: DBW

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4109030</u>	<u>12/10</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 120709-1WW, 9-308-001

Other Comments: _____

PC Secondary Review: 1/24/10

*significant air bubbles are greater than 5-6 mm

March 08, 2010

Service Request No: R1000934

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: Monthly HVEC - 2/10/117-7013.001.01

Dear Mr. Bridge:

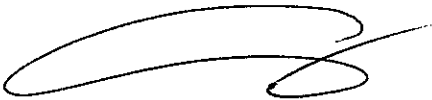
Enclosed are the results of the sample(s) submitted to our laboratory on February 20, 2010. For your reference, these analyses have been assigned our service request number **R1000934**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Carlton Beechler
Project Manager

Page 1 of 38

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC – 2/10
Sample Matrix: Water

Service Request No.: R1000934
Date Received: 2/20/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 2/20/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

No analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

No analytical or quality control problems were encountered during analysis.

Approved by _____



Date _____

3/9/10

00002

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01

Service Request: R1000934

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1000934-001	TB-021910	2/19/10	07:00
R1000934-002	INF-021910	2/19/10	11:50
R1000934-003	EFF-021910	2/19/10	11:40

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 2/10/117-7013.001.01
 Sample Matrix: Water
 Sample Name: TB-021910
 Lab Code: R1000934-001

Service Request: R1000934
 Date Collected: 2/19/10 0700
 Date Received: 2/20/10
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,1-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	2/26/10 21:45		191338	
1,2-Dibromoethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2-Dichloroethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,3-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
2,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
2-Butanone (MEK)	5.0	U	5.0	1	NA	2/26/10 21:45		191338	
2-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
2-Hexanone	5.0	U	5.0	1	NA	2/26/10 21:45		191338	
4-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
p-Isopropyltoluene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	2/26/10 21:45		191338	
Acetone	10	U	10	1	NA	2/26/10 21:45		191338	
Acrylonitrile	100	U	100	1	NA	2/26/10 21:45		191338	
Benzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Bromobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Bromochloromethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Bromodichloromethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-021910
Lab Code: R1000934-001

Service Request: R1000934
Date Collected: 2/19/10 0700
Date Received: 2/20/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Bromomethane	2.0	U	2.0	1	NA	2/26/10 21:45		191338	
Carbon Tetrachloride	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Chlorobenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Chloroethane	2.0	U	2.0	1	NA	2/26/10 21:45		191338	
Chloroform	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Chloromethane	2.0	U	2.0	1	NA	2/26/10 21:45		191338	
Dibromochloromethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Dibromomethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Dichloromethane	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Ethylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Hexachlorobutadiene	0.60	U	0.60	1	NA	2/26/10 21:45		191338	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Naphthalene	5.0	U	5.0	1	NA	2/26/10 21:45		191338	
Styrene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Toluene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
Vinyl Chloride	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
m,p-Xylenes	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
n-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
n-Propylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
o-Xylene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
sec-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
tert-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 21:45		191338	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	2/26/10 21:45		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-021910
Lab Code: R1000934-001

Service Request: R1000934
Date Collected: 2/19/10 0700
Date Received: 2/20/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	2/26/10 21:45		
Dibromofluoromethane	103	89-119	2/26/10 21:45		
Toluene-d8	99	87-121	2/26/10 21:45		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: 2/19/10
Date Received: 2/20/10
Date Analyzed: 2/26/10 2145

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: TB-021910
Lab Code: R1000934-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,1,1-Trichloroethane (TCA)	440		2.5	2.5	NA	2/26/10 22:48		191338	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,1-Dichloroethane (1,1-DCA)	14		2.5	2.5	NA	2/26/10 22:48		191338	
1,1-Dichloroethene (1,1-DCE)	30		2.5	2.5	NA	2/26/10 22:48		191338	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	2/26/10 22:48		191338	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
2-Butanone (MEK)	13	U	13	2.5	NA	2/26/10 22:48		191338	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
2-Hexanone	13	U	13	2.5	NA	2/26/10 22:48		191338	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
p-Isopropyltoluene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
4-Methyl-2-pentanone	13	U	13	2.5	NA	2/26/10 22:48		191338	
Acetone	25	U	25	2.5	NA	2/26/10 22:48		191338	
Acrylonitrile	250	U	250	2.5	NA	2/26/10 22:48		191338	
Benzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Bromobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Bromochloromethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Bromodichloromethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Bromomethane	5.0	U	5.0	2.5	NA	2/26/10 22:48		191338	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Chlorobenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Chloroethane	5.0	U	5.0	2.5	NA	2/26/10 22:48		191338	
Chloroform	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Chloromethane	5.0	U	5.0	2.5	NA	2/26/10 22:48		191338	
Dibromochloromethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Dibromomethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Dichloromethane	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Ethylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	2/26/10 22:48		191338	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Naphthalene	13	U	13	2.5	NA	2/26/10 22:48		191338	
Styrene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Tetrachloroethene (PCE)	560	E	2.5	2.5	NA	2/26/10 22:48		191338	
Toluene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Trichloroethene (TCE)	48		2.5	2.5	NA	2/26/10 22:48		191338	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
Vinyl Chloride	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
cis-1,2-Dichloroethene	5.9		2.5	2.5	NA	2/26/10 22:48		191338	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
m,p-Xylenes	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
n-Butylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
n-Propylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
o-Xylene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	2/26/10 22:48		191338	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	2/26/10 22:48		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	2/26/10 22:48		
Dibromofluoromethane	101	89-119	2/26/10 22:48		
Toluene-d8	100	87-121	2/26/10 22:48		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: 2/19/10
Date Received: 2/20/10
Date Analyzed: 2/26/10 2248

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: INF-021910
Lab Code: R1000934-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002
Run Type: Dilution

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,1,1-Trichloroethane (TCA)	360	D	5.0	5	NA	3/1/10 20:26		191433	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,1,2-Trichloroethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,1-Dichloroethane (1,1-DCA)	12	D	5.0	5	NA	3/1/10 20:26		191433	
1,1-Dichloroethene (1,1-DCE)	26	D	5.0	5	NA	3/1/10 20:26		191433	
1,1-Dichloropropene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2,3-Trichlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2,3-Trichloropropane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2,4-Trichlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2,4-Trimethylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2-Dibromo-3-chloropropane (DBCP)	10	U	10	5	NA	3/1/10 20:26		191433	
1,2-Dibromoethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2-Dichlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2-Dichloroethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,2-Dichloropropane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,3,5-Trimethylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,3-Dichlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,3-Dichloropropane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
1,4-Dichlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
2,2-Dichloropropane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
2-Butanone (MEK)	25	U	25	5	NA	3/1/10 20:26		191433	
2-Chlorotoluene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
2-Hexanone	25	U	25	5	NA	3/1/10 20:26		191433	
4-Chlorotoluene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
p-Isopropyltoluene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
4-Methyl-2-pentanone	25	U	25	5	NA	3/1/10 20:26		191433	
Acetone	50	U	50	5	NA	3/1/10 20:26		191433	
Acrylonitrile	500	U	500	5	NA	3/1/10 20:26		191433	
Benzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Bromobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Bromochloromethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Bromodichloromethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002
Run Type: Dilution

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Bromomethane	10	U	10	5	NA	3/1/10 20:26		191433	
Carbon Tetrachloride	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Chlorobenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Chloroethane	10	U	10	5	NA	3/1/10 20:26		191433	
Chloroform	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Chloromethane	10	U	10	5	NA	3/1/10 20:26		191433	
Dibromochloromethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Dibromomethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Dichloromethane	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Ethylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Hexachlorobutadiene	3.0	U	3.0	5	NA	3/1/10 20:26		191433	
Isopropylbenzene (Cumene)	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Naphthalene	25	U	25	5	NA	3/1/10 20:26		191433	
Styrene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Tetrachloroethene (PCE)	510	D	5.0	5	NA	3/1/10 20:26		191433	
Toluene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Trichloroethene (TCE)	44	D	5.0	5	NA	3/1/10 20:26		191433	
Trichlorofluoromethane (CFC 11)	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
Vinyl Chloride	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
cis-1,2-Dichloroethene	6.1	D	5.0	5	NA	3/1/10 20:26		191433	
cis-1,3-Dichloropropene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
m,p-Xylenes	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
n-Butylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
n-Propylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
o-Xylene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
sec-Butylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
tert-Butylbenzene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
trans-1,2-Dichloroethene	5.0	U	5.0	5	NA	3/1/10 20:26		191433	
trans-1,3-Dichloropropene	2.5	U	2.5	5	NA	3/1/10 20:26		191433	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002
Run Type: Dilution

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	3/1/10 20:26		
Dibromofluoromethane	98	89-119	3/1/10 20:26		
Toluene-d8	100	87-121	3/1/10 20:26		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: 2/19/10
Date Received: 2/20/10
Date Analyzed: 3/1/10 2026

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: INF-021910DL
Lab Code: R1000934-002
Run Type: Dilution
Analytical Method: 8260B

Units: µg/L
Basis: NA

CAS #	Analyte Name	RT	Result Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-021910
Lab Code: R1000934-002

Service Request: R1000934
Date Collected: 2/19/10 1150
Date Received: 2/20/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	3/3/10 08:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-021910
Lab Code: R1000934-003

Service Request: R1000934
Date Collected: 2/19/10 1140
Date Received: 2/20/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,1-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	2/26/10 22:16		191338	
1,2-Dibromoethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2-Dichloroethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,3-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
2,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
2-Butanone (MEK)	5.0	U	5.0	1	NA	2/26/10 22:16		191338	
2-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
2-Hexanone	5.0	U	5.0	1	NA	2/26/10 22:16		191338	
4-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
p-Isopropyltoluene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	2/26/10 22:16		191338	
Acetone	10	U	10	1	NA	2/26/10 22:16		191338	
Acrylonitrile	100	U	100	1	NA	2/26/10 22:16		191338	
Benzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Bromobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Bromochloromethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Bromodichloromethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-021910
Lab Code: R1000934-003

Service Request: R1000934
Date Collected: 2/19/10 1140
Date Received: 2/20/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Bromomethane	2.0	U	2.0	1	NA	2/26/10 22:16		191338	
Carbon Tetrachloride	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Chlorobenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Chloroethane	2.0	U	2.0	1	NA	2/26/10 22:16		191338	
Chloroform	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Chloromethane	2.0	U	2.0	1	NA	2/26/10 22:16		191338	
Dibromochloromethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Dibromomethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Dichloromethane	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Ethylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Hexachlorobutadiene	0.60	U	0.60	1	NA	2/26/10 22:16		191338	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Naphthalene	5.0	U	5.0	1	NA	2/26/10 22:16		191338	
Styrene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Toluene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
Vinyl Chloride	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
m,p-Xylenes	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
n-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
n-Propylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
o-Xylene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
sec-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
tert-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 22:16		191338	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	2/26/10 22:16		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-021910
Lab Code: R1000934-003

Service Request: R1000934
Date Collected: 2/19/10 1140
Date Received: 2/20/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	2/26/10 22:16		
Dibromofluoromethane	103	89-119	2/26/10 22:16		
Toluene-d8	103	87-121	2/26/10 22:16		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: 2/19/10
Date Received: 2/20/10
Date Analyzed: 2/26/10 2216

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: EFF-021910
Lab Code: R1000934-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-021910
Lab Code: R1000934-003

Service Request: R1000934
Date Collected: 2/19/10 1140
Date Received: 2/20/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.8	U	mg/L	4.8	1	NA	3/3/10 08:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1000934-MB

Service Request: R1000934
Date Collected: NA
Date Received: NA
Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	3/3/10 08:00

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1001508-01

Service Request: R1000934
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,1-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	2/26/10 15:28		191338	
1,2-Dibromoethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2-Dichloroethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,3-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
2,2-Dichloropropane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
2-Butanone (MEK)	5.0	U	5.0	1	NA	2/26/10 15:28		191338	
2-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
2-Hexanone	5.0	U	5.0	1	NA	2/26/10 15:28		191338	
4-Chlorotoluene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
p-Isopropyltoluene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	2/26/10 15:28		191338	
Acetone	10	U	10	1	NA	2/26/10 15:28		191338	
Acrylonitrile	100	U	100	1	NA	2/26/10 15:28		191338	
Benzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Bromobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Bromochloromethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Bromodichloromethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1001508-01

Service Request: R1000934
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Bromomethane	2.0	U	2.0	1	NA	2/26/10 15:28		191338	
Carbon Tetrachloride	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Chlorobenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Chloroethane	2.0	U	2.0	1	NA	2/26/10 15:28		191338	
Chloroform	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Chloromethane	2.0	U	2.0	1	NA	2/26/10 15:28		191338	
Dibromochloromethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Dibromomethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Dichloromethane	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Ethylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Hexachlorobutadiene	0.60	U	0.60	1	NA	2/26/10 15:28		191338	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Naphthalene	5.0	U	5.0	1	NA	2/26/10 15:28		191338	
Styrene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Toluene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
Vinyl Chloride	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
m,p-Xylenes	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
n-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
n-Propylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
o-Xylene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
sec-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
tert-Butylbenzene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	2/26/10 15:28		191338	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	2/26/10 15:28		191338	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1001508-01

Service Request: R1000934
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	2/26/10 15:28		
Dibromofluoromethane	101	89-119	2/26/10 15:28		
Toluene-d8	101	87-121	2/26/10 15:28		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: NA
Date Received: NA
Date Analyzed: 2/26/10 1528

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1001508-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 2/10/117-7013.001.01
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: RQ1001498-01

Service Request: R1000934
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,1-Dichloropropene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	3/1/10 12:21		191433	
1,2-Dibromoethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2-Dichloroethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,2-Dichloropropane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,3-Dichloropropane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
2,2-Dichloropropane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
2-Butanone (MEK)	5.0	U	5.0	1	NA	3/1/10 12:21		191433	
2-Chlorotoluene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
2-Hexanone	5.0	U	5.0	1	NA	3/1/10 12:21		191433	
4-Chlorotoluene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
p-Isopropyltoluene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	3/1/10 12:21		191433	
Acetone	10	U	10	1	NA	3/1/10 12:21		191433	
Acrylonitrile	100	U	100	1	NA	3/1/10 12:21		191433	
Benzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Bromobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Bromochloromethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Bromodichloromethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1001498-01

Service Request: R1000934
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Bromomethane	2.0	U	2.0	1	NA	3/1/10 12:21		191433	
Carbon Tetrachloride	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Chlorobenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Chloroethane	2.0	U	2.0	1	NA	3/1/10 12:21		191433	
Chloroform	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Chloromethane	2.0	U	2.0	1	NA	3/1/10 12:21		191433	
Dibromochloromethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Dibromomethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Dichloromethane	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Ethylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Hexachlorobutadiene	0.60	U	0.60	1	NA	3/1/10 12:21		191433	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Naphthalene	5.0	U	5.0	1	NA	3/1/10 12:21		191433	
Styrene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Toluene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
Vinyl Chloride	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
m,p-Xylenes	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
n-Butylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
n-Propylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
o-Xylene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
sec-Butylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
tert-Butylbenzene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/1/10 12:21		191433	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	3/1/10 12:21		191433	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1001498-01

Service Request: R1000934
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	3/1/10 12:21		
Dibromofluoromethane	102	89-119	3/1/10 12:21		
Toluene-d8	101	87-121	3/1/10 12:21		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Collected: NA
Date Received: NA
Date Analyzed: 3/1/10 1221

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1001498-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Analyzed: 3/ 3/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample			Duplicate Lab Control Sample			% Rec		RPD
		Result	Expected	% Rec	Result	Expected	% Rec	Limits	RPD	
Oil and Grease, Nonpolar (SGT-HEM)	1664	42.1	44.6	94	40.4	44.6	91	64 - 132	4	34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 2/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1000934
 Date Analyzed: 2/26/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 191338

Analyte Name	Lab Control Sample RQ1001508-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	21.1	20.0	105	70 - 130
1,1,1-Trichloroethane (TCA)	19.0	20.0	95	70 - 130
1,1,2,2-Tetrachloroethane	21.2	20.0	106	70 - 130
1,1,2-Trichloroethane	19.8	20.0	99	70 - 130
1,1-Dichloroethane (1,1-DCA)	18.8	20.0	94	70 - 130
1,1-Dichloroethene (1,1-DCE)	23.1	20.0	116	70 - 130
1,1-Dichloropropene	18.9	20.0	94	70 - 130
1,2,3-Trichlorobenzene	20.5	20.0	102	70 - 130
1,2,3-Trichloropropane	20.9	20.0	105	70 - 130
1,2,4-Trichlorobenzene	21.4	20.0	107	70 - 130
1,2,4-Trimethylbenzene	19.1	20.0	95	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	18.3	20.0	91	50 - 150
1,2-Dibromoethane	21.2	20.0	106	70 - 130
1,2-Dichlorobenzene	22.3	20.0	111	70 - 130
1,2-Dichloroethane	18.5	20.0	92	70 - 130
1,2-Dichloropropane	20.3	20.0	101	70 - 130
1,3,5-Trimethylbenzene	21.1	20.0	105	70 - 130
1,3-Dichlorobenzene	21.4	20.0	107	70 - 130
1,3-Dichloropropane	20.2	20.0	101	70 - 130
1,4-Dichlorobenzene	21.1	20.0	106	70 - 130
2,2-Dichloropropane	19.7	20.0	99	70 - 130
2-Butanone (MEK)	14.0	20.0	70	50 - 150
2-Chlorotoluene	21.3	20.0	106	70 - 130
2-Hexanone	16.2	20.0	81	70 - 130
4-Chlorotoluene	21.7	20.0	109	70 - 130
p-Isopropyltoluene	20.8	20.0	104	70 - 130
4-Methyl-2-pentanone	16.1	20.0	80	70 - 130
Acetone	15.8	20.0	79	50 - 150
Acrylonitrile	85.5	100	86	50 - 150
Benzene	19.6	20.0	98	70 - 130
Bromobenzene	20.9	20.0	104	70 - 130
Bromochloromethane	19.6	20.0	98	70 - 130
Bromodichloromethane	19.7	20.0	99	70 - 130
Bromoform	22.4	20.0	112	70 - 130
Bromomethane	20.4	20.0	102	50 - 150
Carbon Tetrachloride	19.6	20.0	98	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Analyzed: 2/26/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 191338

Analyte Name	Lab Control Sample RQ1001508-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	20.4	20.0	102	70 - 130
Chloroethane	18.8	20.0	94	70 - 130
Chloroform	19.3	20.0	97	70 - 130
Chloromethane	17.3	20.0	87	70 - 130
Dibromochloromethane	21.8	20.0	109	70 - 130
Dibromomethane	19.6	20.0	98	70 - 130
Dichloromethane	19.4	20.0	97	70 - 130
Ethylbenzene	21.5	20.0	107	70 - 130
Hexachlorobutadiene	20.2	20.0	101	70 - 130
Isopropylbenzene (Cumene)	20.6	20.0	103	70 - 130
Naphthalene	18.4	20.0	92	50 - 150
Styrene	19.4	20.0	97	70 - 130
Tetrachloroethene (PCE)	19.9	20.0	99	70 - 130
Toluene	20.4	20.0	102	70 - 130
Trichloroethene (TCE)	19.6	20.0	98	70 - 130
Trichlorofluoromethane (CFC 11)	18.8	20.0	94	70 - 130
Vinyl Chloride	19.1	20.0	96	70 - 130
cis-1,2-Dichloroethene	20.1	20.0	100	70 - 130
cis-1,3-Dichloropropene	20.1	20.0	100	70 - 130
m,p-Xylenes	42.8	40.0	107	70 - 130
n-Butylbenzene	21.0	20.0	105	70 - 130
n-Propylbenzene	21.3	20.0	106	70 - 130
o-Xylene	21.9	20.0	110	70 - 130
sec-Butylbenzene	18.8	20.0	94	70 - 130
tert-Butylbenzene	19.1	20.0	95	70 - 130
trans-1,2-Dichloroethene	18.9	20.0	94	70 - 130
trans-1,3-Dichloropropene	18.1	20.0	91	70 - 130

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 2/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1000934

Date Analyzed: 3/ 1/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 191433

Analyte Name	Lab Control Sample RQ1001498-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	20.8	20.0	104	70 - 130
1,1,1-Trichloroethane (TCA)	18.7	20.0	94	70 - 130
1,1,2,2-Tetrachloroethane	19.5	20.0	98	70 - 130
1,1,2-Trichloroethane	19.3	20.0	96	70 - 130
1,1-Dichloroethane (1,1-DCA)	18.2	20.0	91	70 - 130
1,1-Dichloroethene (1,1-DCE)	24.0	20.0	120	70 - 130
1,1-Dichloropropene	19.0	20.0	95	70 - 130
1,2,3-Trichlorobenzene	19.2	20.0	96	70 - 130
1,2,3-Trichloropropane	19.6	20.0	98	70 - 130
1,2,4-Trichlorobenzene	20.7	20.0	104	70 - 130
1,2,4-Trimethylbenzene	18.3	20.0	92	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	16.6	20.0	83	50 - 150
1,2-Dibromoethane	20.9	20.0	104	70 - 130
1,2-Dichlorobenzene	20.9	20.0	104	70 - 130
1,2-Dichloroethane	17.4	20.0	87	70 - 130
1,2-Dichloropropane	19.6	20.0	98	70 - 130
1,3,5-Trimethylbenzene	20.4	20.0	102	70 - 130
1,3-Dichlorobenzene	20.3	20.0	102	70 - 130
1,3-Dichloropropane	19.1	20.0	96	70 - 130
1,4-Dichlorobenzene	19.7	20.0	99	70 - 130
2,2-Dichloropropane	20.2	20.0	101	70 - 130
2-Butanone (MEK)	13.0	20.0	65	50 - 150
2-Chlorotoluene	20.5	20.0	103	70 - 130
2-Hexanone	15.1	20.0	76	70 - 130
4-Chlorotoluene	20.8	20.0	104	70 - 130
p-Isopropyltoluene	20.1	20.0	100	70 - 130
4-Methyl-2-pentanone	14.8	20.0	74	70 - 130
Acetone	13.6	20.0	68	50 - 150
Acrylonitrile	79.6	100	80	50 - 150
Benzene	18.9	20.0	94	70 - 130
Bromobenzene	20.5	20.0	103	70 - 130
Bromochloromethane	17.9	20.0	89	70 - 130
Bromodichloromethane	19.1	20.0	95	70 - 130
Bromoform	20.8	20.0	104	70 - 130
Bromomethane	18.7	20.0	94	50 - 150
Carbon Tetrachloride	18.3	20.0	92	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 2/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1000934
Date Analyzed: 3/ 1/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 191433

Analyte Name	Lab Control Sample RQ1001498-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	19.8	20.0	99	70 - 130
Chloroethane	18.4	20.0	92	70 - 130
Chloroform	18.9	20.0	95	70 - 130
Chloromethane	16.6	20.0	83	70 - 130
Dibromochloromethane	20.6	20.0	103	70 - 130
Dibromomethane	17.8	20.0	89	70 - 130
Dichloromethane	18.5	20.0	92	70 - 130
Ethylbenzene	21.0	20.0	105	70 - 130
Hexachlorobutadiene	19.2	20.0	96	70 - 130
Isopropylbenzene (Cumene)	20.3	20.0	101	70 - 130
Naphthalene	17.0	20.0	85	50 - 150
Styrene	18.7	20.0	94	70 - 130
Tetrachloroethene (PCE)	19.8	20.0	99	70 - 130
Toluene	19.9	20.0	99	70 - 130
Trichloroethene (TCE)	19.3	20.0	96	70 - 130
Trichlorofluoromethane (CFC 11)	18.2	20.0	91	70 - 130
Vinyl Chloride	18.8	20.0	94	70 - 130
cis-1,2-Dichloroethene	20.1	20.0	101	70 - 130
cis-1,3-Dichloropropene	19.0	20.0	95	70 - 130
m,p-Xylenes	42.3	40.0	106	70 - 130
n-Butylbenzene	20.4	20.0	102	70 - 130
n-Propylbenzene	20.8	20.0	104	70 - 130
o-Xylene	22.0	20.0	110	70 - 130
sec-Butylbenzene	18.1	20.0	91	70 - 130
tert-Butylbenzene	18.4	20.0	92	70 - 130
trans-1,2-Dichloroethene	18.9	20.0	94	70 - 130
trans-1,3-Dichloropropene	16.9	20.0	84	70 - 130

Comments: _____

**ServicesSM**

CAS Contact

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1102-08

Cooler Receipt And Preservation Check Form

Project/Client GeoTrans Submission Number _____

Cooler received on 2/20/10 by: BS COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant* air bubbles? YES NO N/A *
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 1°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 2/20 @ 0950

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: 2/20/10

Cooler Breakdown: Date: 2/20/10 by: BS

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	4109060	12/10				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 9-308-001, 100509-1NN

Other Comments:

* 1 vial from TB-HVFC021910 had an air bubble

PC Secondary Review: 2/20/10 *significant air bubbles are greater than 5-6 mm

H:\SMODOCS\Cooler Receipt 2.doc

April 07, 2010

Service Request No: R1001507

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: Monthly HVEC - 3/10/117-7013.001.01

Dear Mr. Bridge:

Enclosed are the results of the sample(s) submitted to our laboratory on March 23, 2010. For your reference, these analyses have been assigned our service request number **R1001507**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Carlton Beechler
Project Manager

Page 1 of 34

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC – 3/10
Sample Matrix: Water

Service Request No.: R1001507
Date Received: 3/23/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 3/23/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

The Method Reporting Limit is elevated for Non-Polar Oil and Grease for sample INF-032210 due to limited sample volume.

No other analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

No analytical or quality control problems were encountered during analysis.

Approved by _____

Date

4/8/10

00002

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01

Service Request: R1001507

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1001507-001	INF-032210	3/22/10	15:10
R1001507-002	EFF-032210	3/22/10	15:00
R1001507-003	TB-032210	3/22/10	07:00

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited
 Delaware Accredited
 Connecticut ID # PH0556
 Florida ID # E87674
 Illinois ID # 200047
 Maine ID # NY0032
 Nebraska Accredited
 Navy Facilities Engineering Service Center Approved

Nevada ID # NY-00032
 New Jersey ID # NY004
 New York ID # 10145
 New Hampshire ID # 294100 A/B
 Pennsylvania ID # 68-786
 Rhode Island ID # 158
 West Virginia ID # 292

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-032210
Lab Code: R1001507-001

Service Request: R1001507
Date Collected: 3/22/10 1510
Date Received: 3/23/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.2	U	mg/L	5.2	1	NA	4/1/10 08:30

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-032210
Lab Code: R1001507-001

Service Request: R1001507
Date Collected: 3/22/10 1510
Date Received: 3/23/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,1,1-Trichloroethane (TCA)	260		2.5	2.5	NA	3/30/10 18:49		194738	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,1-Dichloroethane (1,1-DCA)	8.7		2.5	2.5	NA	3/30/10 18:49		194738	
1,1-Dichloroethene (1,1-DCE)	14		2.5	2.5	NA	3/30/10 18:49		194738	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	3/30/10 18:49		194738	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
2-Butanone (MEK)	13	U	13	2.5	NA	3/30/10 18:49		194738	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
2-Hexanone	13	U	13	2.5	NA	3/30/10 18:49		194738	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
p-Isopropyltoluene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
4-Methyl-2-pentanone	13	U	13	2.5	NA	3/30/10 18:49		194738	
Acetone	25	U	25	2.5	NA	3/30/10 18:49		194738	
Acrylonitrile	250	U	250	2.5	NA	3/30/10 18:49		194738	
Benzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Bromobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Bromochloromethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Bromodichloromethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-032210
Lab Code: R1001507-001

Service Request: R1001507
Date Collected: 3/22/10 1510
Date Received: 3/23/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Bromomethane	5.0	U	5.0	2.5	NA	3/30/10 18:49		194738	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Chlorobenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Chloroethane	5.0	U	5.0	2.5	NA	3/30/10 18:49		194738	
Chloroform	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Chloromethane	5.0	U	5.0	2.5	NA	3/30/10 18:49		194738	
Dibromochloromethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Dibromomethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Dichloromethane	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Ethylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	3/30/10 18:49		194738	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Naphthalene	13	U	13	2.5	NA	3/30/10 18:49		194738	
Styrene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Tetrachloroethene (PCE)	370		2.5	2.5	NA	3/30/10 18:49		194738	
Toluene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Trichloroethene (TCE)	34		2.5	2.5	NA	3/30/10 18:49		194738	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
Vinyl Chloride	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
cis-1,2-Dichloroethene	4.4		2.5	2.5	NA	3/30/10 18:49		194738	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
m,p-Xylenes	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
n-Butylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
n-Propylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
o-Xylene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	3/30/10 18:49		194738	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	3/30/10 18:49		194738	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-032210
Lab Code: R1001507-001

Service Request: R1001507
Date Collected: 3/22/10 1510
Date Received: 3/23/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	3/30/10 18:49		
Dibromofluoromethane	107	89-119	3/30/10 18:49		
Toluene-d8	104	87-121	3/30/10 18:49		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Collected: 3/22/10
Date Received: 3/23/10
Date Analyzed: 3/30/10 1849

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: INF-032210
Lab Code: R1001507-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-032210
Lab Code: R1001507-002

Service Request: R1001507
Date Collected: 3/22/10 1500
Date Received: 3/23/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.8	U	mg/L	4.8	1	NA	4/1/10 08:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-032210
Lab Code: R1001507-002

Service Request: R1001507
Date Collected: 3/22/10 1500
Date Received: 3/23/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,1-Dichloropropene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	3/31/10 00:17		194740	
1,2-Dibromoethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2-Dichloroethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,2-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,3-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
2,2-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
2-Butanone (MEK)	5.0	U	5.0	1	NA	3/31/10 00:17		194740	
2-Chlorotoluene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
2-Hexanone	5.0	U	5.0	1	NA	3/31/10 00:17		194740	
4-Chlorotoluene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
p-Isopropyltoluene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	3/31/10 00:17		194740	
Acetone	10	U	10	1	NA	3/31/10 00:17		194740	
Acrylonitrile	100	U	100	1	NA	3/31/10 00:17		194740	
Benzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Bromobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Bromochloromethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Bromodichloromethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-032210
Lab Code: R1001507-002

Service Request: R1001507
Date Collected: 3/22/10 1500
Date Received: 3/23/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Bromomethane	2.0	U	2.0	1	NA	3/31/10 00:17		194740	
Carbon Tetrachloride	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Chlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Chloroethane	2.0	U	2.0	1	NA	3/31/10 00:17		194740	
Chloroform	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Chloromethane	2.0	U	2.0	1	NA	3/31/10 00:17		194740	
Dibromochloromethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Dibromomethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Dichloromethane	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Ethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Hexachlorobutadiene	0.60	U	0.60	1	NA	3/31/10 00:17		194740	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Naphthalene	5.0	U	5.0	1	NA	3/31/10 00:17		194740	
Styrene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Toluene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
Vinyl Chloride	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
m,p-Xylenes	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
n-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
n-Propylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
o-Xylene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
sec-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
tert-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/31/10 00:17		194740	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	3/31/10 00:17		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-032210
Lab Code: R1001507-002

Service Request: R1001507
Date Collected: 3/22/10 1500
Date Received: 3/23/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	93	85-122	3/31/10 00:17		
Dibromofluoromethane	104	89-119	3/31/10 00:17		
Toluene-d8	105	87-121	3/31/10 00:17		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Collected: 3/22/10
Date Received: 3/23/10
Date Analyzed: 3/31/10 0017

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: EFF-032210
Lab Code: R1001507-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-032210
Lab Code: R1001507-003

Service Request: R1001507
Date Collected: 3/22/10 0700
Date Received: 3/23/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,1-Dichloropropene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	3/31/10 00:44		194740	
1,2-Dibromoethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2-Dichloroethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,2-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,3-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
2,2-Dichloropropane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
2-Butanone (MEK)	5.0	U	5.0	1	NA	3/31/10 00:44		194740	
2-Chlorotoluene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
2-Hexanone	5.0	U	5.0	1	NA	3/31/10 00:44		194740	
4-Chlorotoluene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
p-Isopropyltoluene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	3/31/10 00:44		194740	
Acetone	10	U	10	1	NA	3/31/10 00:44		194740	
Acrylonitrile	100	U	100	1	NA	3/31/10 00:44		194740	
Benzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Bromobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Bromochloromethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Bromodichloromethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-032210
Lab Code: R1001507-003

Service Request: R1001507
Date Collected: 3/22/10 0700
Date Received: 3/23/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Bromomethane	2.0	U	2.0	1	NA	3/31/10 00:44		194740	
Carbon Tetrachloride	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Chlorobenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Chloroethane	2.0	U	2.0	1	NA	3/31/10 00:44		194740	
Chloroform	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Chloromethane	2.0	U	2.0	1	NA	3/31/10 00:44		194740	
Dibromochloromethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Dibromomethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Dichloromethane	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Ethylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Hexachlorobutadiene	0.60	U	0.60	1	NA	3/31/10 00:44		194740	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Naphthalene	5.0	U	5.0	1	NA	3/31/10 00:44		194740	
Styrene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Toluene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
Vinyl Chloride	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
m,p-Xylenes	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
n-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
n-Propylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
o-Xylene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
sec-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
tert-Butylbenzene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/31/10 00:44		194740	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	3/31/10 00:44		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-032210
Lab Code: R1001507-003

Service Request: R1001507
Date Collected: 3/22/10 0700
Date Received: 3/23/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	97	85-122	3/31/10 00:44		
Dibromofluoromethane	106	89-119	3/31/10 00:44		
Toluene-d8	107	87-121	3/31/10 00:44		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Collected: 3/22/10
Date Received: 3/23/10
Date Analyzed: 3/31/10 0044

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: TB-032210
Lab Code: R1001507-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1001507-MB

Service Request: R1001507
Date Collected: NA
Date Received: NA
Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	4/1/10 08:30

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 3/10/117-7013.001.01
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: RQ1002222-01

Service Request: R1001507
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,1-Dichloropropene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	3/30/10 11:50		194738	
1,2-Dibromoethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2-Dichloroethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,2-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,3-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
2,2-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
2-Butanone (MEK)	5.0	U	5.0	1	NA	3/30/10 11:50		194738	
2-Chlorotoluene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
2-Hexanone	5.0	U	5.0	1	NA	3/30/10 11:50		194738	
4-Chlorotoluene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
p-Isopropyltoluene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	3/30/10 11:50		194738	
Acetone	10	U	10	1	NA	3/30/10 11:50		194738	
Acrylonitrile	100	U	100	1	NA	3/30/10 11:50		194738	
Benzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Bromobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Bromochloromethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Bromodichloromethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002222-01

Service Request: R1001507
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Bromomethane	2.0	U	2.0	1	NA	3/30/10 11:50		194738	
Carbon Tetrachloride	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Chlorobenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Chloroethane	2.0	U	2.0	1	NA	3/30/10 11:50		194738	
Chloroform	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Chloromethane	2.0	U	2.0	1	NA	3/30/10 11:50		194738	
Dibromochloromethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Dibromomethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Dichloromethane	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Ethylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Hexachlorobutadiene	0.60	U	0.60	1	NA	3/30/10 11:50		194738	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Naphthalene	5.0	U	5.0	1	NA	3/30/10 11:50		194738	
Styrene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Toluene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
Vinyl Chloride	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
m,p-Xylenes	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
n-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
n-Propylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
o-Xylene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
sec-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
tert-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/30/10 11:50		194738	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	3/30/10 11:50		194738	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002222-01

Service Request: R1001507
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	3/30/10 11:50		
Dibromofluoromethane	106	89-119	3/30/10 11:50		
Toluene-d8	104	87-121	3/30/10 11:50		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Collected: NA
Date Received: NA
Date Analyzed: 3/30/10 1150

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1002222-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002223-01

Service Request: R1001507
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,1-Dichloropropene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	3/30/10 23:49		194740	
1,2-Dibromoethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2-Dichloroethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,2-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,3-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
2,2-Dichloropropane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
2-Butanone (MEK)	5.0	U	5.0	1	NA	3/30/10 23:49		194740	
2-Chlorotoluene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
2-Hexanone	5.0	U	5.0	1	NA	3/30/10 23:49		194740	
4-Chlorotoluene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
p-Isopropyltoluene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	3/30/10 23:49		194740	
Acetone	10	U	10	1	NA	3/30/10 23:49		194740	
Acrylonitrile	100	U	100	1	NA	3/30/10 23:49		194740	
Benzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Bromobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Bromochloromethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Bromodichloromethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002223-01

Service Request: R1001507
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Bromomethane	2.0	U	2.0	1	NA	3/30/10 23:49		194740	
Carbon Tetrachloride	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Chlorobenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Chloroethane	2.0	U	2.0	1	NA	3/30/10 23:49		194740	
Chloroform	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Chloromethane	2.0	U	2.0	1	NA	3/30/10 23:49		194740	
Dibromochloromethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Dibromomethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Dichloromethane	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Ethylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Hexachlorobutadiene	0.60	U	0.60	1	NA	3/30/10 23:49		194740	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Naphthalene	5.0	U	5.0	1	NA	3/30/10 23:49		194740	
Styrene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Toluene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
Vinyl Chloride	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
m,p-Xylenes	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
n-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
n-Propylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
o-Xylene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
sec-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
tert-Butylbenzene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	3/30/10 23:49		194740	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	3/30/10 23:49		194740	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002223-01

Service Request: R1001507
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	3/30/10 23:49		
Dibromofluoromethane	106	89-119	3/30/10 23:49		
Toluene-d8	105	87-121	3/30/10 23:49		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Collected: NA
Date Received: NA
Date Analyzed: 3/30/10 2349

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1002223-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Analyzed: 4/ 1/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1001507-LCS			Duplicate Lab Control Sample R1001507-DLCS			% Rec Limits	RPD	RPD Limit
		Result	Expected	% Rec	Result	Expected	% Rec			
Oil and Grease, Nonpolar (SGT-HEM)	1664	19.2	22.0	87	18.5	22.0	84	64 - 132	4	34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 3/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1001507
 Date Analyzed: 3/30/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 194738

Analyte Name	Lab Control Sample RQ1002222-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	18.9	20.0	95	70 - 130
1,1,1-Trichloroethane (TCA)	18.5	20.0	93	70 - 130
1,1,2,2-Tetrachloroethane	17.2	20.0	86	70 - 130
1,1,2-Trichloroethane	18.0	20.0	90	70 - 130
1,1-Dichloroethane (1,1-DCA)	18.3	20.0	92	70 - 130
1,1-Dichloroethene (1,1-DCE)	18.0	20.0	90	70 - 130
1,1-Dichloropropene	18.9	20.0	94	70 - 130
1,2,3-Trichlorobenzene	20.7	20.0	103	70 - 130
1,2,3-Trichloropropane	16.9	20.0	85	70 - 130
1,2,4-Trichlorobenzene	20.3	20.0	102	70 - 130
1,2,4-Trimethylbenzene	19.0	20.0	95	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	17.9	20.0	90	50 - 150
1,2-Dibromoethane	18.8	20.0	94	70 - 130
1,2-Dichlorobenzene	19.3	20.0	97	70 - 130
1,2-Dichloroethane	17.6	20.0	88	70 - 130
1,2-Dichloropropane	18.9	20.0	94	70 - 130
1,3,5-Trimethylbenzene	19.0	20.0	95	70 - 130
1,3-Dichlorobenzene	19.6	20.0	98	70 - 130
1,3-Dichloropropane	17.9	20.0	90	70 - 130
1,4-Dichlorobenzene	19.4	20.0	97	70 - 130
2,2-Dichloropropane	18.0	20.0	90	70 - 130
2-Butanone (MEK)	16.2	20.0	81	50 - 150
2-Chlorotoluene	18.9	20.0	95	70 - 130
2-Hexanone	17.4	20.0	87	70 - 130
4-Chlorotoluene	19.6	20.0	98	70 - 130
p-Isopropyltoluene	19.6	20.0	98	70 - 130
4-Methyl-2-pentanone	17.0	20.0	85	70 - 130
Acetone	18.4	20.0	92	50 - 150
Acrylonitrile	89.0	100	89	50 - 150
Benzene	18.6	20.0	93	70 - 130
Bromobenzene	19.3	20.0	96	70 - 130
Bromochloromethane	19.3	20.0	97	70 - 130
Bromodichloromethane	18.4	20.0	92	70 - 130
Bromoform	20.0	20.0	100	70 - 130
Bromomethane	16.2	20.0	81	50 - 150
Carbon Tetrachloride	18.7	20.0	93	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Analyzed: 3/30/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 194738

Analyte Name	Lab Control Sample RQ1002222-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	19.4	20.0	97	70 - 130
Chloroethane	16.5	20.0	82	70 - 130
Chloroform	17.8	20.0	89	70 - 130
Chloromethane	15.8	20.0	79	70 - 130
Dibromochloromethane	19.9	20.0	99	70 - 130
Dibromomethane	17.6	20.0	88	70 - 130
Dichloromethane	18.0	20.0	90	70 - 130
Ethylbenzene	19.1	20.0	95	70 - 130
Hexachlorobutadiene	18.5	20.0	93	70 - 130
Isopropylbenzene (Cumene)	20.3	20.0	102	70 - 130
Naphthalene	18.7	20.0	94	50 - 150
Styrene	19.4	20.0	97	70 - 130
Tetrachloroethene (PCE)	19.0	20.0	95	70 - 130
Toluene	19.3	20.0	96	70 - 130
Trichloroethene (TCE)	18.2	20.0	91	70 - 130
Trichlorofluoromethane (CFC 11)	18.5	20.0	92	70 - 130
Vinyl Chloride	17.8	20.0	89	70 - 130
cis-1,2-Dichloroethene	18.8	20.0	94	70 - 130
cis-1,3-Dichloropropene	17.8	20.0	89	70 - 130
m,p-Xylenes	38.9	40.0	97	70 - 130
n-Butylbenzene	18.9	20.0	94	70 - 130
n-Propylbenzene	18.7	20.0	94	70 - 130
o-Xylene	19.1	20.0	95	70 - 130
sec-Butylbenzene	18.6	20.0	93	70 - 130
tert-Butylbenzene	18.6	20.0	93	70 - 130
trans-1,2-Dichloroethene	17.5	20.0	87	70 - 130
trans-1,3-Dichloropropene	18.8	20.0	94	70 - 130

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC - 3/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1001507
 Date Analyzed: 3/30/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 194740

Analyte Name	Lab Control Sample RQ1002223-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	19.6	20.0	98	70 - 130
1,1,1-Trichloroethane (TCA)	19.7	20.0	98	70 - 130
1,1,2,2-Tetrachloroethane	17.6	20.0	88	70 - 130
1,1,2-Trichloroethane	19.8	20.0	99	70 - 130
1,1-Dichloroethane (1,1-DCA)	20.5	20.0	103	70 - 130
1,1-Dichloroethene (1,1-DCE)	19.4	20.0	97	70 - 130
1,1-Dichloropropene	18.9	20.0	94	70 - 130
1,2,3-Trichlorobenzene	21.0	20.0	105	70 - 130
1,2,3-Trichloropropane	18.1	20.0	91	70 - 130
1,2,4-Trichlorobenzene	21.1	20.0	106	70 - 130
1,2,4-Trimethylbenzene	20.4	20.0	102	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	18.6	20.0	93	50 - 150
1,2-Dibromoethane	18.5	20.0	93	70 - 130
1,2-Dichlorobenzene	20.0	20.0	100	70 - 130
1,2-Dichloroethane	19.1	20.0	96	70 - 130
1,2-Dichloropropane	20.7	20.0	104	70 - 130
1,3,5-Trimethylbenzene	19.7	20.0	99	70 - 130
1,3-Dichlorobenzene	20.5	20.0	102	70 - 130
1,3-Dichloropropane	18.7	20.0	93	70 - 130
1,4-Dichlorobenzene	20.4	20.0	102	70 - 130
2,2-Dichloropropane	17.2	20.0	86	70 - 130
2-Butanone (MEK)	17.0	20.0	85	50 - 150
2-Chlorotoluene	19.7	20.0	99	70 - 130
2-Hexanone	15.9	20.0	79	70 - 130
4-Chlorotoluene	20.3	20.0	101	70 - 130
p-Isopropyltoluene	19.7	20.0	98	70 - 130
4-Methyl-2-pentanone	16.8	20.0	84	70 - 130
Acetone	19.9	20.0	99	50 - 150
Acrylonitrile	95.5	100	96	50 - 150
Benzene	20.2	20.0	101	70 - 130
Bromobenzene	20.4	20.0	102	70 - 130
Bromochloromethane	21.9	20.0	110	70 - 130
Bromodichloromethane	19.6	20.0	98	70 - 130
Bromoform	19.8	20.0	99	70 - 130
Bromomethane	20.0	20.0	100	50 - 150
Carbon Tetrachloride	18.5	20.0	92	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC - 3/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001507
Date Analyzed: 3/30/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 194740

Analyte Name	Lab Control Sample RQ1002223-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	20.4	20.0	102	70 - 130
Chloroethane	20.5	20.0	102	70 - 130
Chloroform	20.4	20.0	102	70 - 130
Chloromethane	20.2	20.0	101	70 - 130
Dibromochloromethane	20.6	20.0	103	70 - 130
Dibromomethane	18.1	20.0	91	70 - 130
Dichloromethane	20.8	20.0	104	70 - 130
Ethylbenzene	19.2	20.0	96	70 - 130
Hexachlorobutadiene	19.5	20.0	98	70 - 130
Isopropylbenzene (Cumene)	21.2	20.0	106	70 - 130
Naphthalene	18.6	20.0	93	50 - 150
Styrene	19.9	20.0	99	70 - 130
Tetrachloroethene (PCE)	19.5	20.0	98	70 - 130
Toluene	20.0	20.0	100	70 - 130
Trichloroethene (TCE)	20.1	20.0	100	70 - 130
Trichlorofluoromethane (CFC 11)	20.6	20.0	103	70 - 130
Vinyl Chloride	21.2	20.0	106	70 - 130
cis-1,2-Dichloroethene	21.2	20.0	106	70 - 130
cis-1,3-Dichloropropene	18.8	20.0	94	70 - 130
m,p-Xylenes	39.8	40.0	100	70 - 130
n-Butylbenzene	19.3	20.0	96	70 - 130
n-Propylbenzene	19.4	20.0	97	70 - 130
o-Xylene	19.4	20.0	97	70 - 130
sec-Butylbenzene	19.3	20.0	97	70 - 130
tert-Butylbenzene	19.2	20.0	96	70 - 130
trans-1,2-Dichloroethene	19.7	20.0	98	70 - 130
trans-1,3-Dichloropropene	18.7	20.0	93	70 - 130

Comments: _____



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Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCQC-1102-08

Cooler Receipt And Preservation Check Form

Project/Client Academy Submission Number R10-1507

Cooler received on 3/23/10 by: RE COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROO, CLIENT
7. Temperature of cooler(s) upon receipt: 3°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 3/23/10 1152

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: 07/23/10

Cooler Breakdown: Date: 3/23/10 by: mm

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4109080</u>	<u>2/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 9-308-001, 120709-1WW

Other Comments:

TPH VOA lot blocked

PC Secondary Review: 07/24/10 *significant air bubbles are greater than 5-6 mm

April 23, 2010

Service Request No: R1001879

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: HVEC - 4/10/117-7013.001.01

Dear Mr. Bridge:

Enclosed are the results of the sample(s) submitted to our laboratory on April 9, 2010. For your reference, these analyses have been assigned our service request number **R1001879**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Carlton Beechler
Project Manager

Page 1 of 34

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC – 4/10
Sample Matrix: Water

Service Request No.: R1001879
Date Received: 4/9/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 4/9/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

The Method Reporting Limit is elevated for Non-Polar Oil and Grease for sample INF-040810 due to limited sample volume.

No other analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

The initial and continuing calibrations criteria were met for all samples with the exception of the continuing calibration verification of Dichlorodifluoromethane on 4/16/10. This is not a target compound for this submission. The data is not significantly affected.

The upper control criterion was exceeded for Bromoform and Carbon Tetrachloride in the 4/16/10 Laboratory Control Sample (LCS) and are flagged with an "*". The error associated with elevated recovery equates to a high bias. The analyte in question was not detected in the associated field samples; therefore the sample data is not significantly affected. No further corrective action was appropriate.

All Method Blanks were free of contamination with the exception of a low level hit of Hexachlorobutadiene on 4/16/10. No data is affected.

No other analytical or quality control problems were encountered during analysis.

Approved by _____

Date _____

4/23/10

00002

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01

Service Request: R1001879

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1001879-001	TB-040810	4/8/10	07:00
R1001879-002	INF-040810	4/8/10	16:15
R1001879-003	EFF-040810	4/8/10	16:05

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-040810
Lab Code: R1001879-001

Service Request: R1001879
Date Collected: 4/ 8/10 0700
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,1-Dichloropropene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	4/16/10 17:22		196900	
1,2-Dibromoethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2-Dichloroethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,2-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,3-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
2,2-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
2-Butanone (MEK)	5.0	U	5.0	1	NA	4/16/10 17:22		196900	
2-Chlorotoluene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
2-Hexanone	5.0	U	5.0	1	NA	4/16/10 17:22		196900	
4-Chlorotoluene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
p-Isopropyltoluene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	4/16/10 17:22		196900	
Acetone	10	U	10	1	NA	4/16/10 17:22		196900	
Acrylonitrile	100	U	100	1	NA	4/16/10 17:22		196900	
Benzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Bromobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Bromochloromethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Bromodichloromethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-040810
Lab Code: R1001879-001

Service Request: R1001879
Date Collected: 4/ 8/10 0700
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Bromomethane	2.0	U	2.0	1	NA	4/16/10 17:22		196900	
Carbon Tetrachloride	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Chlorobenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Chloroethane	2.0	U	2.0	1	NA	4/16/10 17:22		196900	
Chloroform	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Chloromethane	2.0	U	2.0	1	NA	4/16/10 17:22		196900	
Dibromochloromethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Dibromomethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Dichloromethane	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Ethylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Hexachlorobutadiene	0.60	U	0.60	1	NA	4/16/10 17:22		196900	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Naphthalene	5.0	U	5.0	1	NA	4/16/10 17:22		196900	
Styrene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Toluene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
Vinyl Chloride	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
m,p-Xylenes	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
n-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
n-Propylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
o-Xylene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
sec-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
tert-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/16/10 17:22		196900	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	4/16/10 17:22		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-040810
Lab Code: R1001879-001

Service Request: R1001879
Date Collected: 4/ 8/10 0700
Date Received: 4/ 9/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	4/16/10 17:22		
Dibromofluoromethane	112	89-119	4/16/10 17:22		
Toluene-d8	100	87-121	4/16/10 17:22		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Collected: 4/8/10
Date Received: 4/9/10
Date Analyzed: 4/16/10 1722

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: TB-040810
Lab Code: R1001879-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-040810
Lab Code: R1001879-002

Service Request: R1001879
Date Collected: 4/ 8/10 1615
Date Received: 4/ 9/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.6	U	mg/L	5.6	1	NA	4/14/10 08:30

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-040810
Lab Code: R1001879-002

Service Request: R1001879
Date Collected: 4/ 8/10 1615
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,1,1-Trichloroethane (TCA)	350		2.5	2.5	NA	4/16/10 17:53		196900	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,1-Dichloroethane (1,1-DCA)	12		2.5	2.5	NA	4/16/10 17:53		196900	
1,1-Dichloroethene (1,1-DCE)	18		2.5	2.5	NA	4/16/10 17:53		196900	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	4/16/10 17:53		196900	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
2-Butanone (MEK)	13	U	13	2.5	NA	4/16/10 17:53		196900	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
2-Hexanone	13	U	13	2.5	NA	4/16/10 17:53		196900	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
p-Isopropyltoluene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
4-Methyl-2-pentanone	13	U	13	2.5	NA	4/16/10 17:53		196900	
Acetone	25	U	25	2.5	NA	4/16/10 17:53		196900	
Acrylonitrile	250	U	250	2.5	NA	4/16/10 17:53		196900	
Benzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Bromobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Bromochloromethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Bromodichloromethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-040810
Lab Code: R1001879-002

Service Request: R1001879
Date Collected: 4/ 8/10 1615
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Bromomethane	5.0	U	5.0	2.5	NA	4/16/10 17:53		196900	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Chlorobenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Chloroethane	5.0	U	5.0	2.5	NA	4/16/10 17:53		196900	
Chloroform	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Chloromethane	5.0	U	5.0	2.5	NA	4/16/10 17:53		196900	
Dibromochloromethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Dibromomethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Dichloromethane	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Ethylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	4/16/10 17:53		196900	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Naphthalene	13	U	13	2.5	NA	4/16/10 17:53		196900	
Styrene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Tetrachloroethene (PCE)	450		2.5	2.5	NA	4/16/10 17:53		196900	
Toluene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Trichloroethene (TCE)	41		2.5	2.5	NA	4/16/10 17:53		196900	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
Vinyl Chloride	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
cis-1,2-Dichloroethene	4.8		2.5	2.5	NA	4/16/10 17:53		196900	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
m,p-Xylenes	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
n-Butylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
n-Propylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
o-Xylene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	4/16/10 17:53		196900	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	4/16/10 17:53		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-040810
Lab Code: R1001879-002

Service Request: R1001879
Date Collected: 4/ 8/10 1615
Date Received: 4/ 9/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	4/16/10 17:53		
Dibromofluoromethane	113	89-119	4/16/10 17:53		
Toluene-d8	101	87-121	4/16/10 17:53		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Collected: 4/8/10
Date Received: 4/9/10
Date Analyzed: 4/16/10 1753

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: INF-040810
Lab Code: R1001879-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-040810
Lab Code: R1001879-003

Service Request: R1001879
Date Collected: 4/ 8/10 1605
Date Received: 4/ 9/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0 U	mg/L	5.0	1	NA	4/14/10 08:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-040810
Lab Code: R1001879-003

Service Request: R1001879
Date Collected: 4/ 8/10 1605
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,1,1-Trichloroethane (TCA)	1.7		1.0	1	NA	4/19/10 15:22		197085	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,1-Dichloropropene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	4/19/10 15:22		197085	
1,2-Dibromoethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2-Dichloroethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,2-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,3-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
2,2-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
2-Butanone (MEK)	5.0	U	5.0	1	NA	4/19/10 15:22		197085	
2-Chlorotoluene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
2-Hexanone	5.0	U	5.0	1	NA	4/19/10 15:22		197085	
4-Chlorotoluene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
p-Isopropyltoluene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	4/19/10 15:22		197085	
Acetone	10	U	10	1	NA	4/19/10 15:22		197085	
Acrylonitrile	100	U	100	1	NA	4/19/10 15:22		197085	
Benzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Bromobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Bromochloromethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Bromodichloromethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-040810
Lab Code: R1001879-003

Service Request: R1001879
Date Collected: 4/ 8/10 1605
Date Received: 4/ 9/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Bromomethane	2.0	U	2.0	1	NA	4/19/10 15:22		197085	
Carbon Tetrachloride	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Chlorobenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Chloroethane	2.0	U	2.0	1	NA	4/19/10 15:22		197085	
Chloroform	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Chloromethane	2.0	U	2.0	1	NA	4/19/10 15:22		197085	
Dibromochloromethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Dibromomethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Dichloromethane	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Ethylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Hexachlorobutadiene	0.60	U	0.60	1	NA	4/19/10 15:22		197085	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Naphthalene	5.0	U	5.0	1	NA	4/19/10 15:22		197085	
Styrene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Toluene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
Vinyl Chloride	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
m,p-Xylenes	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
n-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
n-Propylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
o-Xylene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
sec-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
tert-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/19/10 15:22		197085	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	4/19/10 15:22		197085	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-040810
Lab Code: R1001879-003

Service Request: R1001879
Date Collected: 4/ 8/10 1605
Date Received: 4/ 9/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	4/19/10 15:22		
Dibromofluoromethane	113	89-119	4/19/10 15:22		
Toluene-d8	102	87-121	4/19/10 15:22		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Collected: 4/8/10
Date Received: 4/9/10
Date Analyzed: 4/19/10 1522

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: EFF-040810
Lab Code: R1001879-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1001879-MB

Service Request: R1001879
Date Collected: NA
Date Received: NA

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	4/14/10 08:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002770-01

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,1-Dichloropropene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	4/16/10 14:07		196900	
1,2-Dibromoethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2-Dichloroethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,2-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,3-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
2,2-Dichloropropane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
2-Butanone (MEK)	5.0	U	5.0	1	NA	4/16/10 14:07		196900	
2-Chlorotoluene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
2-Hexanone	5.0	U	5.0	1	NA	4/16/10 14:07		196900	
4-Chlorotoluene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
p-Isopropyltoluene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	4/16/10 14:07		196900	
Acetone	10	U	10	1	NA	4/16/10 14:07		196900	
Acrylonitrile	100	U	100	1	NA	4/16/10 14:07		196900	
Benzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Bromobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Bromochloromethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Bromodichloromethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002770-01

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Bromomethane	2.0	U	2.0	1	NA	4/16/10 14:07		196900	
Carbon Tetrachloride	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Chlorobenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Chloroethane	2.0	U	2.0	1	NA	4/16/10 14:07		196900	
Chloroform	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Chloromethane	2.0	U	2.0	1	NA	4/16/10 14:07		196900	
Dibromochloromethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Dibromomethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Dichloromethane	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Ethylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Hexachlorobutadiene	0.61		0.60	1	NA	4/16/10 14:07		196900	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Naphthalene	5.0	U	5.0	1	NA	4/16/10 14:07		196900	
Styrene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Toluene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
Vinyl Chloride	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
m,p-Xylenes	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
n-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
n-Propylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
o-Xylene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
sec-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
tert-Butylbenzene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/16/10 14:07		196900	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	4/16/10 14:07		196900	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002770-01

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	4/16/10 14:07		
Dibromofluoromethane	109	89-119	4/16/10 14:07		
Toluene-d8	101	87-121	4/16/10 14:07		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Collected: NA
Date Received: NA
Date Analyzed: 4/16/10 1407

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1002770-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002807-05

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,1-Dichloropropene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	4/19/10 12:15		197085	
1,2-Dibromoethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2-Dichloroethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,2-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,3-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
2,2-Dichloropropane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
2-Butanone (MEK)	5.0	U	5.0	1	NA	4/19/10 12:15		197085	
2-Chlorotoluene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
2-Hexanone	5.0	U	5.0	1	NA	4/19/10 12:15		197085	
4-Chlorotoluene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
p-Isopropyltoluene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	4/19/10 12:15		197085	
Acetone	10	U	10	1	NA	4/19/10 12:15		197085	
Acrylonitrile	100	U	100	1	NA	4/19/10 12:15		197085	
Benzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Bromobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Bromochloromethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Bromodichloromethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002807-05

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Bromomethane	2.0	U	2.0	1	NA	4/19/10 12:15		197085	
Carbon Tetrachloride	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Chlorobenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Chloroethane	2.0	U	2.0	1	NA	4/19/10 12:15		197085	
Chloroform	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Chloromethane	2.0	U	2.0	1	NA	4/19/10 12:15		197085	
Dibromochloromethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Dibromomethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Dichloromethane	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Ethylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Hexachlorobutadiene	0.60	U	0.60	1	NA	4/19/10 12:15		197085	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Naphthalene	5.0	U	5.0	1	NA	4/19/10 12:15		197085	
Styrene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Toluene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
Vinyl Chloride	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
m,p-Xylenes	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
n-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
n-Propylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
o-Xylene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
sec-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
tert-Butylbenzene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	4/19/10 12:15		197085	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	4/19/10 12:15		197085	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1002807-05

Service Request: R1001879
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	4/19/10 12:15		
Dibromofluoromethane	110	89-119	4/19/10 12:15		
Toluene-d8	102	87-121	4/19/10 12:15		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Collected: NA
Date Received: NA
Date Analyzed: 4/19/10 1215

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1002807-05

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Analyzed: 4/14/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L**Basis:** NA

Analyte Name	Method	Lab Control Sample R1001879-LCS			Duplicate Lab Control Sample R1001879-DLCS			% Rec Limits		RPD
		Result	Expected	% Rec	Result	Expected	% Rec	Limits	RPD	Limit
Oil and Grease, Nonpolar (SGT-HEM)	1664	22.8	22.0	104	22.1	22.0	101	64 - 132	3	34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: HVEC - 4/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1001879
 Date Analyzed: 4/16/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 196900

Analyte Name	Lab Control Sample RQ1002770-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	23.7	20.0	118	70 - 130
1,1,1-Trichloroethane (TCA)	23.7	20.0	119	70 - 130
1,1,2,2-Tetrachloroethane	21.0	20.0	105	70 - 130
1,1,2-Trichloroethane	21.9	20.0	110	70 - 130
1,1-Dichloroethane (1,1-DCA)	21.6	20.0	108	70 - 130
1,1-Dichloroethene (1,1-DCE)	20.8	20.0	104	70 - 130
1,1-Dichloropropene	22.8	20.0	114	70 - 130
1,2,3-Trichlorobenzene	21.1	20.0	106	70 - 130
1,2,3-Trichloropropane	22.6	20.0	113	70 - 130
1,2,4-Trichlorobenzene	20.7	20.0	104	70 - 130
1,2,4-Trimethylbenzene	22.4	20.0	112	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	23.6	20.0	118	50 - 150
1,2-Dibromoethane	22.3	20.0	112	70 - 130
1,2-Dichlorobenzene	21.3	20.0	106	70 - 130
1,2-Dichloroethane	23.5	20.0	117	70 - 130
1,2-Dichloropropane	21.0	20.0	105	70 - 130
1,3,5-Trimethylbenzene	21.8	20.0	109	70 - 130
1,3-Dichlorobenzene	21.6	20.0	108	70 - 130
1,3-Dichloropropane	20.5	20.0	103	70 - 130
1,4-Dichlorobenzene	21.4	20.0	107	70 - 130
2,2-Dichloropropane	21.6	20.0	108	70 - 130
2-Butanone (MEK)	17.8	20.0	89	50 - 150
2-Chlorotoluene	21.5	20.0	108	70 - 130
2-Hexanone	17.2	20.0	86	70 - 130
4-Chlorotoluene	21.9	20.0	109	70 - 130
p-Isopropyltoluene	21.9	20.0	109	70 - 130
4-Methyl-2-pentanone	18.8	20.0	94	70 - 130
Acetone	20.4	20.0	102	50 - 150
Acrylonitrile	97.3	100	97	50 - 150
Benzene	21.3	20.0	107	70 - 130
Bromobenzene	21.9	20.0	109	70 - 130
Bromochloromethane	21.8	20.0	109	70 - 130
Bromodichloromethane	23.9	20.0	120	70 - 130
Bromoform	26.9	20.0	134	* 70 - 130
Bromomethane	19.1	20.0	95	50 - 150
Carbon Tetrachloride	26.2	20.0	131	* 70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: HVEC - 4/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1001879
 Date Analyzed: 4/16/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 196900

Analyte Name	Lab Control Sample RQ1002770-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	22.0	20.0	110	70 - 130
Chloroethane	20.3	20.0	101	70 - 130
Chloroform	22.6	20.0	113	70 - 130
Chloromethane	20.4	20.0	102	70 - 130
Dibromochloromethane	26.0	20.0	130	70 - 130
Dibromomethane	21.6	20.0	108	70 - 130
Dichloromethane	20.5	20.0	102	70 - 130
Ethylbenzene	22.4	20.0	112	70 - 130
Hexachlorobutadiene	22.7	20.0	113	70 - 130
Isopropylbenzene (Cumene)	23.9	20.0	119	70 - 130
Naphthalene	21.5	20.0	108	50 - 150
Styrene	21.2	20.0	106	70 - 130
Tetrachloroethene (PCE)	23.6	20.0	118	70 - 130
Toluene	21.9	20.0	109	70 - 130
Trichloroethene (TCE)	23.0	20.0	115	70 - 130
Trichlorofluoromethane (CFC 11)	25.2	20.0	126	70 - 130
Vinyl Chloride	21.6	20.0	108	70 - 130
cis-1,2-Dichloroethene	20.9	20.0	105	70 - 130
cis-1,3-Dichloropropene	20.3	20.0	102	70 - 130
m,p-Xylenes	43.4	40.0	109	70 - 130
n-Butylbenzene	21.2	20.0	106	70 - 130
n-Propylbenzene	21.8	20.0	109	70 - 130
o-Xylene	21.2	20.0	106	70 - 130
sec-Butylbenzene	21.7	20.0	109	70 - 130
tert-Butylbenzene	21.6	20.0	108	70 - 130
trans-1,2-Dichloroethene	21.3	20.0	106	70 - 130
trans-1,3-Dichloropropene	21.4	20.0	107	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: HVEC - 4/10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1001879
 Date Analyzed: 4/19/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 197085

Analyte Name	Lab Control Sample RQ1002807-06			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	21.2	20.0	106	70 - 130
1,1,1-Trichloroethane (TCA)	21.6	20.0	108	70 - 130
1,1,2,2-Tetrachloroethane	19.1	20.0	96	70 - 130
1,1,2-Trichloroethane	19.6	20.0	98	70 - 130
1,1-Dichloroethane (1,1-DCA)	20.6	20.0	103	70 - 130
1,1-Dichloroethene (1,1-DCE)	19.1	20.0	95	70 - 130
1,1-Dichloropropene	19.6	20.0	98	70 - 130
1,2,3-Trichlorobenzene	18.1	20.0	91	70 - 130
1,2,3-Trichloropropane	20.3	20.0	102	70 - 130
1,2,4-Trichlorobenzene	17.9	20.0	90	70 - 130
1,2,4-Trimethylbenzene	19.2	20.0	96	70 - 130
1,2-Dibromo-3-chloropropane (DBCP)	19.6	20.0	98	50 - 150
1,2-Dibromoethane	19.8	20.0	99	70 - 130
1,2-Dichlorobenzene	18.7	20.0	94	70 - 130
1,2-Dichloroethane	21.8	20.0	109	70 - 130
1,2-Dichloropropane	19.0	20.0	95	70 - 130
1,3,5-Trimethylbenzene	18.8	20.0	94	70 - 130
1,3-Dichlorobenzene	18.9	20.0	95	70 - 130
1,3-Dichloropropane	19.1	20.0	96	70 - 130
1,4-Dichlorobenzene	18.8	20.0	94	70 - 130
2,2-Dichloropropane	21.2	20.0	106	70 - 130
2-Butanone (MEK)	19.5	20.0	98	50 - 150
2-Chlorotoluene	18.9	20.0	94	70 - 130
2-Hexanone	16.9	20.0	85	70 - 130
4-Chlorotoluene	19.1	20.0	95	70 - 130
p-Isopropyltoluene	18.7	20.0	94	70 - 130
4-Methyl-2-pentanone	17.7	20.0	89	70 - 130
Acetone	21.5	20.0	108	50 - 150
Acrylonitrile	96.7	100	97	50 - 150
Benzene	18.7	20.0	94	70 - 130
Bromobenzene	19.3	20.0	96	70 - 130
Bromochloromethane	20.6	20.0	103	70 - 130
Bromodichloromethane	21.6	20.0	108	70 - 130
Bromoform	23.5	20.0	117	70 - 130
Bromomethane	17.9	20.0	89	50 - 150
Carbon Tetrachloride	22.6	20.0	113	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC - 4/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1001879
Date Analyzed: 4/19/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 197085

Analyte Name	Lab Control Sample RQ1002807-06			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	19.7	20.0	98	70 - 130
Chloroethane	18.9	20.0	94	70 - 130
Chloroform	21.3	20.0	106	70 - 130
Chloromethane	19.3	20.0	96	70 - 130
Dibromochloromethane	23.0	20.0	115	70 - 130
Dibromomethane	19.9	20.0	99	70 - 130
Dichloromethane	20.7	20.0	103	70 - 130
Ethylbenzene	19.4	20.0	97	70 - 130
Hexachlorobutadiene	19.9	20.0	100	70 - 130
Isopropylbenzene (Cumene)	20.3	20.0	102	70 - 130
Naphthalene	18.4	20.0	92	50 - 150
Styrene	18.5	20.0	92	70 - 130
Tetrachloroethene (PCE)	20.0	20.0	100	70 - 130
Toluene	19.3	20.0	96	70 - 130
Trichloroethene (TCE)	19.2	20.0	96	70 - 130
Trichlorofluoromethane (CFC 11)	23.4	20.0	117	70 - 130
Vinyl Chloride	20.2	20.0	101	70 - 130
cis-1,2-Dichloroethene	19.3	20.0	96	70 - 130
cis-1,3-Dichloropropene	18.6	20.0	93	70 - 130
m,p-Xylenes	37.8	40.0	95	70 - 130
n-Butylbenzene	18.5	20.0	92	70 - 130
n-Propylbenzene	18.8	20.0	94	70 - 130
o-Xylene	18.3	20.0	92	70 - 130
sec-Butylbenzene	18.6	20.0	93	70 - 130
tert-Butylbenzene	18.3	20.0	92	70 - 130
trans-1,2-Dichloroethene	20.8	20.0	104	70 - 130
trans-1,3-Dichloropropene	19.3	20.0	97	70 - 130

Comments: _____



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859/585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

CAS Contact	SR #
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[illegible]

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1102-08

Cooler Receipt And Preservation Check Form

Project/Client GEOTRANS Submission Number R10-1879

Cooler received on 4/9/10 by: BD COURIER: CAS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did any VOA vials have significant* air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO mostly melted
- Where did the bottles originate? CAS/ROC CLIENT
- Temperature of cooler(s) upon receipt: 85

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 4/9/10 @ 0922

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: OK to test

PC Secondary Review: C 4/13/10 R Gady Kynicko

Cooler Breakdown: Date: 4/9/10 by: muc

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4109050</u>	<u>2111</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust:

Bottle lot numbers: 9-308-001, 612510-10

Other Comments:

TPH HCl lot: 152800018 exp: 2115

PC Secondary Review: C 4/13/10 *significant air bubbles are greater than 5-6 mm

H:\SMODOCS\Cooler Receipt 2.doc

00034

June 02, 2010

Service Request No: R1002608

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: HVEC 5-10/117-7013.001.01

Dear Mr. Bridge:

Enclosed are the results of the sample(s) submitted to our laboratory on May 14, 2010. For your reference, these analyses have been assigned our service request number **R1002608**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Carlton Beechler
Project Manager

Page 1 of 28

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC – 5/10
Sample Matrix: Water

Service Request No.: R1002608
Date Received: 5/14/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 5/14/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

No analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

No analytical or quality control problems were encountered during analysis.

Approved by _____

Date

6/2/10

00002

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01

Service Request: R1002608

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1002608-001	TB-051310	5/13/10	07:00
R1002608-002	INF-051310	5/13/10	10:45
R1002608-003	EFF-051310	5/13/10	10:43

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-051310
Lab Code: R1002608-001

Service Request: R1002608
Date Collected: 5/13/10 0700
Date Received: 5/14/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,1-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	5/26/10 12:42		202233	
1,2-Dibromoethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2-Dichloroethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,3-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
2,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
2-Butanone (MEK)	5.0	U	5.0	1	NA	5/26/10 12:42		202233	
2-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
2-Hexanone	5.0	U	5.0	1	NA	5/26/10 12:42		202233	
4-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
p-Isopropyltoluene	5.0	U	5.0	1	NA	5/26/10 12:42		202233	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	5/26/10 12:42		202233	
Acetone	10	U	10	1	NA	5/26/10 12:42		202233	
Acrylonitrile	100	U	100	1	NA	5/26/10 12:42		202233	
Benzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Bromobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Bromochloromethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Bromodichloromethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-051310
Lab Code: R1002608-001

Service Request: R1002608
Date Collected: 5/13/10 0700
Date Received: 5/14/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Bromomethane	2.0	U	2.0	1	NA	5/26/10 12:42		202233	
Carbon Tetrachloride	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Chlorobenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Chloroethane	2.0	U	2.0	1	NA	5/26/10 12:42		202233	
Chloroform	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Chloromethane	2.0	U	2.0	1	NA	5/26/10 12:42		202233	
Dibromochloromethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Dibromomethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Dichloromethane	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Ethylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Hexachlorobutadiene	0.60	U	0.60	1	NA	5/26/10 12:42		202233	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Naphthalene	5.0	U	5.0	1	NA	5/26/10 12:42		202233	
Styrene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Toluene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
Vinyl Chloride	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
m,p-Xylenes	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
n-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
n-Propylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
o-Xylene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
sec-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
tert-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 12:42		202233	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	5/26/10 12:42		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-051310
Lab Code: R1002608-001

Service Request: R1002608
Date Collected: 5/13/10 0700
Date Received: 5/14/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	5/26/10 12:42		
Dibromofluoromethane	102	89-119	5/26/10 12:42		
Toluene-d8	101	87-121	5/26/10 12:42		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Collected: 5/13/10
Date Received: 5/14/10
Date Analyzed: 5/26/10 1242

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: TB-051310
Lab Code: R1002608-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-051310
Lab Code: R1002608-002

Service Request: R1002608
Date Collected: 5/13/10 1045
Date Received: 5/14/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	5/27/10 08:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: HVEC 5-10/117-7013.001.01
 Sample Matrix: Water
 Sample Name: INF-051310
 Lab Code: R1002608-002

Service Request: R1002608
 Date Collected: 5/13/10 1045
 Date Received: 5/14/10
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,1,1-Trichloroethane (TCA)	240		2.5	2.5	NA	5/26/10 13:13		202233	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,1-Dichloroethane (1,1-DCA)	8.4		2.5	2.5	NA	5/26/10 13:13		202233	
1,1-Dichloroethene (1,1-DCE)	15		2.5	2.5	NA	5/26/10 13:13		202233	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	5/26/10 13:13		202233	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
2-Butanone (MEK)	13	U	13	2.5	NA	5/26/10 13:13		202233	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
2-Hexanone	13	U	13	2.5	NA	5/26/10 13:13		202233	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
p-Isopropyltoluene	13	U	13	2.5	NA	5/26/10 13:13		202233	
4-Methyl-2-pentanone	13	U	13	2.5	NA	5/26/10 13:13		202233	
Acetone	25	U	25	2.5	NA	5/26/10 13:13		202233	
Acrylonitrile	250	U	250	2.5	NA	5/26/10 13:13		202233	
Benzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Bromobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Bromochloromethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Bromodichloromethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-051310
Lab Code: R1002608-002

Service Request: R1002608
Date Collected: 5/13/10 1045
Date Received: 5/14/10

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Bromomethane	5.0	U	5.0	2.5	NA	5/26/10 13:13		202233	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Chlorobenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Chloroethane	5.0	U	5.0	2.5	NA	5/26/10 13:13		202233	
Chloroform	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Chloromethane	5.0	U	5.0	2.5	NA	5/26/10 13:13		202233	
Dibromochloromethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Dibromomethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Dichloromethane	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Ethylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	5/26/10 13:13		202233	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Naphthalene	13	U	13	2.5	NA	5/26/10 13:13		202233	
Styrene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Tetrachloroethene (PCE)	420		2.5	2.5	NA	5/26/10 13:13		202233	
Toluene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Trichloroethene (TCE)	35		2.5	2.5	NA	5/26/10 13:13		202233	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
Vinyl Chloride	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
cis-1,2-Dichloroethene	4.2		2.5	2.5	NA	5/26/10 13:13		202233	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
m,p-Xylenes	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
n-Butylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
n-Propylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
o-Xylene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	5/26/10 13:13		202233	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	5/26/10 13:13		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-051310
Lab Code: R1002608-002

Service Request: R1002608
Date Collected: 5/13/10 1045
Date Received: 5/14/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	5/26/10 13:13		
Dibromofluoromethane	102	89-119	5/26/10 13:13		
Toluene-d8	102	87-121	5/26/10 13:13		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Collected: 5/13/10
Date Received: 5/14/10
Date Analyzed: 5/26/10 1313

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: INF-051310
Lab Code: R1002608-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-051310
Lab Code: R1002608-003

Service Request: R1002608
Date Collected: 5/13/10 1043
Date Received: 5/14/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	5/27/10 08:30

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-051310
Lab Code: R1002608-003

Service Request: R1002608
Date Collected: 5/13/10 1043
Date Received: 5/14/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,1-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	5/26/10 13:44		202233	
1,2-Dibromoethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2-Dichloroethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,3-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
2,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
2-Butanone (MEK)	5.0	U	5.0	1	NA	5/26/10 13:44		202233	
2-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
2-Hexanone	5.0	U	5.0	1	NA	5/26/10 13:44		202233	
4-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
p-Isopropyltoluene	5.0	U	5.0	1	NA	5/26/10 13:44		202233	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	5/26/10 13:44		202233	
Acetone	10	U	10	1	NA	5/26/10 13:44		202233	
Acrylonitrile	100	U	100	1	NA	5/26/10 13:44		202233	
Benzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Bromobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Bromochloromethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Bromodichloromethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-051310
Lab Code: R1002608-003

Service Request: R1002608
Date Collected: 5/13/10 1043
Date Received: 5/14/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Bromomethane	2.0	U	2.0	1	NA	5/26/10 13:44		202233	
Carbon Tetrachloride	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Chlorobenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Chloroethane	2.0	U	2.0	1	NA	5/26/10 13:44		202233	
Chloroform	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Chloromethane	2.0	U	2.0	1	NA	5/26/10 13:44		202233	
Dibromochloromethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Dibromomethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Dichloromethane	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Ethylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Hexachlorobutadiene	0.60	U	0.60	1	NA	5/26/10 13:44		202233	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Naphthalene	5.0	U	5.0	1	NA	5/26/10 13:44		202233	
Styrene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Toluene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
Vinyl Chloride	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
m,p-Xylenes	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
n-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
n-Propylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
o-Xylene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
sec-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
tert-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 13:44		202233	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	5/26/10 13:44		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-051310
Lab Code: R1002608-003

Service Request: R1002608
Date Collected: 5/13/10 1043
Date Received: 5/14/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	5/26/10 13:44		
Dibromofluoromethane	103	89-119	5/26/10 13:44		
Toluene-d8	102	87-121	5/26/10 13:44		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Collected: 5/13/10
Date Received: 5/14/10
Date Analyzed: 5/26/10 1344

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: EFF-051310
Lab Code: R1002608-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1002608-MB

Service Request: R1002608
Date Collected: NA
Date Received: NA
Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	5/27/10 08:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1004122-01

Service Request: R1002608
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,1-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	5/26/10 11:09		202233	
1,2-Dibromoethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2-Dichloroethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,3-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
2,2-Dichloropropane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
2-Butanone (MEK)	5.0	U	5.0	1	NA	5/26/10 11:09		202233	
2-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
2-Hexanone	5.0	U	5.0	1	NA	5/26/10 11:09		202233	
4-Chlorotoluene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
p-Isopropyltoluene	5.0	U	5.0	1	NA	5/26/10 11:09		202233	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	5/26/10 11:09		202233	
Acetone	10	U	10	1	NA	5/26/10 11:09		202233	
Acrylonitrile	100	U	100	1	NA	5/26/10 11:09		202233	
Benzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Bromobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Bromochloromethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Bromodichloromethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1004122-01

Service Request: R1002608
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Bromomethane	2.0	U	2.0	1	NA	5/26/10 11:09		202233	
Carbon Tetrachloride	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Chlorobenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Chloroethane	2.0	U	2.0	1	NA	5/26/10 11:09		202233	
Chloroform	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Chloromethane	2.0	U	2.0	1	NA	5/26/10 11:09		202233	
Dibromochloromethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Dibromomethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Dichloromethane	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Ethylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Hexachlorobutadiene	0.60	U	0.60	1	NA	5/26/10 11:09		202233	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Naphthalene	5.0	U	5.0	1	NA	5/26/10 11:09		202233	
Styrene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Toluene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
Vinyl Chloride	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
m,p-Xylenes	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
n-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
n-Propylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
o-Xylene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
sec-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
tert-Butylbenzene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	5/26/10 11:09		202233	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	5/26/10 11:09		202233	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1004122-01

Service Request: R1002608
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	94	85-122	5/26/10 11:09		
Dibromofluoromethane	103	89-119	5/26/10 11:09		
Toluene-d8	100	87-121	5/26/10 11:09		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Collected: NA
Date Received: NA
Date Analyzed: 5/26/10 1109

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1004122-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Analyzed: 5/27/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample R1002608-LCS			Duplicate Lab Control Sample R1002608-DLCS			% Rec Limits	RPD	RPD Limit
		Result	Expected	% Rec	Result	Expected	% Rec			
Oil and Grease, Nonpolar (SGT-HEM)	1664	20.4	22.8	90	20.7	22.8	91	64 - 132	1	34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: HVEC 5-10/117-7013.001.01
 Sample Matrix: Water

Service Request: R1002608
 Date Analyzed: 5/26/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 202233

Analyte Name	Lab Control Sample RQ1004122-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	22.0	20.0	110	78 - 127
1,1,1-Trichloroethane (TCA)	20.9	20.0	105	72 - 128
1,1,2,2-Tetrachloroethane	21.1	20.0	106	72 - 131
1,1,2-Trichloroethane	20.5	20.0	102	80 - 122
1,1-Dichloroethane (1,1-DCA)	19.5	20.0	98	76 - 122
1,1-Dichloroethene (1,1-DCE)	21.6	20.0	108	72 - 129
1,1-Dichloropropene	20.2	20.0	101	77 - 126
1,2,3-Trichlorobenzene	20.5	20.0	103	68 - 135
1,2,3-Trichloropropane	20.1	20.0	100	75 - 122
1,2,4-Trichlorobenzene	19.3	20.0	96	70 - 133
1,2,4-Trimethylbenzene	18.8	20.0	94	77 - 127
1,2-Dibromo-3-chloropropane (DBCP)	23.4	20.0	117	62 - 131
1,2-Dibromoethane	20.9	20.0	105	78 - 125
1,2-Dichlorobenzene	19.4	20.0	97	79 - 124
1,2-Dichloroethane	20.7	20.0	104	78 - 126
1,2-Dichloropropane	19.4	20.0	97	80 - 123
1,3,5-Trimethylbenzene	19.2	20.0	96	75 - 128
1,3-Dichlorobenzene	19.2	20.0	96	78 - 124
1,3-Dichloropropane	20.0	20.0	100	80 - 121
1,4-Dichlorobenzene	18.5	20.0	93	78 - 123
2,2-Dichloropropane	25.1	20.0	126	51 - 142
2-Butanone (MEK)	19.3	20.0	96	60 - 133
2-Chlorotoluene	18.3	20.0	91	76 - 122
2-Hexanone	21.0	20.0	105	61 - 131
4-Chlorotoluene	19.1	20.0	95	78 - 125
p-Isopropyltoluene	19.2	20.0	96	70 - 134
4-Methyl-2-pentanone	21.7	20.0	109	61 - 132
Acetone	24.6	20.0	123	59 - 140
Acrylonitrile	110	100	110	69 - 133
Benzene	19.5	20.0	98	78 - 121
Bromobenzene	19.5	20.0	97	79 - 120
Bromochloromethane	21.0	20.0	105	80 - 124
Bromodichloromethane	21.0	20.0	105	80 - 125
Bromoform	23.8	20.0	119	73 - 132
Bromomethane	25.4	20.0	127	57 - 144
Carbon Tetrachloride	22.9	20.0	115	69 - 135

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: HVEC 5-10/117-7013.001.01
Sample Matrix: Water

Service Request: R1002608
Date Analyzed: 5/26/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 202233

Analyte Name	Lab Control Sample RQ1004122-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	19.0	20.0	95	80 - 121
Chloroethane	21.9	20.0	109	71 - 130
Chloroform	20.1	20.0	100	78 - 125
Chloromethane	18.8	20.0	94	62 - 133
Dibromochloromethane	25.1	20.0	126	78 - 133
Dibromomethane	20.8	20.0	104	79 - 120
Dichloromethane	19.3	20.0	97	75 - 125
Ethylbenzene	19.5	20.0	98	78 - 123
Hexachlorobutadiene	20.5	20.0	102	49 - 151
Isopropylbenzene (Cumene)	20.4	20.0	102	73 - 133
Naphthalene	21.5	20.0	108	70 - 131
Styrene	18.8	20.0	94	80 - 132
Tetrachloroethene (PCE)	20.6	20.0	103	72 - 131
Toluene	19.7	20.0	98	78 - 122
Trichloroethene (TCE)	19.8	20.0	99	74 - 127
Trichlorofluoromethane (CFC 11)	23.1	20.0	116	71 - 139
Vinyl Chloride	20.4	20.0	102	71 - 136
cis-1,2-Dichloroethene	19.6	20.0	98	78 - 122
cis-1,3-Dichloropropene	20.6	20.0	103	77 - 125
m,p-Xylenes	39.3	40.0	98	79 - 126
n-Butylbenzene	19.7	20.0	98	66 - 138
n-Propylbenzene	19.2	20.0	96	72 - 127
o-Xylene	18.9	20.0	94	79 - 126
sec-Butylbenzene	18.9	20.0	95	71 - 139
tert-Butylbenzene	18.9	20.0	95	71 - 130
trans-1,2-Dichloroethene	19.4	20.0	97	75 - 121
trans-1,3-Dichloropropene	22.5	20.0	113	69 - 127

Comments: _____

Cooler Receipt And Preservation Check Form

Project/Client GeoTrans - HVEC Submission Number 210-2608

Cooler received on 5/14/10 by: AM COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 0°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes
 If No, Explain Below No No No No No

Date/Time Temperatures Taken: 5/14/10 0944

Thermometer ID: IR GUN#3 IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples:

PC Secondary Review: CS/14/10

Cooler Breakdown: Date: 5/14/10 by: BD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-						
	Zn Aceta	-	-						
	HCl	*	*	<u>4109050</u>	<u>4/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: 9-356-001, 022210-14
 Other Comments: _____

PC Secondary Review: CS/17/10

*significant air bubbles are greater than 5-6 mm

00028

July 02, 2010

Service Request No: R1003304

Mr. Jonathan Bridge
GeoTrans, Inc.
12 Spring Street
Suite 102
Schuylerville, NY 12871

Laboratory Results for: Monthly HVEC/117-7013.001.01

Dear Mr. Bridge:

Enclosed are the results of the sample(s) submitted to our laboratory on June 19, 2010. For your reference, these analyses have been assigned our service request number **R1003304**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 130. You may also contact me via email at CBeechler@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Carlton Beechler
Project Manager

Page 1 of 28

COLUMBIA ANALYTICAL SERVICES, INC.

Client: GeoTrans, Inc.
Project: HVEC - 6/10
Sample Matrix: Water

Service Request No.: R1003304
Date Received: 6/19/10

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD).

Sample Receipt

Two water samples and one trip blank were received for analysis at Columbia Analytical Services on 6/19/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator between 1°C and 6°C upon receipt at the laboratory.

General Chemistry Parameters

No analytical or quality control problems were encountered during analysis.

Volatile Organic Compounds by EPA Method 8260B

A Library Search against the NIST/EPA library was conducted on each of the samples and blanks for the 8260B analysis. The 30 largest peaks, within 10% of the nearest Internal Standard, were searched. A summary of detected peaks is included following the Target data. Any analytes detected are quantitated based on the closest Internal Standard and are reported flagged with a "J" as estimated. The flag "N" on a TIC compound indicates the presumptive evidence of a particular compound.

Bis(chloromethyl)ether is a standard the CAS does not purchase due to its high cost and hazardous nature. Results are based on a Library Search against the NIST/EPA library. This Library Search for bis(chloromethyl)ether was conducted on the sample and blanks for 8260B analysis. A summary of detected peaks is included following the Target data. No bis(chloromethyl)ether was found.

No analytical or quality control problems were encountered during analysis.

Approved by _____

Date _____

7/2/10

00002

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01

Service Request: R1003304

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1003304-001	INF-061810	6/18/10	10:00
R1003304-002	EFF-061810	6/18/10	10:00
R1003304-003	TB-061810	6/18/10	

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for State Certifications¹

NELAP Accredited	Nevada ID # NY-00032
Delaware Accredited	New Jersey ID # NY004
Connecticut ID # PH0556	New York ID # 10145
Florida ID # E87674	New Hampshire ID # 294100 A/B
Illinois ID #200047	Pennsylvania ID# 68-786
Maine ID #NY0032	Rhode Island ID # 158
Nebraska Accredited	West Virginia ID # 292
Navy Facilities Engineering Service Center Approved	

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-061810
Lab Code: R1003304-001

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	6/24/10 08:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC/117-7013.001.01
 Sample Matrix: Water
 Sample Name: INF-061810
 Lab Code: R1003304-001

Service Request: R1003304
 Date Collected: 6/18/10 1000
 Date Received: 6/19/10
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,1,1-Trichloroethane (TCA)	200		2.5	2.5	NA	6/30/10 02:59		206701	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,1,2-Trichloroethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,1-Dichloroethane (1,1-DCA)	8.5		2.5	2.5	NA	6/30/10 02:59		206701	
1,1-Dichloroethene (1,1-DCE)	13		2.5	2.5	NA	6/30/10 02:59		206701	
1,1-Dichloropropene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2,3-Trichlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2,3-Trichloropropane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2,4-Trimethylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	2.5	NA	6/30/10 02:59		206701	
1,2-Dibromoethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2-Dichlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2-Dichloroethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,2-Dichloropropane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,3,5-Trimethylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,3-Dichlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,3-Dichloropropane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
1,4-Dichlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
2,2-Dichloropropane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
2-Butanone (MEK)	13	U	13	2.5	NA	6/30/10 02:59		206701	
2-Chlorotoluene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
2-Hexanone	13	U	13	2.5	NA	6/30/10 02:59		206701	
4-Chlorotoluene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
p-Isopropyltoluene	13	U	13	2.5	NA	6/30/10 02:59		206701	
4-Methyl-2-pentanone	13	U	13	2.5	NA	6/30/10 02:59		206701	
Acetone	25	U	25	2.5	NA	6/30/10 02:59		206701	
Acrylonitrile	250	U	250	2.5	NA	6/30/10 02:59		206701	
Benzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Bromobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Bromochloromethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Bromodichloromethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-061810
Lab Code: R1003304-001

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Bromomethane	5.0	U	5.0	2.5	NA	6/30/10 02:59		206701	
Carbon Tetrachloride	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Chlorobenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Chloroethane	5.0	U	5.0	2.5	NA	6/30/10 02:59		206701	
Chloroform	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Chloromethane	5.0	U	5.0	2.5	NA	6/30/10 02:59		206701	
Dibromochloromethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Dibromomethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Dichloromethane	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Ethylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Hexachlorobutadiene	1.5	U	1.5	2.5	NA	6/30/10 02:59		206701	
Isopropylbenzene (Cumene)	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Naphthalene	13	U	13	2.5	NA	6/30/10 02:59		206701	
Styrene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Tetrachloroethene (PCE)	380		2.5	2.5	NA	6/30/10 02:59		206701	
Toluene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Trichloroethene (TCE)	33		2.5	2.5	NA	6/30/10 02:59		206701	
Trichlorofluoromethane (CFC 11)	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
Vinyl Chloride	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
cis-1,2-Dichloroethene	4.3		2.5	2.5	NA	6/30/10 02:59		206701	
cis-1,3-Dichloropropene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
m,p-Xylenes	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
n-Butylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
n-Propylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
o-Xylene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
sec-Butylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
tert-Butylbenzene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
trans-1,2-Dichloroethene	2.5	U	2.5	2.5	NA	6/30/10 02:59		206701	
trans-1,3-Dichloropropene	1.3	U	1.3	2.5	NA	6/30/10 02:59		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: INF-061810
Lab Code: R1003304-001

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	6/30/10 02:59		
Dibromofluoromethane	108	89-119	6/30/10 02:59		
Toluene-d8	107	87-121	6/30/10 02:59		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Collected: 6/18/10
Date Received: 6/19/10
Date Analyzed: 6/30/10 0259

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: INF-061810
Lab Code: R1003304-001

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-061810
Lab Code: R1003304-002

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10

Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	6/24/10 08:00

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-061810
Lab Code: R1003304-002

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,1-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	6/30/10 03:29		206701	
1,2-Dibromoethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2-Dichloroethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,3-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
2,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
2-Butanone (MEK)	5.0	U	5.0	1	NA	6/30/10 03:29		206701	
2-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
2-Hexanone	5.0	U	5.0	1	NA	6/30/10 03:29		206701	
4-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
p-Isopropyltoluene	5.0	U	5.0	1	NA	6/30/10 03:29		206701	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	6/30/10 03:29		206701	
Acetone	10	U	10	1	NA	6/30/10 03:29		206701	
Acrylonitrile	100	U	100	1	NA	6/30/10 03:29		206701	
Benzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Bromobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Bromochloromethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Bromodichloromethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-061810
Lab Code: R1003304-002

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Bromomethane	2.0	U	2.0	1	NA	6/30/10 03:29		206701	
Carbon Tetrachloride	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Chlorobenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Chloroethane	2.0	U	2.0	1	NA	6/30/10 03:29		206701	
Chloroform	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Chloromethane	2.0	U	2.0	1	NA	6/30/10 03:29		206701	
Dibromochloromethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Dibromomethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Dichloromethane	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Ethylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Hexachlorobutadiene	0.60	U	0.60	1	NA	6/30/10 03:29		206701	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Naphthalene	5.0	U	5.0	1	NA	6/30/10 03:29		206701	
Styrene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Toluene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
Vinyl Chloride	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
m,p-Xylenes	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
n-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
n-Propylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
o-Xylene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
sec-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
tert-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 03:29		206701	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	6/30/10 03:29		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: EFF-061810
Lab Code: R1003304-002

Service Request: R1003304
Date Collected: 6/18/10 1000
Date Received: 6/19/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	6/30/10 03:29		
Dibromofluoromethane	107	89-119	6/30/10 03:29		
Toluene-d8	107	87-121	6/30/10 03:29		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Collected: 6/18/10
Date Received: 6/19/10
Date Analyzed: 6/30/10 0329

Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS

Sample Name: EFF-061810
Lab Code: R1003304-002

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC/117-7013.001.01
 Sample Matrix: Water
 Sample Name: TB-061810
 Lab Code: R1003304-003

Service Request: R1003304
 Date Collected: 6/18/10
 Date Received: 6/19/10
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,1-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	6/30/10 04:00		206701	
1,2-Dibromoethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2-Dichloroethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,3-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
2,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
2-Butanone (MEK)	5.0	U	5.0	1	NA	6/30/10 04:00		206701	
2-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
2-Hexanone	5.0	U	5.0	1	NA	6/30/10 04:00		206701	
4-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
p-Isopropyltoluene	5.0	U	5.0	1	NA	6/30/10 04:00		206701	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	6/30/10 04:00		206701	
Acetone	10	U	10	1	NA	6/30/10 04:00		206701	
Acrylonitrile	100	U	100	1	NA	6/30/10 04:00		206701	
Benzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Bromobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Bromochloromethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Bromodichloromethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-061810
Lab Code: R1003304-003

Service Request: R1003304
Date Collected: 6/18/10
Date Received: 6/19/10
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Bromomethane	2.0	U	2.0	1	NA	6/30/10 04:00		206701	
Carbon Tetrachloride	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Chlorobenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Chloroethane	2.0	U	2.0	1	NA	6/30/10 04:00		206701	
Chloroform	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Chloromethane	2.0	U	2.0	1	NA	6/30/10 04:00		206701	
Dibromochloromethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Dibromomethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Dichloromethane	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Ethylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Hexachlorobutadiene	0.60	U	0.60	1	NA	6/30/10 04:00		206701	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Naphthalene	5.0	U	5.0	1	NA	6/30/10 04:00		206701	
Styrene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Toluene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
Vinyl Chloride	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
m,p-Xylenes	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
n-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
n-Propylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
o-Xylene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
sec-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
tert-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 04:00		206701	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	6/30/10 04:00		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: TB-061810
Lab Code: R1003304-003

Service Request: R1003304
Date Collected: 6/18/10
Date Received: 6/19/10
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	6/30/10 04:00		
Dibromofluoromethane	105	89-119	6/30/10 04:00		
Toluene-d8	106	87-121	6/30/10 04:00		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Collected: 6/18/10
Date Received: 6/19/10
Date Analyzed: 6/30/10 0400

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: TB-061810
Lab Code: R1003304-003

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1003304-MB

Service Request: R1003304
Date Collected: NA
Date Received: NA
Basis: NA

Oil and Grease, HEM Silica Gel Treated

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	6/24/10 08:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1005240-01

Service Request: R1003304
Date Collected: NA
Date Received: NA
Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1,2-Trichloroethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,1-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2,3-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2,3-Trichloropropane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2,4-Trichlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2,4-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	1	NA	6/30/10 00:57		206701	
1,2-Dibromoethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2-Dichloroethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,3,5-Trimethylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,3-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,3-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
1,4-Dichlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
2,2-Dichloropropane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
2-Butanone (MEK)	5.0	U	5.0	1	NA	6/30/10 00:57		206701	
2-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
2-Hexanone	5.0	U	5.0	1	NA	6/30/10 00:57		206701	
4-Chlorotoluene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
p-Isopropyltoluene	5.0	U	5.0	1	NA	6/30/10 00:57		206701	
4-Methyl-2-pentanone	5.0	U	5.0	1	NA	6/30/10 00:57		206701	
Acetone	10	U	10	1	NA	6/30/10 00:57		206701	
Acrylonitrile	100	U	100	1	NA	6/30/10 00:57		206701	
Benzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Bromobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Bromochloromethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Bromodichloromethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC/117-7013.001.01
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: RQ1005240-01

Service Request: R1003304
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Bromomethane	2.0	U	2.0	1	NA	6/30/10 00:57		206701	
Carbon Tetrachloride	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Chlorobenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Chloroethane	2.0	U	2.0	1	NA	6/30/10 00:57		206701	
Chloroform	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Chloromethane	2.0	U	2.0	1	NA	6/30/10 00:57		206701	
Dibromochloromethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Dibromomethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Dichloromethane	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Ethylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Hexachlorobutadiene	0.60	U	0.60	1	NA	6/30/10 00:57		206701	
Isopropylbenzene (Cumene)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Naphthalene	5.0	U	5.0	1	NA	6/30/10 00:57		206701	
Styrene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Tetrachloroethene (PCE)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Toluene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Trichloroethene (TCE)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
Vinyl Chloride	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
cis-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
cis-1,3-Dichloropropene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
m,p-Xylenes	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
n-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
n-Propylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
o-Xylene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
sec-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
tert-Butylbenzene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
trans-1,2-Dichloroethene	1.0	U	1.0	1	NA	6/30/10 00:57		206701	
trans-1,3-Dichloropropene	0.50	U	0.50	1	NA	6/30/10 00:57		206701	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1005240-01

Service Request: R1003304
Date Collected: NA
Date Received: NA
Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	100	85-122	6/30/10 00:57		
Dibromofluoromethane	109	89-119	6/30/10 00:57		
Toluene-d8	107	87-121	6/30/10 00:57		

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Collected: NA
Date Received: NA
Date Analyzed: 6/30/10 0057

**Tentatively Identified Compounds (TIC)
Volatile Organic Compounds by GC/MS**

Sample Name: Method Blank
Lab Code: RQ1005240-01

Units: µg/L
Basis: NA

Analytical Method: 8260B

CAS #	Analyte Name	RT	Result	Q
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No Tentatively Identified Compounds Detected.

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Analyzed: 6/24/10

Lab Control Sample Summary
Oil and Grease, HEM Silica Gel Treated

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample R1003304-LCS			Duplicate Lab Control Sample R1003304-DLCS			% Rec Limits	RPD	RPD Limit
		Result	Expected	% Rec	Result	Expected	% Rec			
Oil and Grease, Nonpolar (SGT-HEM)	1664	14.2	22.2	64	14.4	22.2	65	64 - 132	1	34

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
 Project: Monthly HVEC/117-7013.001.01
 Sample Matrix: Water

Service Request: R1003304
 Date Analyzed: 6/29/10

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 206701

Analyte Name	Lab Control Sample RQ1005240-02			% Rec Limits
	Result	Expected	% Rec	
1,1,1,2-Tetrachloroethane	20.5	20.0	102	78 - 127
1,1,1-Trichloroethane (TCA)	18.7	20.0	94	72 - 128
1,1,2,2-Tetrachloroethane	16.7	20.0	83	72 - 131
1,1,2-Trichloroethane	18.7	20.0	93	80 - 122
1,1-Dichloroethane (1,1-DCA)	18.5	20.0	92	76 - 122
1,1-Dichloroethene (1,1-DCE)	18.9	20.0	95	72 - 129
1,1-Dichloropropene	18.5	20.0	92	77 - 126
1,2,3-Trichlorobenzene	18.3	20.0	91	68 - 135
1,2,3-Trichloropropane	17.5	20.0	87	75 - 122
1,2,4-Trichlorobenzene	18.4	20.0	92	70 - 133
1,2,4-Trimethylbenzene	19.1	20.0	96	77 - 127
1,2-Dibromo-3-chloropropane (DBCP)	19.5	20.0	98	62 - 131
1,2-Dibromoethane	19.2	20.0	96	78 - 125
1,2-Dichlorobenzene	19.0	20.0	95	79 - 124
1,2-Dichloroethane	18.9	20.0	95	78 - 126
1,2-Dichloropropane	19.0	20.0	95	80 - 123
1,3,5-Trimethylbenzene	19.2	20.0	96	75 - 128
1,3-Dichlorobenzene	19.0	20.0	95	78 - 124
1,3-Dichloropropane	18.6	20.0	93	80 - 121
1,4-Dichlorobenzene	19.0	20.0	95	78 - 123
2,2-Dichloropropane	14.3	20.0	72	51 - 142
2-Butanone (MEK)	15.3	20.0	76	60 - 133
2-Chlorotoluene	18.5	20.0	92	76 - 122
2-Hexanone	16.6	20.0	83	61 - 131
4-Chlorotoluene	19.4	20.0	97	78 - 125
p-Isopropyltoluene	18.7	20.0	93	70 - 134
4-Methyl-2-pentanone	17.7	20.0	88	61 - 132
Acetone	15.9	20.0	80	59 - 140
Acrylonitrile	92.0	100	92	69 - 133
Benzene	18.2	20.0	91	78 - 121
Bromobenzene	18.7	20.0	94	79 - 120
Bromochloromethane	18.9	20.0	95	80 - 124
Bromodichloromethane	19.7	20.0	98	80 - 125
Bromoform	21.1	20.0	106	73 - 132
Bromomethane	18.4	20.0	92	57 - 144
Carbon Tetrachloride	17.8	20.0	89	69 - 135

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: GeoTrans, Inc.
Project: Monthly HVEC/117-7013.001.01
Sample Matrix: Water

Service Request: R1003304
Date Analyzed: 6/29/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 206701

Analyte Name	Lab Control Sample RQ1005240-02			% Rec Limits
	Result	Expected	% Rec	
Chlorobenzene	18.7	20.0	94	80 - 121
Chloroethane	19.3	20.0	96	71 - 130
Chloroform	19.1	20.0	95	78 - 125
Chloromethane	17.1	20.0	85	62 - 133
Dibromochloromethane	20.4	20.0	102	78 - 133
Dibromomethane	18.5	20.0	93	79 - 120
Dichloromethane	18.3	20.0	91	75 - 125
Ethylbenzene	18.6	20.0	93	78 - 123
Hexachlorobutadiene	19.9	20.0	100	49 - 151
Isopropylbenzene (Cumene)	20.4	20.0	102	73 - 133
Naphthalene	18.8	20.0	94	70 - 131
Styrene	18.5	20.0	93	80 - 132
Tetrachloroethene (PCE)	19.0	20.0	95	72 - 131
Toluene	18.7	20.0	94	78 - 122
Trichloroethene (TCE)	19.7	20.0	99	74 - 127
Trichlorofluoromethane (CFC 11)	18.8	20.0	94	71 - 139
Vinyl Chloride	18.3	20.0	92	71 - 136
cis-1,2-Dichloroethene	18.3	20.0	92	78 - 122
cis-1,3-Dichloropropene	17.5	20.0	88	77 - 125
m,p-Xylenes	37.7	40.0	94	79 - 126
n-Butylbenzene	19.3	20.0	96	66 - 138
n-Propylbenzene	18.7	20.0	94	72 - 127
o-Xylene	18.8	20.0	94	79 - 126
sec-Butylbenzene	18.9	20.0	95	71 - 139
tert-Butylbenzene	18.9	20.0	94	71 - 130
trans-1,2-Dichloroethene	18.1	20.0	90	75 - 121
trans-1,3-Dichloropropene	16.1	20.0	80	69 - 127

Comments: _____



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CAS Contact

Distribution: White - Return to Originator; Yellow - Lab Copy

Cooler Receipt And Preservation C

R1003304

GeoTrans, Inc.
Monthly HVECProject/Client Geotrans Submission NumberCooler received on 6/19/10 by: Muc COURIER: CAS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did any VOA vials have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? CAS/ROC CLIENT
7. Temperature of cooler(s) upon receipt: 4°

Is the temperature within 0° - 6° C?: Yes Yes Yes Yes Yes

If No, Explain Below No No No No No

Date/Time Temperatures Taken: 6/19/10 0934Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: YB 6/21/10Cooler Breakdown: Date: 6/21/10 by: Muc

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
 2. Did all bottle labels and tags agree with custody papers? YES NO
 3. Were correct containers used for the tests indicated? YES NO
 4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A
- Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃								
≤2	H ₂ SO ₄								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4/09/10</u>	<u>4/11</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 9-356-ccl, 041910-1P

Other Comments:

TPH HCl lot: M5280002P exp: 5/11Coc ccl sample time on TPH bottle was 1005, not 1000. Chain was followedPC Secondary Review: 06/22/10 *significant air bubbles are greater than 5-6 mm

H:\SMODOCS\Cooler Receipt 2.doc

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/9/10 07:41

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4229.D

Analysis Lot: 228334
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	240	E	1.0	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	
79-00-5	1,1,2-Trichloroethane	0.20	U	1.0	0.20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	11		1.0	0.11	
75-35-4	1,1-Dichloroethene (1,1-DCE)	16		1.0	0.37	
563-58-6	1,1-Dichloropropene	0.20	U	1.0	0.20	
87-61-6	1,2,3-Trichlorobenzene	0.29	U	1.0	0.29	
96-18-4	1,2,3-Trichloropropane	0.16	U	1.0	0.16	
120-82-1	1,2,4-Trichlorobenzene	0.23	U	1.0	0.23	
95-63-6	1,2,4-Trimethylbenzene	0.35	U	1.0	0.35	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	2.0	0.43	
106-93-4	1,2-Dibromoethane	0.18	U	1.0	0.18	
95-50-1	1,2-Dichlorobenzene	0.40	U	1.0	0.40	
107-06-2	1,2-Dichloroethane	0.15	U	1.0	0.15	
78-87-5	1,2-Dichloropropane	0.12	U	1.0	0.12	
108-67-8	1,3,5-Trimethylbenzene	0.36	U	1.0	0.36	
541-73-1	1,3-Dichlorobenzene	0.36	U	1.0	0.36	
142-28-9	1,3-Dichloropropane	0.24	U	1.0	0.24	
106-46-7	1,4-Dichlorobenzene	0.34	U	1.0	0.34	
123-91-1	1,4-Dioxane	8.7	U	100	8.7	
594-20-7	2,2-Dichloropropane	0.22	U	1.0	0.22	
78-93-3	2-Butanone (MEK)	1.0	U	5.0	1.0	
95-49-8	2-Chlorotoluene	0.38	U	1.0	0.38	
591-78-6	2-Hexanone	0.40	U	5.0	0.40	
106-43-4	4-Chlorotoluene	0.37	U	1.0	0.37	
99-87-6	p-Isopropyltoluene	0.22	U	5.0	0.22	
108-10-1	4-Methyl-2-pentanone	0.34	U	5.0	0.34	
67-64-1	Acetone	1.6	U	10	1.6	
107-13-1	Acrylonitrile	0.72	U	100	0.72	
71-43-2	Benzene	0.13	U	1.0	0.13	
108-86-1	Bromobenzene	0.33	U	1.0	0.33	
74-97-5	Bromochloromethane	0.18	U	1.0	0.18	
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17	
75-25-2	Bromoform	0.20	U	1.0	0.20	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/9/10 07:41

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4229.D

Analysis Lot: 228334
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
74-83-9	Bromomethane	0.40	U	2.0	0.40	
56-23-5	Carbon Tetrachloride	0.36	U	1.0	0.36	
108-90-7	Chlorobenzene	0.26	U	1.0	0.26	
75-00-3	Chloroethane	1.3	J	2.0	0.24	
67-66-3	Chloroform	0.17	U	1.0	0.17	
74-87-3	Chloromethane	0.19	U	2.0	0.19	
124-48-1	Dibromochloromethane	0.11	U	1.0	0.11	
74-95-3	Dibromomethane	0.17	U	1.0	0.17	
75-09-2	Dichloromethane	0.20	U	1.0	0.20	
100-41-4	Ethylbenzene	0.42	U	1.0	0.42	
87-68-3	Hexachlorobutadiene	0.69	U	0.69	0.69	
98-82-8	Isopropylbenzene (Cumene)	0.34	U	1.0	0.34	
91-20-3	Naphthalene	0.31	U	5.0	0.31	
100-42-5	Styrene	0.35	U	1.0	0.35	
127-18-4	Tetrachloroethene (PCE)	600	E	1.0	0.42	
108-88-3	Toluene	0.21	U	1.0	0.21	
79-01-6	Trichloroethene (TCE)	46		1.0	0.19	
75-69-4	Trichlorofluoromethane (CFC 11)	0.32	J	1.0	0.21	
75-01-4	Vinyl Chloride	0.15	U	1.0	0.15	
156-59-2	cis-1,2-Dichloroethene	5.0		1.0	0.12	
10061-01-5	cis-1,3-Dichloropropene	0.14	U	1.0	0.14	
179601-23-1	m,p-Xylenes	0.81	U	1.0	0.81	
104-51-8	n-Butylbenzene	0.20	U	1.0	0.20	
103-65-1	n-Propylbenzene	0.32	U	1.0	0.32	
95-47-6	o-Xylene	0.40	U	1.0	0.40	
135-98-8	sec-Butylbenzene	0.23	U	1.0	0.23	
98-06-6	tert-Butylbenzene	0.28	U	1.0	0.28	
156-60-5	trans-1,2-Dichloroethene	0.16	U	1.0	0.16	
10061-02-6	trans-1,3-Dichloropropene	0.17	U	0.50	0.17	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/9/10 07:41

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4229.D

Analysis Lot: 228334
Instrument Name: R-MS-12
Dilution Factor: 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	12/9/10 07:41	
Dibromofluoromethane	109	70-130	12/9/10 07:41	
Toluene-d8	105	70-130	12/9/10 07:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/3/10 17:02

Sample Name: INF-11-29-10
Lab Code: R1006632-001
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4124.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
630-20-6	1,1,1,2-Tetrachloroethane	0.45	U	2.5	0.45	
71-55-6	1,1,1-Trichloroethane (TCA)	190	D	2.5	0.36	
79-34-5	1,1,2,2-Tetrachloroethane	0.43	U	2.5	0.43	
79-00-5	1,1,2-Trichloroethane	0.50	U	2.5	0.50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.1	D	2.5	0.28	
75-35-4	1,1-Dichloroethene (1,1-DCE)	13	D	2.5	0.93	
563-58-6	1,1-Dichloropropene	0.50	U	2.5	0.50	
87-61-6	1,2,3-Trichlorobenzene	0.73	U	2.5	0.73	
96-18-4	1,2,3-Trichloropropane	0.40	U	2.5	0.40	
120-82-1	1,2,4-Trichlorobenzene	0.58	U	2.5	0.58	
95-63-6	1,2,4-Trimethylbenzene	0.88	U	2.5	0.88	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	1.1	U	5.0	1.1	
106-93-4	1,2-Dibromoethane	0.45	U	2.5	0.45	
95-50-1	1,2-Dichlorobenzene	1.0	U	2.5	1.0	
107-06-2	1,2-Dichloroethane	0.38	U	2.5	0.38	
78-87-5	1,2-Dichloropropane	0.30	U	2.5	0.30	
108-67-8	1,3,5-Trimethylbenzene	0.90	U	2.5	0.90	
541-73-1	1,3-Dichlorobenzene	0.90	U	2.5	0.90	
142-28-9	1,3-Dichloropropane	0.60	U	2.5	0.60	
106-46-7	1,4-Dichlorobenzene	0.86	U	2.5	0.86	
123-91-1	1,4-Dioxane	22	U	250	22	
594-20-7	2,2-Dichloropropane	0.55	U	2.5	0.55	
78-93-3	2-Butanone (MEK)	2.5	U	13	2.5	
95-49-8	2-Chlorotoluene	0.95	U	2.5	0.95	
591-78-6	2-Hexanone	1.0	U	13	1.0	
106-43-4	4-Chlorotoluene	0.93	U	2.5	0.93	
99-87-6	p-Isopropyltoluene	0.55	U	13	0.55	
108-10-1	4-Methyl-2-pentanone	0.86	U	13	0.86	
67-64-1	Acetone	4.0	U	25	4.0	
107-13-1	Acrylonitrile	1.8	U	250	1.8	
71-43-2	Benzene	0.33	U	2.5	0.33	
108-86-1	Bromobenzene	0.83	U	2.5	0.83	
74-97-5	Bromochloromethane	0.45	U	2.5	0.45	
75-27-4	Bromodichloromethane	0.43	U	2.5	0.43	
75-25-2	Bromoform	0.50	U	2.5	0.50	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/3/10 17:02

Sample Name: INF-11-29-10
Lab Code: R1006632-001
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4124.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
74-83-9	Bromomethane	1.0	U	5.0	1.0	
56-23-5	Carbon Tetrachloride	0.90	U	2.5	0.90	
108-90-7	Chlorobenzene	0.65	U	2.5	0.65	
75-00-3	Chloroethane	1.1	DJ	5.0	0.60	
67-66-3	Chloroform	0.43	U	2.5	0.43	
74-87-3	Chloromethane	0.48	U	5.0	0.48	
124-48-1	Dibromochloromethane	0.28	U	2.5	0.28	
74-95-3	Dibromomethane	0.43	U	2.5	0.43	
75-09-2	Dichloromethane	0.50	U	2.5	0.50	
100-41-4	Ethylbenzene	1.1	U	2.5	1.1	
87-68-3	Hexachlorobutadiene	1.8	U	1.8	1.8	
98-82-8	Isopropylbenzene (Cumene)	0.86	U	2.5	0.86	
91-20-3	Naphthalene	0.78	U	13	0.78	
100-42-5	Styrene	0.88	U	2.5	0.88	
127-18-4	Tetrachloroethene (PCE)	450	D	2.5	1.1	
108-88-3	Toluene	0.53	U	2.5	0.53	
79-01-6	Trichloroethene (TCE)	39	D	2.5	0.48	
75-69-4	Trichlorofluoromethane (CFC 11)	0.53	U	2.5	0.53	
75-01-4	Vinyl Chloride	0.38	U	2.5	0.38	
156-59-2	cis-1,2-Dichloroethene	4.6	D	2.5	0.30	
10061-01-5	cis-1,3-Dichloropropene	0.36	U	2.5	0.36	
179601-23-1	m,p-Xylenes	2.1	U	2.5	2.1	
104-51-8	n-Butylbenzene	0.50	U	2.5	0.50	
103-65-1	n-Propylbenzene	0.80	U	2.5	0.80	
95-47-6	o-Xylene	1.0	U	2.5	1.0	
135-98-8	sec-Butylbenzene	0.58	U	2.5	0.58	
98-06-6	tert-Butylbenzene	0.71	U	2.5	0.71	
156-60-5	trans-1,2-Dichloroethene	0.40	U	2.5	0.40	
10061-02-6	trans-1,3-Dichloropropene	0.43	U	1.3	0.43	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Analyzed: 12/3/10 17:02

Sample Name: INF-11-29-10
Lab Code: R1006632-001
Run Type: Dilution

Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4124.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 2.5

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	70-130	12/3/10 17:02	
Dibromofluoromethane	107	70-130	12/3/10 17:02	
Toluene-d8	103	70-130	12/3/10 17:02	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1100
Date Received: 11/30/10
Date Analyzed: 12/3/10 16:31

Sample Name: EFF-11-29-10
Lab Code: R1006632-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4123.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	0.14	U	1.0	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	
79-00-5	1,1,2-Trichloroethane	0.20	U	1.0	0.20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	0.11	U	1.0	0.11	
75-35-4	1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	
563-58-6	1,1-Dichloropropene	0.20	U	1.0	0.20	
87-61-6	1,2,3-Trichlorobenzene	0.29	U	1.0	0.29	
96-18-4	1,2,3-Trichloropropane	0.16	U	1.0	0.16	
120-82-1	1,2,4-Trichlorobenzene	0.23	U	1.0	0.23	
95-63-6	1,2,4-Trimethylbenzene	0.35	U	1.0	0.35	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	2.0	0.43	
106-93-4	1,2-Dibromoethane	0.18	U	1.0	0.18	
95-50-1	1,2-Dichlorobenzene	0.40	U	1.0	0.40	
107-06-2	1,2-Dichloroethane	0.15	U	1.0	0.15	
78-87-5	1,2-Dichloropropane	0.12	U	1.0	0.12	
108-67-8	1,3,5-Trimethylbenzene	0.36	U	1.0	0.36	
541-73-1	1,3-Dichlorobenzene	0.36	U	1.0	0.36	
142-28-9	1,3-Dichloropropane	0.24	U	1.0	0.24	
106-46-7	1,4-Dichlorobenzene	0.34	U	1.0	0.34	
123-91-1	1,4-Dioxane	8.7	U	100	8.7	
594-20-7	2,2-Dichloropropane	0.22	U	1.0	0.22	
78-93-3	2-Butanone (MEK)	1.0	U	5.0	1.0	
95-49-8	2-Chlorotoluene	0.38	U	1.0	0.38	
591-78-6	2-Hexanone	0.40	U	5.0	0.40	
106-43-4	4-Chlorotoluene	0.37	U	1.0	0.37	
99-87-6	p-Isopropyltoluene	0.22	U	5.0	0.22	
108-10-1	4-Methyl-2-pentanone	0.34	U	5.0	0.34	
67-64-1	Acetone	1.6	U	10	1.6	
107-13-1	Acrylonitrile	0.72	U	100	0.72	
71-43-2	Benzene	0.13	U	1.0	0.13	
108-86-1	Bromobenzene	0.33	U	1.0	0.33	
74-97-5	Bromochloromethane	0.18	U	1.0	0.18	
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17	
75-25-2	Bromoform	0.20	U	1.0	0.20	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1100
Date Received: 11/30/10
Date Analyzed: 12/3/10 16:31

Sample Name: EFF-11-29-10
Lab Code: R1006632-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4123.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
74-83-9	Bromomethane	0.40	U	2.0	0.40	
56-23-5	Carbon Tetrachloride	0.36	U	1.0	0.36	
108-90-7	Chlorobenzene	0.26	U	1.0	0.26	
75-00-3	Chloroethane	0.24	U	2.0	0.24	
67-66-3	Chloroform	0.17	U	1.0	0.17	
74-87-3	Chloromethane	0.19	U	2.0	0.19	
124-48-1	Dibromochloromethane	0.11	U	1.0	0.11	
74-95-3	Dibromomethane	0.17	U	1.0	0.17	
75-09-2	Dichloromethane	0.20	U	1.0	0.20	
100-41-4	Ethylbenzene	0.42	U	1.0	0.42	
87-68-3	Hexachlorobutadiene	0.69	U	0.69	0.69	
98-82-8	Isopropylbenzene (Cumene)	0.34	U	1.0	0.34	
91-20-3	Naphthalene	0.31	U	5.0	0.31	
100-42-5	Styrene	0.35	U	1.0	0.35	
127-18-4	Tetrachloroethene (PCE)	0.42	U	1.0	0.42	
108-88-3	Toluene	0.21	U	1.0	0.21	
79-01-6	Trichloroethene (TCE)	0.19	U	1.0	0.19	
75-69-4	Trichlorofluoromethane (CFC 11)	0.21	U	1.0	0.21	
75-01-4	Vinyl Chloride	0.15	U	1.0	0.15	
156-59-2	cis-1,2-Dichloroethene	0.12	U	1.0	0.12	
10061-01-5	cis-1,3-Dichloropropene	0.14	U	1.0	0.14	
179601-23-1	m,p-Xylenes	0.81	U	1.0	0.81	
104-51-8	n-Butylbenzene	0.20	U	1.0	0.20	
103-65-1	n-Propylbenzene	0.32	U	1.0	0.32	
95-47-6	o-Xylene	0.40	U	1.0	0.40	
135-98-8	sec-Butylbenzene	0.23	U	1.0	0.23	
98-06-6	tert-Butylbenzene	0.28	U	1.0	0.28	
156-60-5	trans-1,2-Dichloroethene	0.16	U	1.0	0.16	
10061-02-6	trans-1,3-Dichloropropene	0.17	U	0.50	0.17	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1100
Date Received: 11/30/10
Date Analyzed: 12/3/10 16:31

Sample Name: EFF-11-29-10
Lab Code: R1006632-002

Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4123.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	70-130	12/3/10 16:31	
Dibromofluoromethane	107	70-130	12/3/10 16:31	
Toluene-d8	104	70-130	12/3/10 16:31	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 0700
Date Received: 11/30/10
Date Analyzed: 12/3/10 15:59

Sample Name: TB-11-29-10
Lab Code: R1006632-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4122.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
630-20-6	1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	0.14	U	1.0	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	0.17	U	1.0	0.17	
79-00-5	1,1,2-Trichloroethane	0.20	U	1.0	0.20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	0.11	U	1.0	0.11	
75-35-4	1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	
563-58-6	1,1-Dichloropropene	0.20	U	1.0	0.20	
87-61-6	1,2,3-Trichlorobenzene	0.29	U	1.0	0.29	
96-18-4	1,2,3-Trichloropropane	0.16	U	1.0	0.16	
120-82-1	1,2,4-Trichlorobenzene	0.23	U	1.0	0.23	
95-63-6	1,2,4-Trimethylbenzene	0.35	U	1.0	0.35	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	2.0	0.43	
106-93-4	1,2-Dibromoethane	0.18	U	1.0	0.18	
95-50-1	1,2-Dichlorobenzene	0.40	U	1.0	0.40	
107-06-2	1,2-Dichloroethane	0.15	U	1.0	0.15	
78-87-5	1,2-Dichloropropane	0.12	U	1.0	0.12	
108-67-8	1,3,5-Trimethylbenzene	0.36	U	1.0	0.36	
541-73-1	1,3-Dichlorobenzene	0.36	U	1.0	0.36	
142-28-9	1,3-Dichloropropane	0.24	U	1.0	0.24	
106-46-7	1,4-Dichlorobenzene	0.34	U	1.0	0.34	
123-91-1	1,4-Dioxane	8.7	U	100	8.7	
594-20-7	2,2-Dichloropropane	0.22	U	1.0	0.22	
78-93-3	2-Butanone (MEK)	1.0	U	5.0	1.0	
95-49-8	2-Chlorotoluene	0.38	U	1.0	0.38	
591-78-6	2-Hexanone	0.40	U	5.0	0.40	
106-43-4	4-Chlorotoluene	0.37	U	1.0	0.37	
99-87-6	p-Isopropyltoluene	0.22	U	5.0	0.22	
108-10-1	4-Methyl-2-pentanone	0.34	U	5.0	0.34	
67-64-1	Acetone	1.6	U	10	1.6	
107-13-1	Acrylonitrile	0.72	U	100	0.72	
71-43-2	Benzene	0.13	U	1.0	0.13	
108-86-1	Bromobenzene	0.33	U	1.0	0.33	
74-97-5	Bromochloromethane	0.18	U	1.0	0.18	
75-27-4	Bromodichloromethane	0.17	U	1.0	0.17	
75-25-2	Bromoform	0.20	U	1.0	0.20	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 0700
Date Received: 11/30/10
Date Analyzed: 12/3/10 15:59

Sample Name: TB-11-29-10
Lab Code: R1006632-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4122.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
74-83-9	Bromomethane	0.40	U	2.0	0.40	
56-23-5	Carbon Tetrachloride	0.36	U	1.0	0.36	
108-90-7	Chlorobenzene	0.26	U	1.0	0.26	
75-00-3	Chloroethane	0.24	U	2.0	0.24	
67-66-3	Chloroform	0.17	U	1.0	0.17	
74-87-3	Chloromethane	0.19	U	2.0	0.19	
124-48-1	Dibromochloromethane	0.11	U	1.0	0.11	
74-95-3	Dibromomethane	0.17	U	1.0	0.17	
75-09-2	Dichloromethane	0.20	U	1.0	0.20	
100-41-4	Ethylbenzene	0.42	U	1.0	0.42	
87-68-3	Hexachlorobutadiene	0.69	U	0.69	0.69	
98-82-8	Isopropylbenzene (Cumene)	0.34	U	1.0	0.34	
91-20-3	Naphthalene	0.31	U	5.0	0.31	
100-42-5	Styrene	0.35	U	1.0	0.35	
127-18-4	Tetrachloroethene (PCE)	0.42	U	1.0	0.42	
108-88-3	Toluene	0.21	U	1.0	0.21	
79-01-6	Trichloroethene (TCE)	0.19	U	1.0	0.19	
75-69-4	Trichlorofluoromethane (CFC 11)	0.21	U	1.0	0.21	
75-01-4	Vinyl Chloride	0.15	U	1.0	0.15	
156-59-2	cis-1,2-Dichloroethene	0.12	U	1.0	0.12	
10061-01-5	cis-1,3-Dichloropropene	0.14	U	1.0	0.14	
179601-23-1	m,p-Xylenes	0.81	U	1.0	0.81	
104-51-8	n-Butylbenzene	0.20	U	1.0	0.20	
103-65-1	n-Propylbenzene	0.32	U	1.0	0.32	
95-47-6	o-Xylene	0.40	U	1.0	0.40	
135-98-8	sec-Butylbenzene	0.23	U	1.0	0.23	
98-06-6	tert-Butylbenzene	0.28	U	1.0	0.28	
156-60-5	trans-1,2-Dichloroethene	0.16	U	1.0	0.16	
10061-02-6	trans-1,3-Dichloropropene	0.17	U	0.50	0.17	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 0700
Date Received: 11/30/10
Date Analyzed: 12/3/10 15:59

Sample Name: TB-11-29-10
Lab Code: R1006632-003

Units: Percent
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: U4122.D

Analysis Lot: 227820
Instrument Name: R-MS-12
Dilution Factor: 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	12/3/10 15:59	
Dibromofluoromethane	108	70-130	12/3/10 15:59	
Toluene-d8	104	70-130	12/3/10 15:59	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:

Project:

Sample Matrix:

Sample Name:

Lab Code:

GeoTrans, Inc.

HVEC - 11/10/117-7013.001.01

Water

INF-11-29-10

R1006632-001

Service Request:

Date Collected:

Date Received:

Basis:

R1006632

11/29/10 1140

11/30/10

NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Total	6010C	100	U	µg/L	100	1	11/30/10	12/2/10 10:36	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:

Project:

Sample Matrix:

Sample Name:

Lab Code:

GeoTrans, Inc.

HVEC - 11/10/117-7013.001.01

Water

INF-11-29-10

R1006632-001

Service Request:

Date Collected:

Date Received:

Basis:

R1006632

11/29/10 1140

11/30/10

NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	12/6/10 08:00	
Phenolics, Total Recoverable	420.4 Modified	0.0050	U	mg/L	0.0050	1	12/ 6/10	12/7/10 10:10	
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0	1	NA	12/1/10 14:05	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Extracted: 12/6/10
Date Analyzed: 12/8/10 18:59

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: µg/L
Basis: NA

Polychlorinated Biphenyls (PCBs) by GC

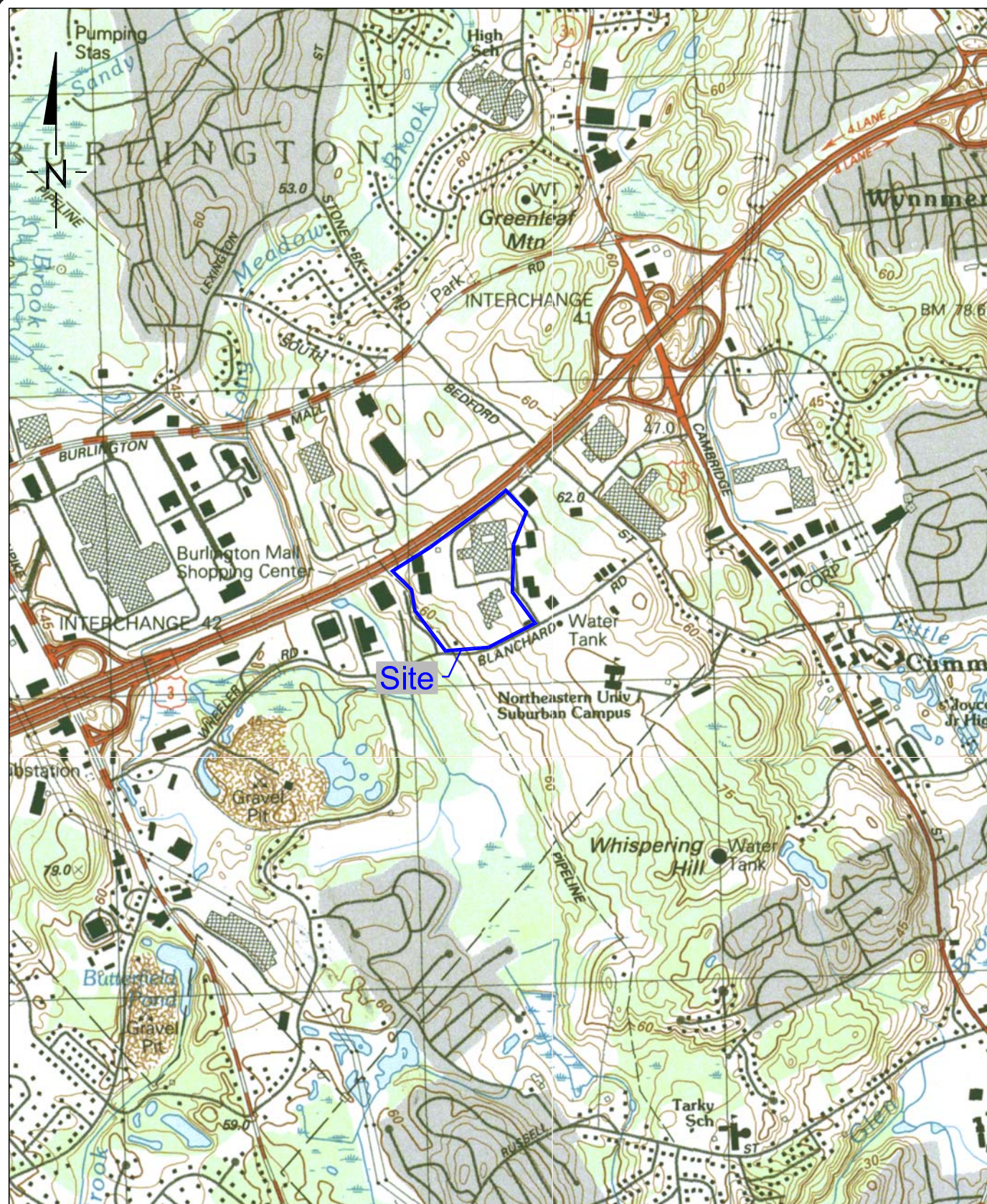
Analytical Method: 8082A
Prep Method: EPA 3510C
Data File Name: J:\ACQUDATA\GCEXT4\DATA\120810\ND023.D\

Analysis Lot: 228423
Extraction Lot: 125027
Instrument Name: R-GC-56
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
12674-11-2	Aroclor 1016	0.97	U	0.97	
11104-28-2	Aroclor 1221	1.9	U	1.9	
11141-16-5	Aroclor 1232	0.97	U	0.97	
53469-21-9	Aroclor 1242	0.97	U	0.97	
12672-29-6	Aroclor 1248	0.97	U	0.97	
11097-69-1	Aroclor 1254	0.97	U	0.97	
11096-82-5	Aroclor 1260	0.97	U	0.97	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	88	10-136	12/8/10 18:59	
Tetrachloro-m-xylene	74	28-117	12/8/10 18:59	

FIGURE 1
SITE LOCUS



Scanned USGS Quads by MassGIS

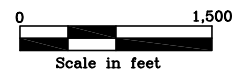


Figure 1 Site Location Map

FIGURE 2
AS-BUILT EXTRACTION SYSTEM LAYOUT

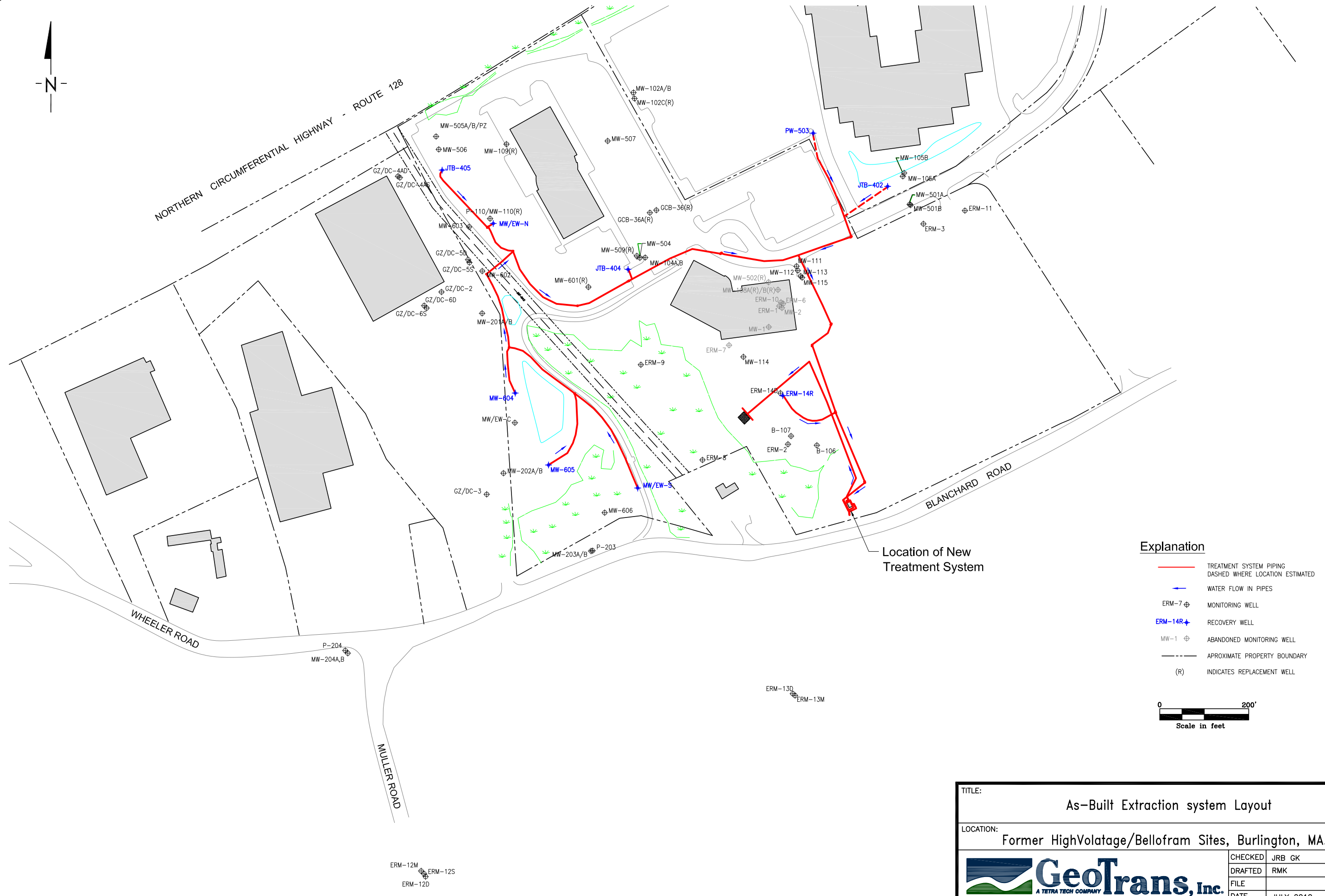
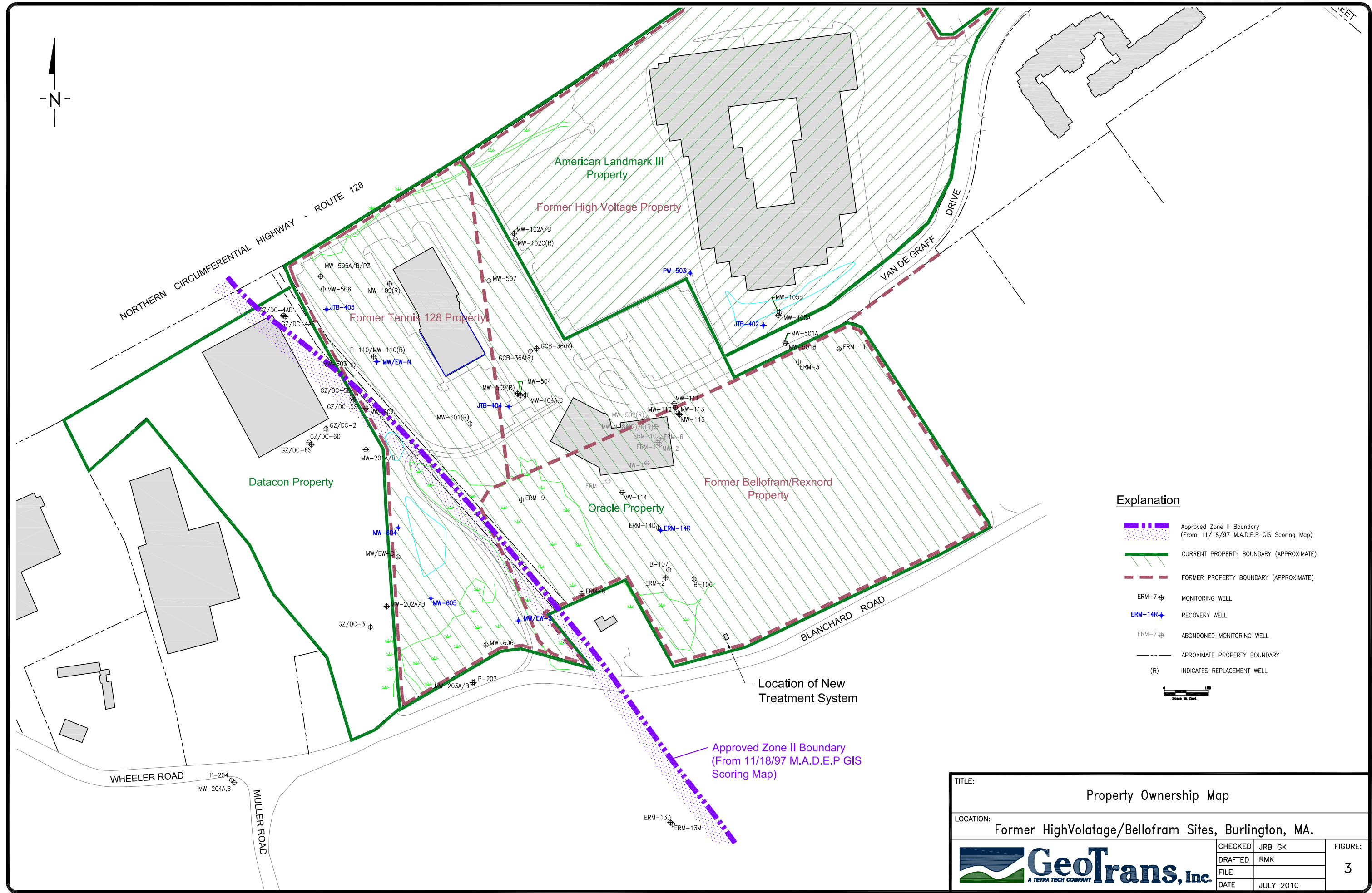


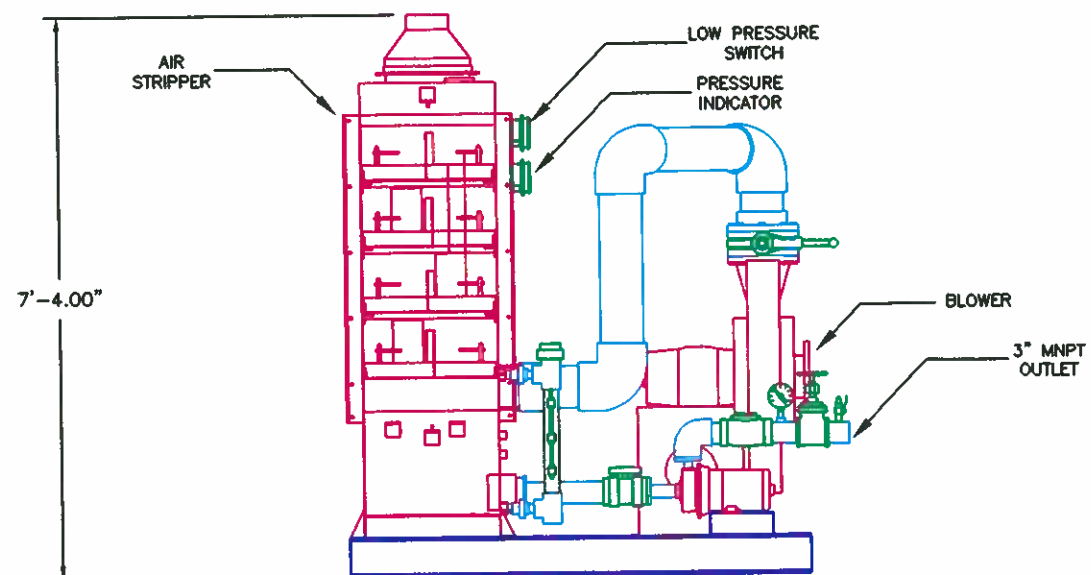
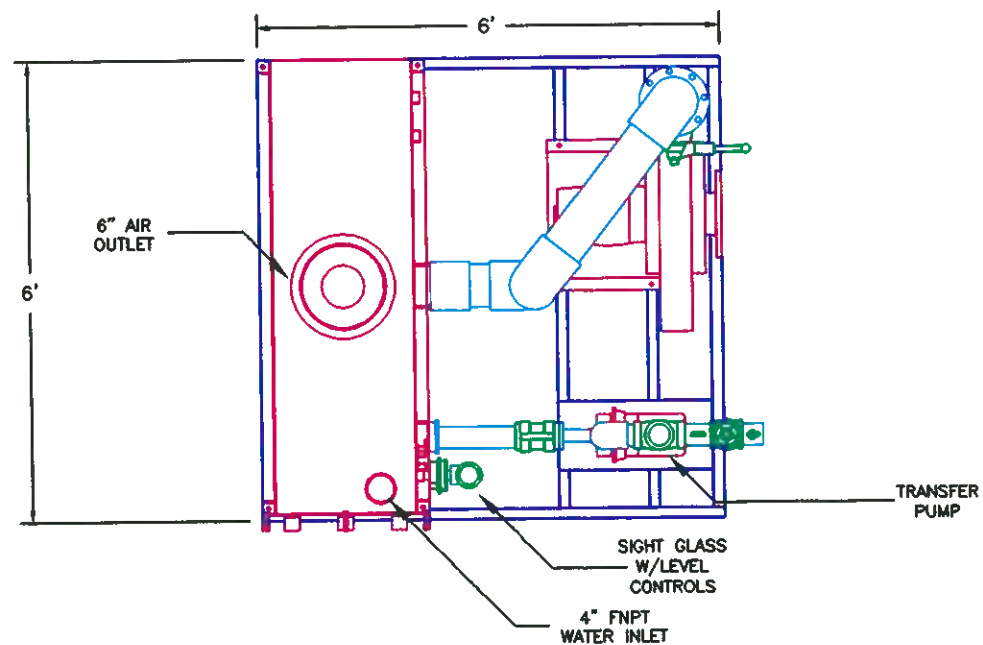
FIGURE 3
PROPERTY OWNERSHIP MAP

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Dec 06 , 2010 - 9:15am



GROUNDWATER TREATMENT EQUIPMENT PROCESS
AND
INSTRUMENTATION DIAGRAM (BISCO ENVIRONMENTAL)

AIR STRIPPER SKID LAYOUT (BISCO ENVIRONMENTAL)



CONFIDENTIALITY NOTE:
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BISCO Environmental
Soil & Groundwater Remediation Equipment
Randolph, Massachusetts 02368

TITLE
AIR STRIPPER SKID LAYOUT

DRWN BY DRF DATE 6/22/01

CHK BY *[Signature]* DATE 6/25/01

APPR BY *[Signature]* DATE

HIGH VOLTAGE ENGINEERING CORP.
HVEC BURLINGTON

JOB NO.
10690

SCALE 1"=30" SIZE B DWG NO. 10690JHL

SHEET 1 OF 1 REV

REV.	DESCRIPTION	DATE	APPR.
	REVISIONS		

BISCO ENVIRONMENTAL SPECIFICATION CUT SHEETS FOR SYSTEM COMPONENTS

GROUNDWATER TREATMENT EQUIPMENT

Submittal Data

JOB No. 10690

for

HIGH VOLTAGE ENGINEERING CORP.

401 EDGEWATER PLACE

SUITE 680

WAKEFIELD, MA 01880

project

BURLINGTON, MA

by

BISCO Environmental

91 PACELLA PARK DRIVE

RANDOLPH, MASSACHUSETTS 02368

Phone: (781) 963-0090

Fax: (781) 986-1540

Contact: John Haas

Table of Contents

Section 1 – Air Stripper

- EZ-12.4SS Air Stripper Specifications & Performance Modeling
- New York Blower 2306A Blower Specifications & Performance Curve
- Solberg FS-235P-400 Inlet Filter Specifications

Section 2 – Bag Filter Specifications

Section 3 – Carbon Adsorber Specifications

Section 4 – Gould's NPE Transfer Pump Specifications & Performance Curve

Section 5 – Instrumentation

- Air Stripper Blower Discharge Pressure Gauge Specifications
- Transfer Pump Pressure Gauge Specifications
- Air Stripper Blower Low Pressure Switch Installation & Operating Instructions
- Air Stripper Sump Float Switch Specifications

Section 6 - System Drawings

- Process & Instrumentation Diagram (P&ID)
- Air Stripper Skid Layout Drawing
- Control Panel Drawings

E-Z Tray™ Removable Tray Air Strippers

UNIQUE FRONT ACCESS DESIGN PROVIDES LONG TERM O & M SAVINGS

- Single-person cleaning
- Easy accessibility
- Space-saving design
- High-efficiency VOC removal

THE MOST PRACTICAL, ECONOMICAL AIR STRIPPERS

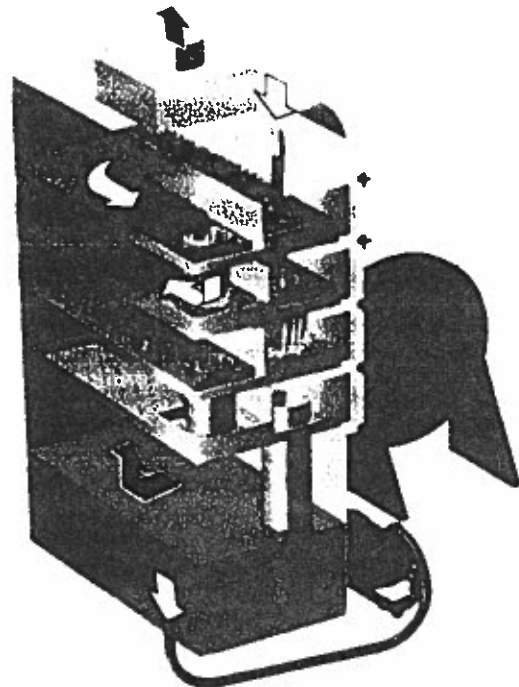
E-Z Tray™ air strippers are the only high performance strippers with lightweight, front-slideout trays. They provide many advantages:

- One-person cleaning can save thousands of dollars per year on cleaning costs.
- Slide-out tray design allows unrestricted cleaning access.
- Front serviceability allows positioning in corners, tight access or low clearance locations, saving thousands more by cutting building space needs 10-40%.
- Forced-draft air bubble technology delivers rapid, efficient VOC removal and generates a self-cleaning action that fights fouling.

E-Z TRAY AIR STRIPPER SPECIFICATIONS

Model	Dimensions (in inches)			Dry Weight	Operating Weight	Dry Weight Per Tray	Flow Range (GPM)
	H	L	W				
4.4	82	29.0	30	630 lbs.	985 lbs.	29 lbs.	1-25
6.4	82	38.5	30	790 lbs.	1,285 lbs.	40 lbs.	1-60
8.4	82	50.5	30	955 lbs.	1,580 lbs.	50 lbs.	1-60
12.4	82	75.0	30	1,165 lbs.	2,105 lbs.	74 lbs.	1-100
16.4	84	50.5	55	1,625 lbs.	2,870 lbs.	50 lbs.	1-120
24.4	84	75.0	55	2,100 lbs.	3,980 lbs.	74 lbs.	1-200

Note: Specifications are for standard 4-tray models. Consult factory for 6-tray model specifications. Dimensions and weights do not include skid or other accessories



Patent No. 5,518,668

E-Z Stacker™ Stackable Tray Air Strippers

NEW STACKING DESIGN DELIVERS ECONOMICAL RELIABLE AIR STRIPPING

- Efficient low-flow VOC removal
- Easy one-person cleaning cuts maintenance up to 80%
- Positive-seal engineering prevents leakage problems

LOW-COST, LOW MAINTENANCE, LOW FLOW PERFORMANCE

The innovative design of E-Z Stacker™ Air Strippers delivers many advantages to environmental consultants, remediation contractors, and end users.

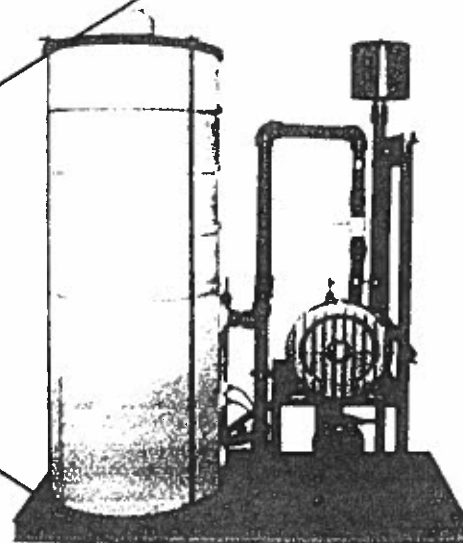
E-Z Stacker models are sized and priced to be the most economical choice for many low to moderate flow cleanup applications (up to 40 G.P.M.). Low capital expense and low O & M requirements make the difference.

The unique E-Z Stacker configuration consists of a series of integrally molded shell/tray modules. The multiple sieve tray design uses forced draft air bubble generation to provide rapid, effective VOC removal.

Every element of the heavy-duty HDPE construction has been engineered for durable, reliable performance with a multi-step positive seal against leakage.

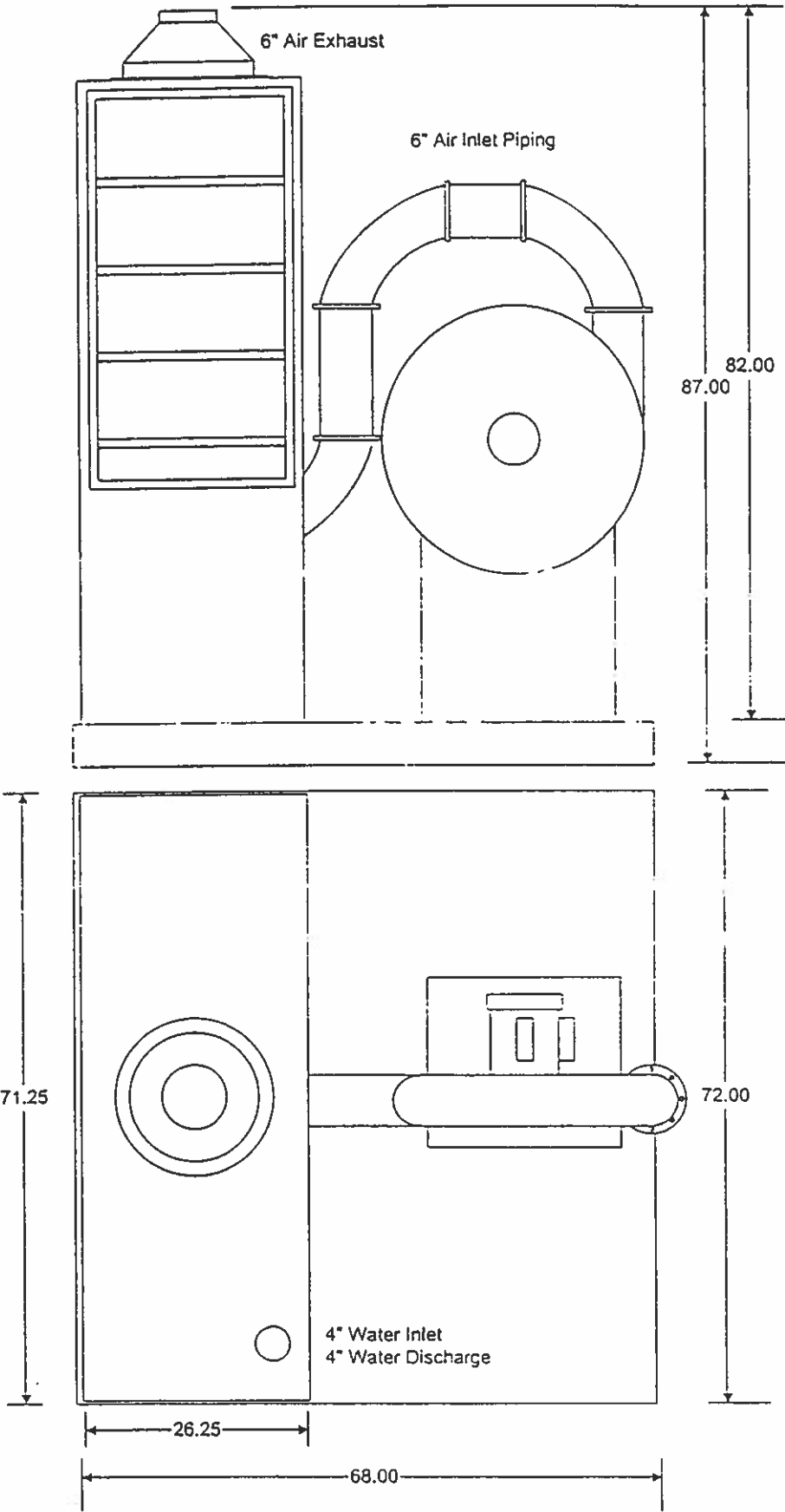
E-Z STACKER AIR STRIPPER SPECIFICATIONS

Model	Skid Mounted Dimensions (in inches)			Air Stripper O.D.	Non-Skid Mounted Weights		Dry Wt. Per Tray	Flow Range (GPM)	Air Flow (CFM)
	H	L	W		Dry Wt.	Opr. Wt.			
2.4P	86.25	82.0	31.5	27	205 lbs.	585 lbs.	20 lbs.	1-25	140
2.6P	105.25	82.0	31.5	27	250 lbs.	645 lbs.	20 lbs.	1-25	140
4.4P	89.0	92.0	40.0	37	310 lbs.	1,160 lbs.	35 lbs.	1-40	280
4.6P	108.0	92.0	40.0	37	370 lbs.	1,305 lbs.	35 lbs.	1-40	280



Patent No. 5,045,215 / 5,240,595

EZ-Tray Model 12.4



Plot 4

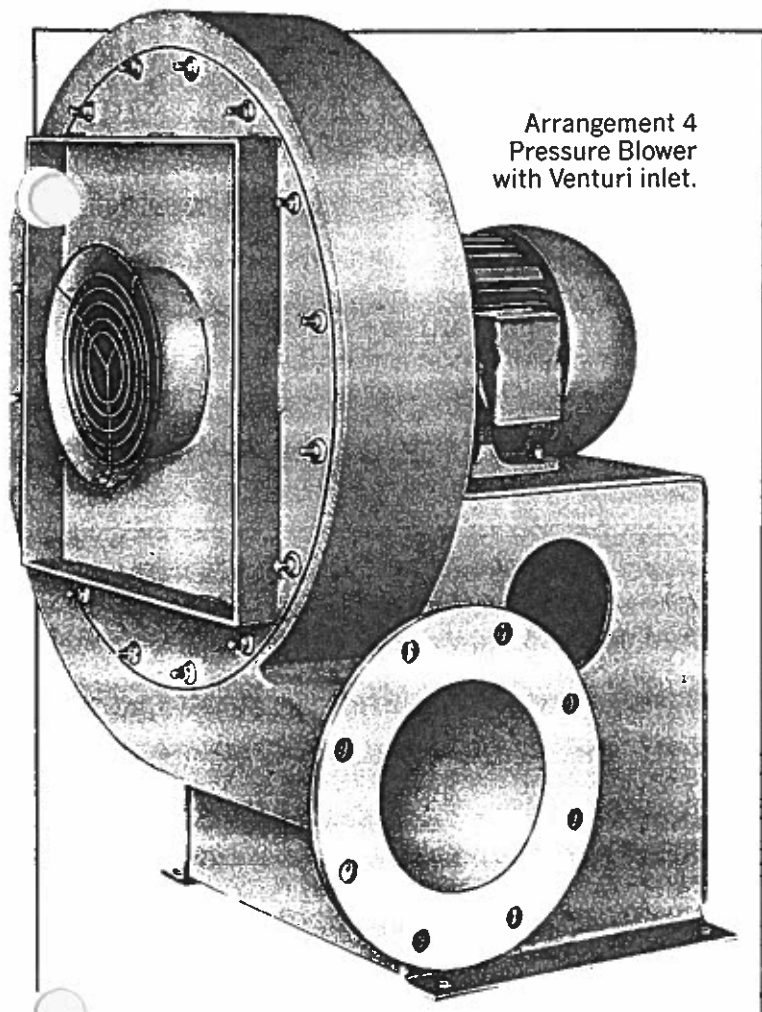
Altitude (FT): 0.00

[illegible]

p 2 of 4

Water Temp (F): 55.00
Air Temp (F): 55.00
Altitude (FT): 0.00

Contaminant:	tetrachloroethylene (PCE)							
					↓			
Liquid (ppb)	Influent	Tray 1	Tray 2	Tray 3	Tray 4	Tray 5	Tray 6	Target
4-Tray Results	3000.0	159.0	8.4	0.4	0.0			
6-Tray Results		74.0	1.8	0.0	0.0	0.0	0.0	0.0
Air (ppmV)								
4 Tray Results		6.1470	0.3256	0.0172	0.0009			
6 Tray Results		6.1470	0.1516	0.0037	0.0001	0.0000	0.0000	
Air (#'s/hr)								
4 Tray Results		0.0976	0.0976	0.0974	0.0920			
6 Tray Results		0.0976	0.0976	0.0976	0.0976	0.0976	0.0952	

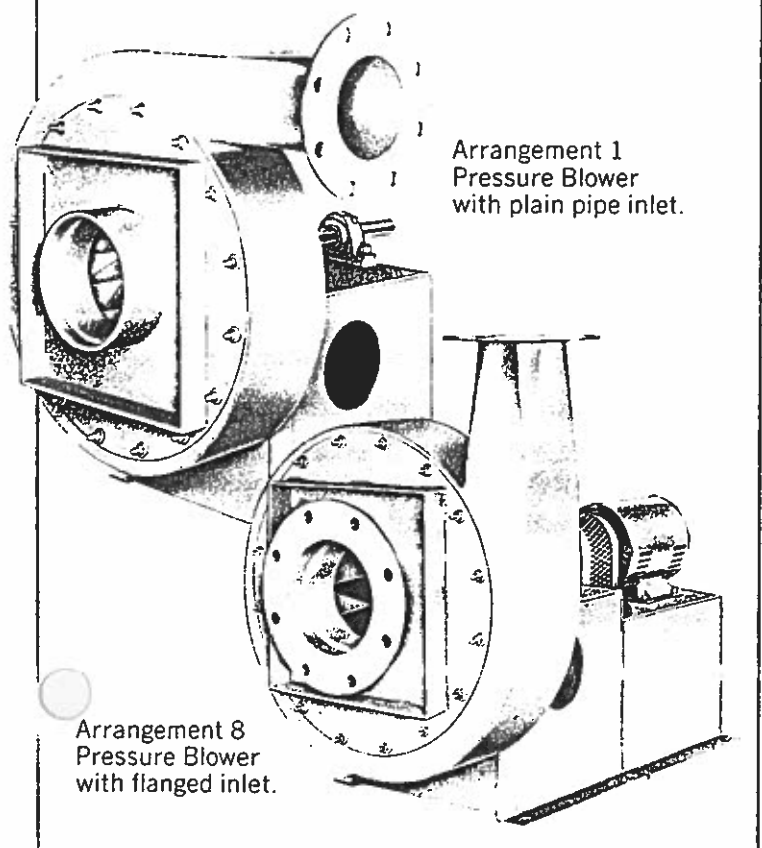


Arrangement 4
Pressure Blower
with Venturi inlet.

DESIGN FEATURES

- Efficiency . . . advanced wheel and aerodynamic housing design combine for air-handling efficiency superior to conventional radial wheel designs.
- Lower sound levels . . . the dual-taper design offers sound levels markedly lower and less irritating than conventional radial designs . . . sound power ratings are available upon request.
- Stable performance . . . the pressure curve remains stable from wide open to closed off . . . fan instability, or pulsation, is eliminated even when "turn-down" approaches zero flow.
- Wide performance range . . . choice of 13 wheel diameters and five outlet sizes enables efficient fan selection across a broad range of volumes and pressures.
- Versatility . . . various accessories, modifications, alloys, and arrangements are available.
- Wide application range . . . designed for continuous operation in combustion, cooling, conveying, drying, and various process systems.

PRESSURE BLOWERS . . .



Arrangement 1
Pressure Blower
with plain pipe inlet.

CONSTRUCTION FEATURES

All-welded steel housings—heavy-gauge housings are rigidly braced to prevent "drumming" at high pressures . . . rotatable to any of the standard discharge positions shown on page 11 . . . standard housings and steel and stainless steel wheels are reversible, aluminum wheels are not.

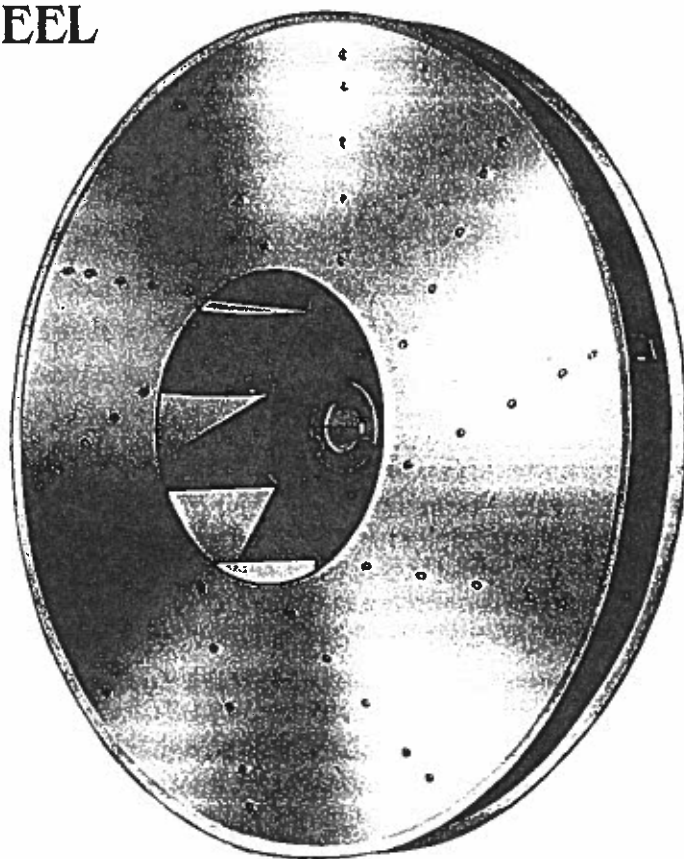
Lifting eyes—standard on all units for easy of handling and installation.

Outlet flanges—continuously welded flanges match ANSI Class 125/150 hole pattern.

Inlet connections—a choice of inlet types enables the units to be tailored to specific applications. Venturi provides streamlined flow for open inlet applications . . . standard with wire guard. Plain pipe is ideal for flexible sleeve connection . . . also see page 4. Flanged inlet is continuously welded . . . recommended for gasketed duct connection and required for the inlet filters described on page 4.

STANDARD ALUMINUM WHEEL

The unique Pressure Blower wheel is designed to provide efficient performance and reduced sound levels . . . the dual-taper design concept yields typical efficiencies up to 10 percentage points greater than conventional straight radial wheels. Riveted high-strength aluminum alloy blades and side plates minimize overhung wheel weight and starting inertia. Ductile-iron, taper-lock hubs make wheels easily removable. Welded steel and stainless steel wheels are also available . . . see page 4.



Standard aluminum wheel.

AMCA
CERTIFIED
RATINGS

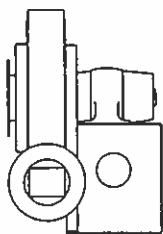
AIR
PERFORMANCE

AIR
FLOW
MEASUREMENT
AND CONTROL
ASSOCIATION, INC.
Manufacturing Building, Suite 100, Dayton, OH 45424

The New York Blower Company certifies that the Pressure Blowers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

FOR PROCESS SYSTEMS

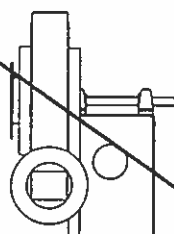
ARRANGEMENTS



ARRANGEMENT 4

A compact direct-drive unit with a minimum number of moving parts for ease of maintenance. Wheel is mounted directly on motor shaft.

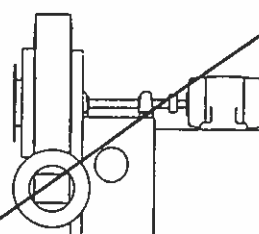
Maximum airstream temperature:
180°F.



ARRANGEMENT 1

Recommended for belt-driven applications only. Wheel is mounted on shaft mounted in heavy-duty bearings.

Maximum airstream temperature:
200°F.—aluminum wheel.
300°F.—steel wheel.
600°F.—heat fan.



ARRANGEMENT 8

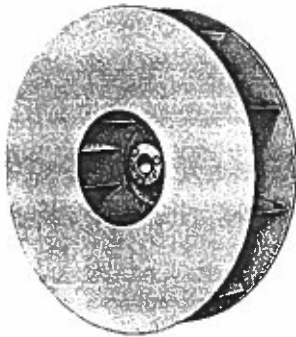
Direct-drive arrangement similar to Arrangement 1, but with integral motor pedestal... fan shaft is connected to the motor shaft with a flexible coupling.

Maximum airstream temperature:
200°F.—aluminum wheel.
300°F.—steel wheel.
600°F.—heat fan.

ACCESSORIES

STEEL WHEELS

Welded steel or stainless steel wheel construction is available in straight radial design. AMCA Certified Ratings Seal applies to Pressure Blowers with aluminum wheel design only. Air volume and pressure capabilities are the same as the dual-taper aluminum wheel . . . brake horsepower requirements must be increased by the factors in Chart I.



Typical steel wheel.

EXAMPLE

18" Pressure Blower with 04 outlet to handle 400 CFM at 23½"SP at .075 lbs./ft.³ density. Aluminum wheels require 2.6 BHP as shown on page 6. Steel or stainless steel wheels require [1.15 x 2.6] 3.0 BHP.

CHART I

STEEL WHEEL HORSEPOWER CORRECTIONS

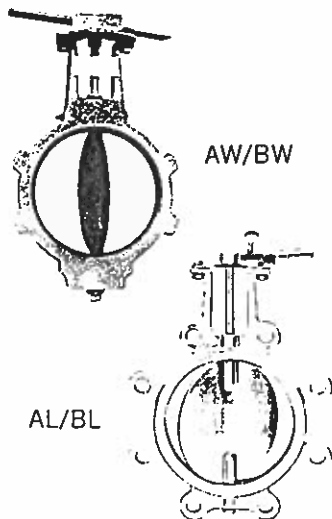
Outlet size	Wheel size	BHP correction factors*
04	14 to 22	1.15
06	14 to 18 19 to 26	1.06 1.15
08	15 to 22 23 to 26	1.06 1.15
10	19 to 26	1.06
12	23 to 26	1.06

*Some fan and motor combinations with steel wheels may be restricted due to starting torque requirements. Consult nyb.

WAFFER-TYPE OUTLET DAMPERS

Available in two designs for manual flow control. Type AW/BW [no holes] should be clamped between two flanges drawn tight with long bolts. Type AL/BL [with holes] can be bolted directly to the outlet. Consult nyb for SST dampers.

Maximum temperature: 350°F.



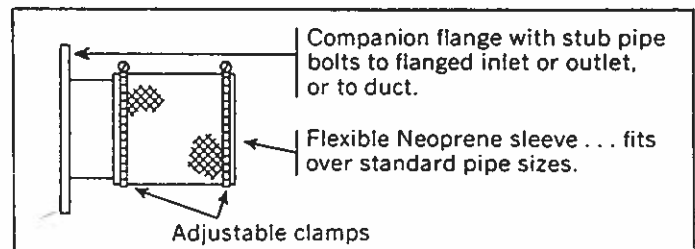
INLET FILTER

Permanent oil-wetted filter is flange-mounted. Approximate pressure drop is .50 VP [velocity pressure] at inlet. Furnished standard with outboard end support bracket.

SILENCERS

Available to match standard inlet or outlet flange sizes. Heavy welded steel construction filled with high-density acoustical absorption material. Flanged connection is recommended for mounting to the blower . . . any of the three standard inlet connections available for opposite end. Approximate pressure drop is .10 VP [velocity pressure] . . . refer to separate Engineering Supplement for more details.

FLEXIBLE CONNECTOR



Isolates unit from duct system . . . can be used with flanged inlet or plain pipe inlet on blower. Maximum temperature: 200°F.

CERAMIC FELT SHAFT SEAL

[Arrangements 1 and 8 only] Seal elements compressed between metal backing plate and retainer. Not available with heat fan construction.

DRAIN

Tank flange is welded to the lowest point in the housing scroll . . . female pipe thread, less plug.

SAFETY EQUIPMENT

Belt guards, shaft and bearing guards, and coupling guards are available. Refer to separate Catalog Sheet for details.

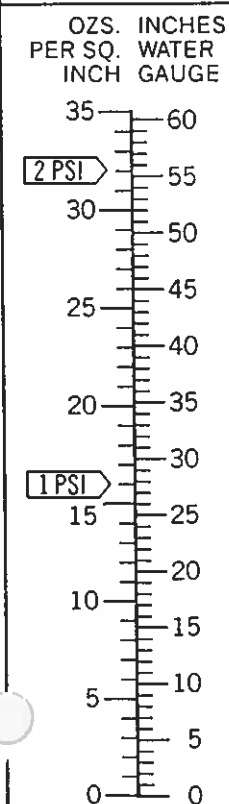
NOTE: Safe operation of air moving equipment is dependent on proper installation and maintenance including selection and use of appropriate safety accessories for the specific installation. The system designer must consider providing guards for all exposed moving parts as well as protection from access to high velocity airstreams. Improper application, installation, maintenance or safety guard selection can create danger to life and limb of personnel. Users and/or installers should read "Recommended Safety Practices For Air Moving Devices" as published by the Air Movement and Control Association, 30 West University Drive, Arlington Heights, Illinois 60004, which is included with the packing slips for all shipments from nyb and available on request.

MODIFICATIONS

HEAT FAN CONSTRUCTION	Arrangements 1 and 8 Pressure Blowers are available for airstream temperatures up to 600°F. Modification includes shaft cooler and guard . . . available only for units with steel or stainless steel wheels . . . see page 4 for performance corrections. Not available with shaft seal.
NOMINALLY AIR-TIGHT CONSTRUCTION	Arrangements 1 and 8 Pressure Blowers are available with modifications to minimize leakage of airstream gases. Special construction includes lubricated lip-type shaft seal, non-rotatable housing with solid drive side, double the number of inlet housing studs, and neoprene gasketing between housing and inlet/drive side plates. Maximum temperature: 200°F with aluminum wheel, 300°F with steel wheel [not available with heat fan construction].
SPECIAL ALLOY CONSTRUCTION	Airstream components can be constructed of welded stainless steel for a wide range of corrosive applications . . . see page 4 for stainless steel wheel horsepower corrections.

PERFORMANCE

CHART II
PRESSURE
CONVERSIONS



PSI x 27.76 = in. WG
OSI x 1.74 = in. WG

Ratings are provided in graphic form on pages 6-10. Performance is based on actual air volume [ACFM] at the blower inlet at standard .075 lbs./ft.³ density and static pressure at the blower outlet. The effects of air compression or rarification on volume and pressure must be considered to obtain the proper performance for Pressure Blower selection. Static pressure capabilities are shown in inches water gauge ["WG"] . . . see Chart II for pressure conversions.

Pressure Blowers are ideal for combustion supply applications . . . refer to separate **nyb** Engineering Letter for blower sizing and selection guidelines.

Air density corrections are necessary for proper selection when air density varies from the standard .075 lbs./ft.³ at 70°F. at sea level. Multiply the required static pressure at conditions by the appropriate factors in Chart III or IV to obtain corrected pressure for blower selection. Pressure and BHP will be reduced at conditions by the inverse of these factors. Multiply one factor by the other if both temperature and altitude are non-standard.

CHART III
ALTITUDE
CORRECTIONS

Alt.	Factor
0	1.00
500	1.02
1000	1.04
1500	1.06
2000	1.08
2500	1.10
3000	1.12
3500	1.14
4000	1.16
4500	1.18
5000	1.20
5500	1.22
6000	1.25
6500	1.27
7000	1.30
7500	1.32
8000	1.35
8500	1.37
9000	1.40
10000	1.45

CHART IV
TEMPERATURE
CORRECTIONS

Temp.	Factor
0°	.87
20°	.91
40°	.94
60°	.98
70°	1.00
80°	1.02
100°	1.06
120°	1.09
140°	1.13
160°	1.17
180°	1.21
200°	1.25
250°	1.34
300°	1.43
350°	1.53
400°	1.62
450°	1.72
500°	1.81
550°	1.91
600°	2.00

USING PERFORMANCE CURVES

Performance is shown according to outlet sizes for quick reference to duct diameter and velocity. Brake horsepower increments are identified on each curve. Recommended standard blower size and motor combinations are based on the most efficient area of operation and are indicated by the arrows. Non-standard combinations are generally available, but are usually less efficient than the standard combinations.

SELECTION STEPS

1. Determine the appropriate outlet size.
2. Plot the CFM and SP [Standard] and follow a projected system line up to the pressure curve that meets or slightly exceeds the required performance.
3. Determine the BHP required for the point of operation . . . see page 4 for steel or stainless steel wheel factors.
4. Read to the right to select motor horsepower.

Note: The horsepower coverage of a given motor will increase 15% when a 1.15 service factor motor is utilized.

EXAMPLE

1. The 06 outlet is selected for 800 CFM at 32" SP.
2. A Size 2106A will provide 820 CFM at 33.6" SP.
3. 2106A requires 6.3 BHP.
2106S requires 7.2 BHP [6.3 x 1.15].
4. A 7½ HP motor will cover both wheel types.

SIZING NOMENCLATURE

7-digit model number designates the wheel diameter, outlet size, wheel type, and nominal motor horsepower. Note: the last two digits showing motor horsepower are not required for Arrangement 1 Pressure Blowers

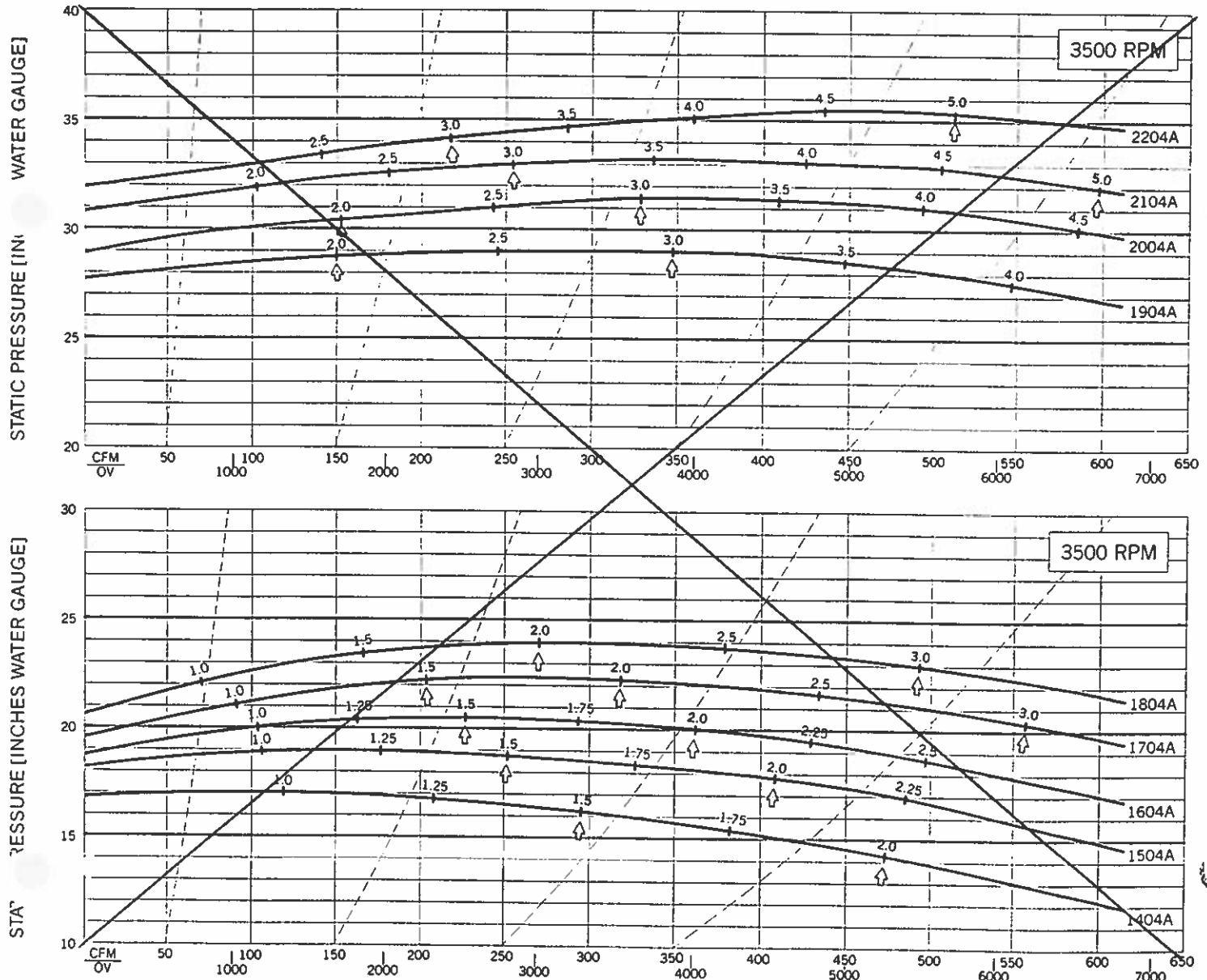
EXAMPLE

21 06 A 7½
Wheel diameter Outlet size (inches) Wheel type
A = aluminum
S = steel/stainless steel

04 OUTLET SIZE

Performance shown is for Pressure Blowers with outlet duct and with or without inlet duct.

Outlet area: .09 sq. ft.

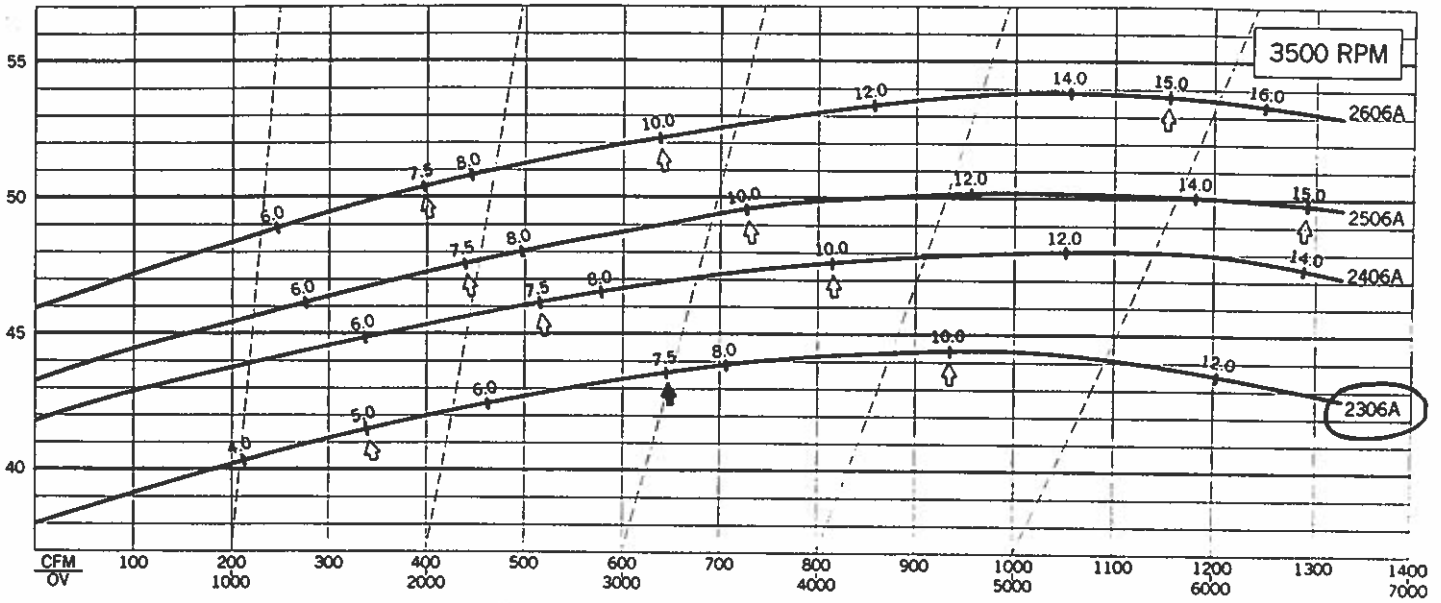


06 OUTLET SIZE

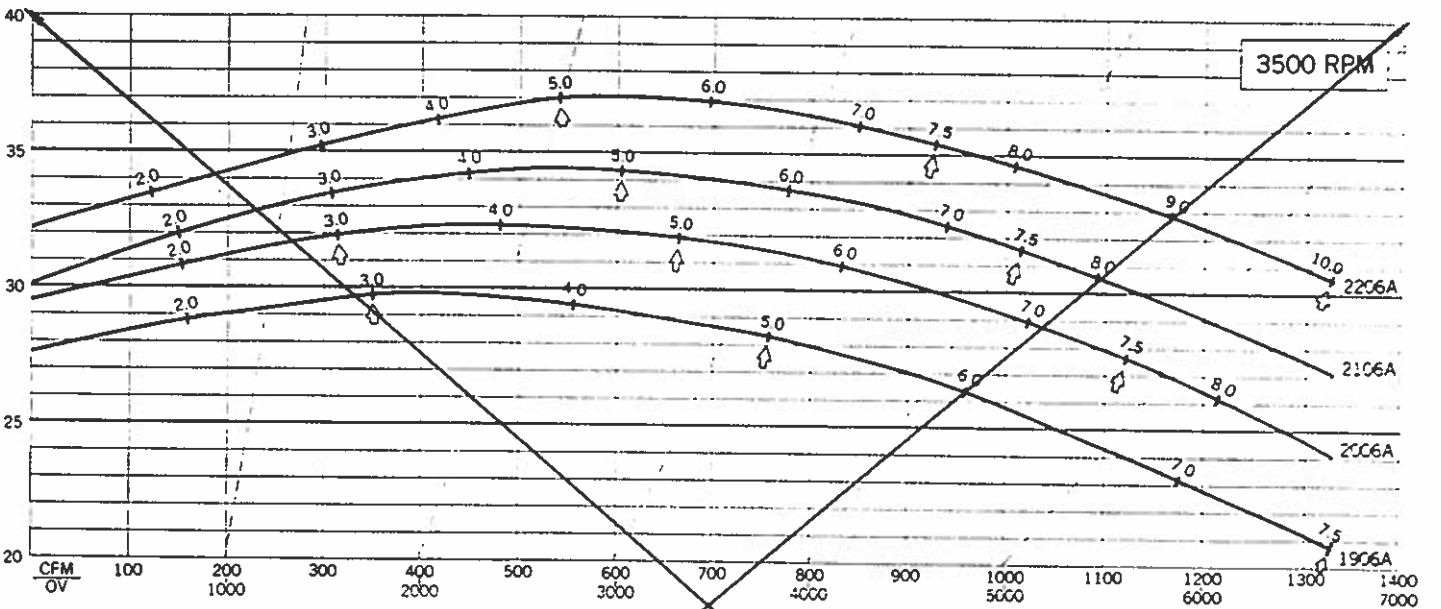
Performance shown is for Pressure Blowers with outlet duct and with or without inlet duct.

Outlet area: .20 sq. ft.

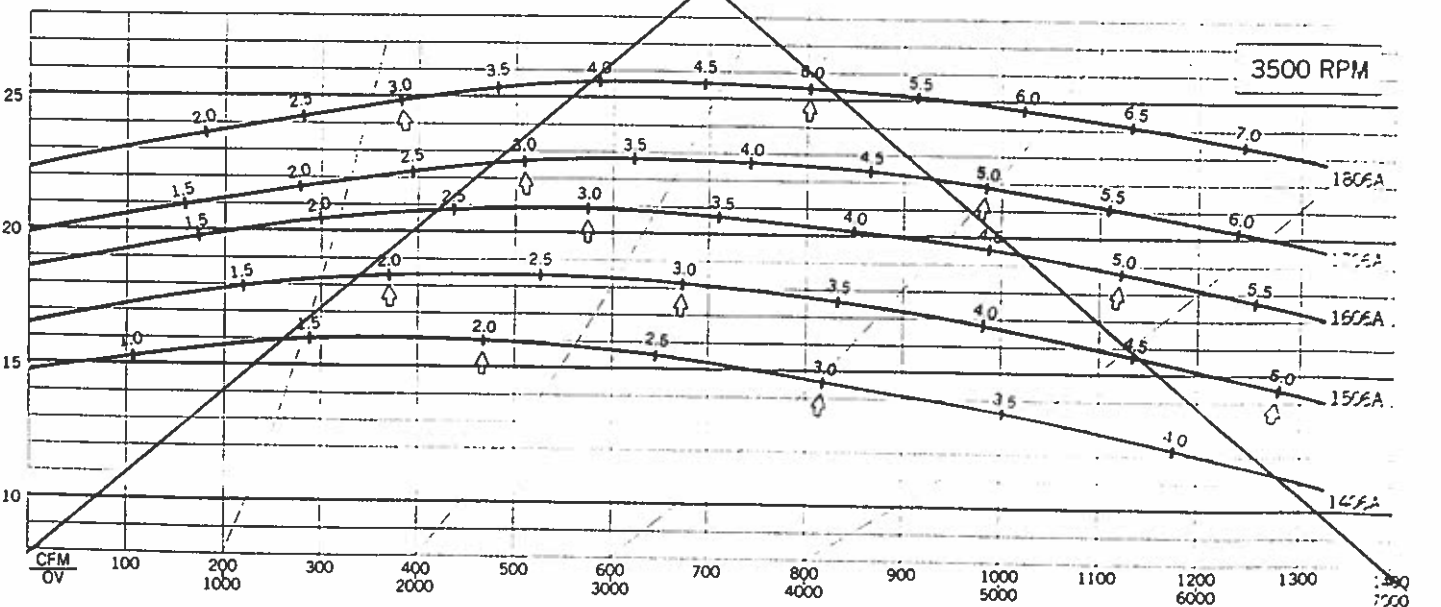
STATIC PRESSURE [INCHES WATER GAUGE]



STATIC PRESSURE [INCHES WATER GAUGE]



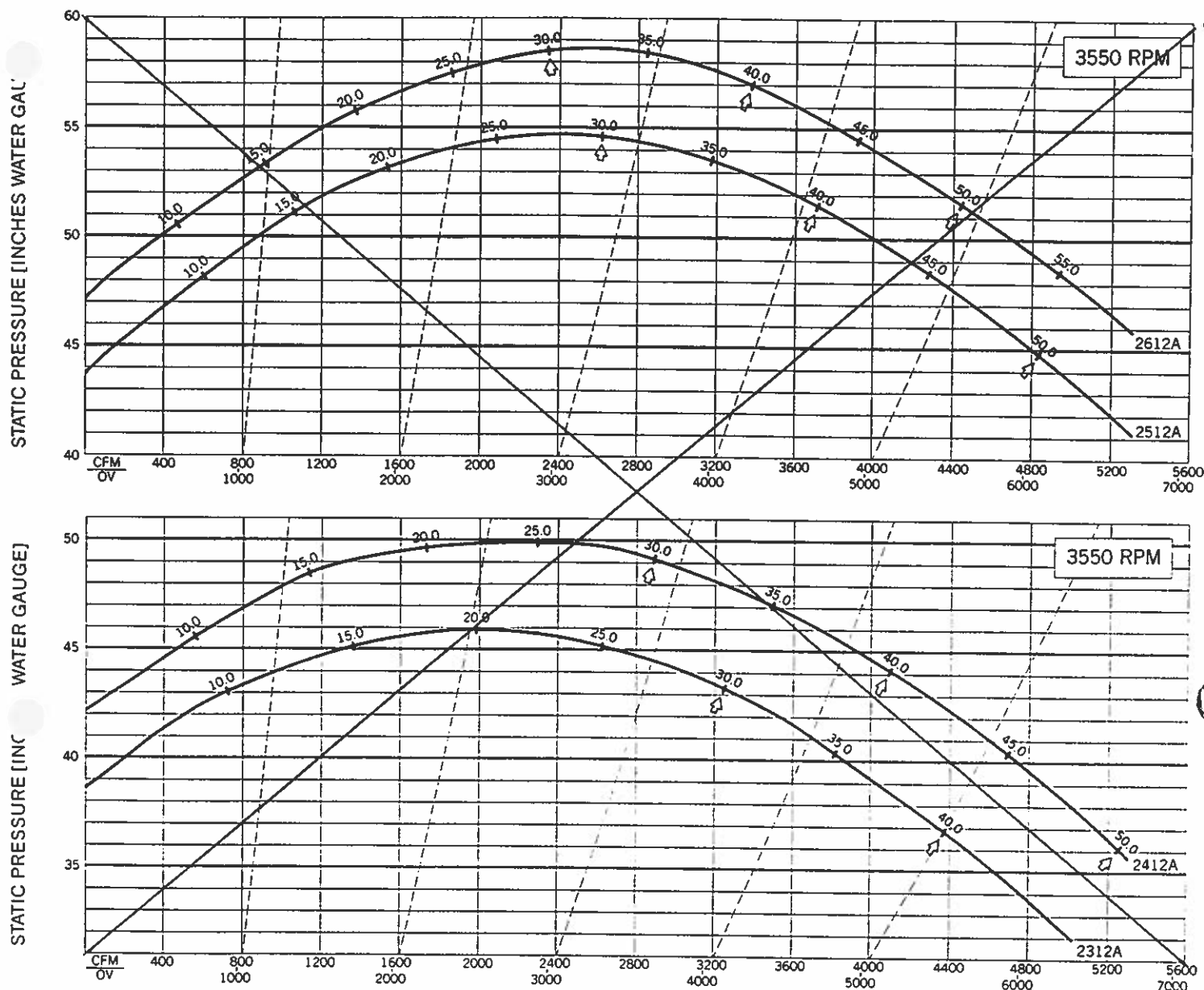
STATIC PRESSURE [INCHES WATER GAUGE]



12 OUTLET SIZE

Performance shown is for
Pressure Blowers with outlet duct
and with or without inlet duct.

Outlet area: .79 sq. ft.



WHEEL WEIGHTS AND INERTIA [WR²=LBS.-FT.²]

Size	Aluminum		Steel	
	Wt.(lbs.)	WR ²	Wt.(lbs.)	WR ²
1404	8.5	1.43	18.0	3.04
1406	11.7	2.4	20.5	3.46
1504	8.75	1.69	19.0	3.68
1506, 1508	11.8	2.4	21.5	4.16
1604	9.0	1.98	20.0	4.41
1606, 1608	12.1	2.5	23.0	5.07
1704	9.25	2.3	21.0	5.22
1706, 1708	12.2	2.6	24.5	6.09
1804	9.5	2.65	22.0	6.13
1806, 1808	12.4	2.6	26.0	7.25
1904, 1906	12.0	3.73	29.5	9.16
1908, 1910	15.1	5.1	34.5	10.72
2004, 2006	12.25	4.22	31.0	10.67
2008, 2010	15.3	5.2	36.5	12.56
2104, 2106	12.5	4.74	32.5	12.33
2108, 2110	15.5	5.3	38.0	14.42
2204, 2206	12.75	5.31	34.0	14.16
2208, 2210	15.5	5.4	40.0	16.57
2304, 2306	18.5	8.42	46.0	20.63
2308, 2310	21.7	10.6	53.5	24.38
2406, 2408	18.75	9.29	48.0	23.79
2410, 2412	21.9	10.8	56.0	27.75
2506, 2508	19.0	10.22	50.0	26.89
2510, 2512	21.9	11.0	58.5	31.46
2606, 2608	19.25	11.2	52.0	30.24
2610, 2612	22.3	11.2	61.0	35.48

MATERIAL SPECIFICATIONS U.S. STANDARD SHEET GAUGE TO 7 GAUGE

Sizes	Housing		Pedestal top and sides [all Arr.]	Shaft Diameter		Bearings*		Max.† safe speed [RPM]
	Scroll and sides	Side plates Drive Inlet		Arr. 1	Arr. 8	Arr. 1	Arr. 8	
14-18	10	10	10	1/4	1 7/16"	1 7/16"	P3-U223	4000
19-22	10	10	10	1/4	1 7/16"	1 7/16"	P-B22423	3900
23-26	10	10	7	1/4	1 11/16"	1 7/16"	P-B22427	3800

*nyb reserves the right to substitute bearings of equal rating.

†Derate for temperature not required.

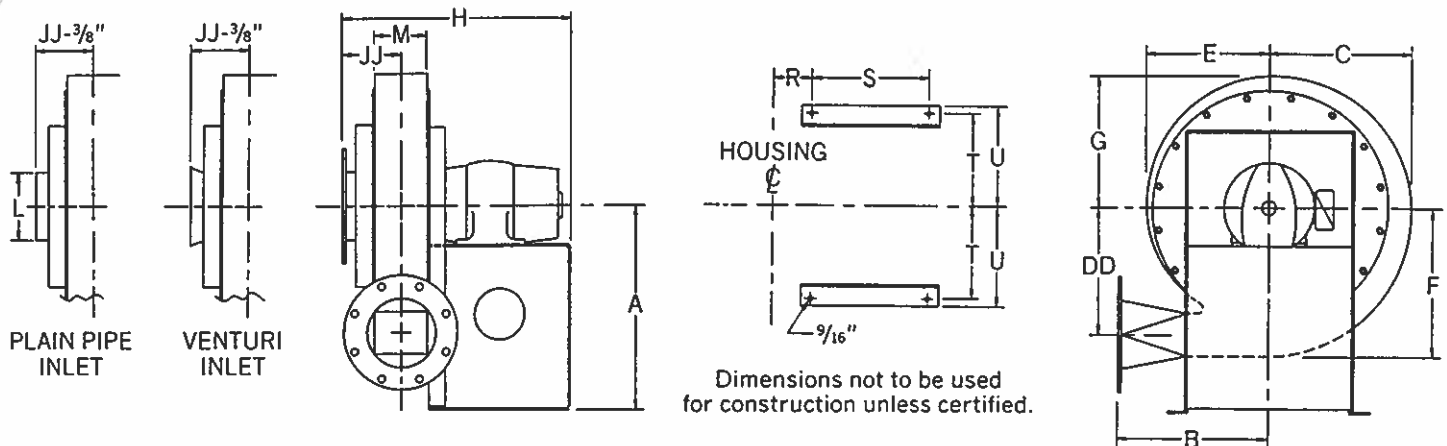
FLANGE DIMENSIONS [INCHES]

†Holes straddle
centerline. ANSI
Class 125/150 hole
pattern. Flange
thickness 3/8".

Size	I.D.	O.D.	Bolt circle	Hole† No.-Size
04	4	9	7 1/2	8 - 1/4"
06	6	11	9 1/2	8 - 7/8"
08	8	13 1/2	11 3/4	8 - 7/8"
10	10	16	14 1/4	12 - 1"
12	12	19	17	12 - 1"

DIMENSIONS

ARRANGEMENT 4



DIMENSIONS [INCHES]

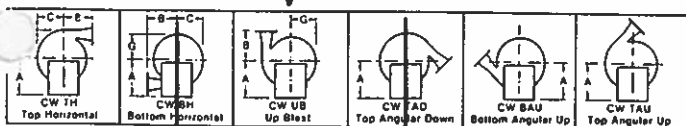
Wheel diameter	Outlet size	Inlet flange	Motor frame	A	B	C	DD	E	F	G	H	JJ	L	M	R	S	T	U	*Bare fan weight
14-18	04	6	143-145	17 1/4	18 1/4	13 1/4	11 1/4	12	14 1/4	12 1/4	19	5 1/4	6 1/2	3 1/4	3 1/4	8 1/4	8 1/4	9 1/4	145
			182-184	19							24 1/4					14 1/4			165
19-22			143-145	23	17 1/4	16 1/2	14 1/4	14 1/2	17 1/2	15 1/2	25	6 1/4				14 1/4	10 1/4	11 1/4	230
			182-184	24															
14-18	06	8	143-145	17 1/4	18 1/4	13 1/4	11 1/4	12	14 1/4	12 1/4	21 1/4	6 1/4	8 1/4	6 1/4	4 1/2	8 1/4	8 1/4	9 1/4	165
			182-184	19							26 1/4					14 1/4			185
			213-215	19 1/4															190
			143-145	23	17 1/4	16 1/2	14 1/4	14 1/2	17 1/2	15 1/2	25	6 1/4				14 1/4	10 1/4	11 1/4	235
19-22		6	182-184	24									6 1/2	3 1/4	3 1/4				240
			213-215	24 1/4															
			182-184	24	19	19 1/2	17 1/4	17 1/4	20 1/4	18 1/4	26 1/2	7				14 1/4	10 1/4	11 1/4	290
			213-215	24 1/4							21 1/4					19 1/4			245
23-26		8	182-184	24									8 1/4	5	3 1/4				
			213-215	24 1/4	19	19 1/2	17 1/4	17 1/4	20 1/4	18 1/4	26 1/2	7				14 1/4	10 1/4	11 1/4	290
			254-256	26							21 1/4					19 1/4			245
			254-256	26															
15-18	08	8	182-184	19	18 1/4	13 1/4	11 1/4	12	14 1/4	12 1/4	26 1/4	6 1/4	8 1/4	6 1/4	4 1/2	14 1/4	8 1/4	9 1/4	190
			213-215	19 1/4															
			182-184	24	17 1/4	16 1/2	14 1/4	14 1/2	17 1/2	15 1/2	26 1/4	6 1/4				14 1/4	10 1/4	11 1/4	250
			213-215	24 1/4							32 1/4					19 1/4			290
			254-256	26	19	19 1/2	17 1/4	17 1/4	20 1/4	18 1/4	26 1/4					14 1/4	10 1/4	11 1/4	
			213-215	24 1/4															
			254-256	26							31 1/4	7		5	3 1/4	19 1/4	10 1/4	11 1/4	320
			284-286	26 1/4															
19-22	10	10	213-215	24 1/4	21 1/4	16 1/2	14 1/4	14 1/2	17 1/2	15 1/2	26 1/4	6 1/4	8 1/4	6 1/4	4 1/2	14 1/4	10 1/4	11 1/4	300
			254-256	26							32 1/4					19 1/4			
			284-286	26 1/4															
			254-256	26	23	19 1/2	17 1/4	17 1/4	20 1/4	18 1/4	33 1/4	7 1/4				19 1/4			350
			284-286	26 1/4							37 1/4					23 1/4			375
23-26	12	12	284-286	28 1/4	23	19 1/2	17 1/4	17 1/4	20 1/4	18 1/4	37 1/4	7 1/4	10 1/4	7 1/4	5	23 1/2	10 1/4	11 1/4	390
			324-326	29 1/4															

*Bare fan weight, pounds, is approximate for Arrangement 4 units with aluminum wheels, less motors.

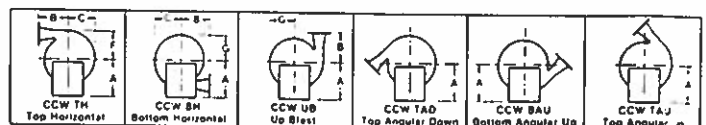
Tolerance: $\pm 1/4$ "

The New York Blower Company has a policy of continuous product development and reserves the right to change designs and specifications without notice.

FAN DISCHARGES — VIEWED FROM DRIVE SIDE



Clockwise—angular discharges at 45°



Counterclockwise—angular discharges at 45°

Housings are reversible and rotatable in 22 1/2° increments except Down Blast and Bottom Angular Down which require special construction.

Since 1968 Solberg has been manufacturing quality OEM and industrial filters for air and exhaust system filters and elements, filter silencers, oil mist filters, high temperature filters and more. There is a choice of media to suit specific duty requirements. As the filter specialist, Solberg can also provide reliable products for individual needs and unique filter applications. Ask for an engineering evaluation of your requirements.

Big Boy

FILTER

SILENCERS

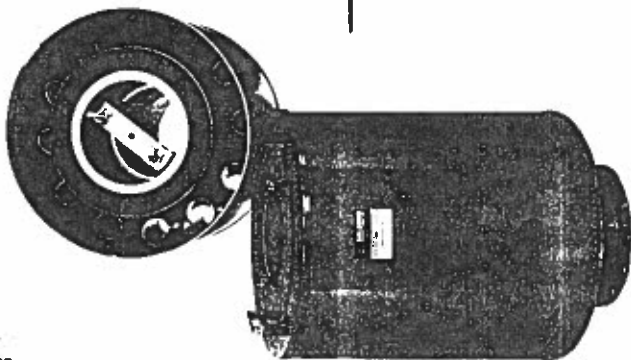
FS Series

3" to 6" MFL

4" to 14" Flange

Up to 6000 CFM

Complete Assemblies



FS-685P-1000F

Connection size:
1000 CFM
F at end of model #
denotes flange connection.
Element part #:
Odd #s = Polyester;
Even #s = Paper. Even
#s with letter P =
Polyurethane beam
pre-filter included.
FS denotes Filter
Silencer.

The Solberg line includes most all sizes of inlet, inline, and exhaust system filters and elements, filter silencers, oil mist filters, high temperature filters and more. There is a choice of media to suit specific duty requirements. As the filter specialist, Solberg can also provide reliable products for individual needs and unique filter applications. Ask for an engineering evaluation of your requirements.

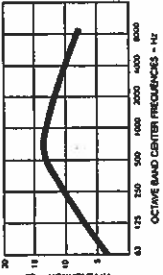
APPLICATIONS

- Blowers
- Air Compressors
- Fans
- Hydraulic breathers
- Engines

FEATURES

- Durable Heavy Gauge base with low pressure drop yoke and pipe design
- Tubular silencing design - maximizing noise attenuation and air flow
- Larger units reinforced with gussets for machines with extreme vibration

TYPICAL NOISE ATTENUATION - FS SERIES



- Interchangeable elements available at a given connection size providing a choice according to the severity of your application

OPTIONS

(Inquiries Encouraged)

- Larger sizes available
- Various elements available - See Element Bulletin
- 1/8" & 1/4" FPT tap holes for differential pressure gauges
- Support stands
- Epoxy coated housings
- Hot dipped galvanized housings
- Special connections

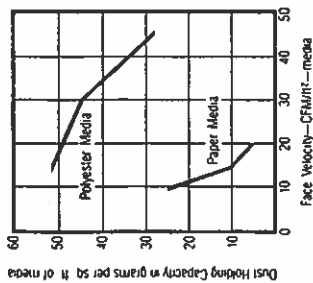
SMI MODEL NUMBERS - FS Series

W/Polyester Element	W/Paper Element	W/Wire Mesh Element	EFFECTIVE SURFACE AREA OF ELEMENT IN SQUARE FEET		APPLICATION CFM PULSATING FLOW	MPT or Flange Connection	DIMENSIONS		
FS-235P-300	FS-234P-300	FS-234S-300	8.3	22.8	200	3"	29	13"	16"
FS-245P-300	FS-244P-300	FS-244S-300	14.0	35.5	200	3"	30	13"	16"
FS-255P-300	FS-254P-300	FS-254S-300	19.0	45.4	300	3"	33	14"	16"
FS-265P-400	FS-264P-400	FS-264S-400	8.3	22.8	300	4"	30	14"	16"
FS-275P-400	FS-274P-400	FS-274S-400	19.0	45.4	450	4"	34	14"	16"
FS-285P-500	FS-284P-500	FS-284S-500	14.0	35.5	500	5"	33	14"	16"
FS-295P-500	FS-294P-500	FS-294S-500	19.0	45.4	650	5"	36	14"	16"
FS-305P-500	FS-304P-500	FS-304S-500	28.0	68.1	650	5"	44	20"	16"
FS-315P-600	FS-314P-600	FS-314S-600	19.0	45.4	650	6"	38	15-1/2"	16"
FS-325P-600	FS-324P-600	FS-324S-600	28.0	68.1	800	6"	46	20"	16"
FS-337P-600	FS-336P-600	FS-336S-600	50.0	125.0	1100	6"	95	22"	22-1/2"
Flanged Connections Class 150									
FS-235P-400F	FS-234P-400F	FS-234S-400F	8.3	22.8	300	4"	33	14"	16"
FS-245P-400F	FS-244P-400F	FS-244S-400F	14.0	35.5	450	4"	35	14"	16"
FS-255P-400F	FS-254P-400F	FS-254S-400F	19.0	45.4	450	4"	39	14"	16"
FS-265P-500F	FS-264P-500F	FS-264S-500F	14.0	35.5	500	5"	38	14"	16"
FS-275P-500F	FS-274P-500F	FS-274S-500F	19.0	45.4	650	5"	41	14"	16"
FS-285P-600F	FS-284P-600F	FS-284S-600F	28.0	68.1	650	5"	49	20"	16"
FS-295P-600F	FS-294P-600F	FS-294S-600F	19.0	45.4	650	6"	42	15-1/2"	16"
FS-305P-600F	FS-304P-600F	FS-304S-600F	28.0	68.1	800	6"	51	20"	16"
FS-315P-600F	FS-314P-600F	FS-314S-600F	50.0	125.0	1100	6"	100	22"	22-1/2"
FS-325P-600F	FS-324P-600F	FS-324S-600F	50.0	125.0	1440	8"	105	23"	22-1/2"
FS-337P-600F	FS-336P-600F	FS-336S-600F	75.0	200.0	1800	8"	145	23"	22-1/2"
FS-345P-800F	FS-344P-800F	FS-344S-800F	50.0	125.0	1800	10"	160	31"	28-1/2"
FS-355P-800F	FS-354P-800F	FS-354S-800F	75.0	200.0	2600	10"	152	23"	28-1/2"
FS-365P-1000F	FS-364P-1000F	FS-364S-1000F	50.0	125.0	2880	10"	185	38"	28-1/2"
FS-375P-1000F	FS-374P-1000F	FS-374S-1000F	75.0	200.0	3300	10"	160	23"	28-1/2"
FS-385P-1200F	FS-384P-1200F	FS-384S-1200F	50.0	125.0	2600	12"	176	31"	28-1/2"
FS-395P-1200F	FS-394P-1200F	FS-394S-1200F	75.0	200.0	3500	12"	198	38"	28-1/2"
FS-405P-1200F	FS-404P-1200F	FS-404S-1200F	100.0	280.0	4320	12"	221	53"	28-1/2"
FS-415P-1200F	FS-414P-1200F	FS-414S-1200F	150.0	400.0	5400	14"	245	53"	28-1/2"

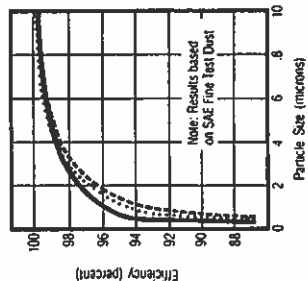
REPLACEMENT ELEMENTS

FS Series
3" to 6" MPT
4" to 14" Flange
Up to 6000 CFM

Influence of Face Velocity on Dust Holding Capacity



POLYESTER
Dust Removal efficiency of polyester media at face velocity of:
15 cfm/ft²-media
30 cfm/ft²-media
45 cfm/ft²-media

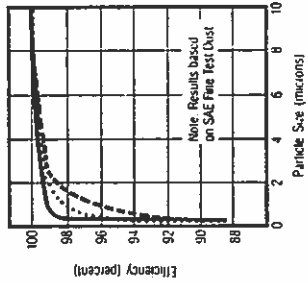


- Galvanized metal endcaps
- Reinforced with epoxy coated steel wire on both sides of polyester
- Nominally 99+% efficient at 10 microns
- Washable - lukewarm water and mild detergent
- Dust loading capacity is increased 40-50% with polyurethane prefilter

ADVANTAGES

- Less maintenance, longer life
- More durable
- Moisture resistant
- Handles hot air and oil mist from unload cycle of reciprocating compressor

PAPER
Dust Removal efficiency of paper media at face velocity of:
10 cfm/ft²-media
15 cfm/ft²-media
20 cfm/ft²-media



- Galvanized metal endcaps
- Heavy duty industrial strength paper
- Nominally 99+% efficient at 10 microns
- Reinforced with heavy gauge galvanized expanded metal
- Dust loading capacity is increased 40-50% with polyurethane prefilter

ADVANTAGES

- Loss expensive
- More surface area per given size
- Higher efficiency

NOTE
Additional interchangeable elements listed in Element Brochure EL-10

* = Plastics Endcaps
P = Polyurethane Prefilter

SIMI ELEMENT NUMBERS	Flow CFM		EFFECTIVE SURFACE AREA IN SQUARE FEET		DIMENSIONS		
	Polyester	Paper	Polyester	Paper	I.D.	O.D.	HT
2-225P-302	570	8.3	8.3	4.34*	7.7/8"	9.5/8"	9.5/8"
2-275P-302	900	11.0	11.0	5.4	8"	9.5/8"	9.5/8"
2-375P-302	1500	18.0	18.0	6.81	8"	11.3/4"	14.1/2"
2-377P-302	1800	20.0	20.0	7.75	9"	14.5/8"	14.1/2"
2-385P-302	1800	20.0	20.0	14.0	14"	19.5/8"	14.1/2"
4-85P-V6*	2680	75.0	75.0	200.0	14"	19.5/8"	21.1/2"
4-885P-302	3500	100.0	100.0	—	14"	19.5/8"	26.1/2"

SOLBERG Manufacturing, Inc.

1151 West Ardmore Ave. Itasca, IL 60143
1-800-451-0642 (Illinois: 630-773-1363)
Fax: 630-773-0727

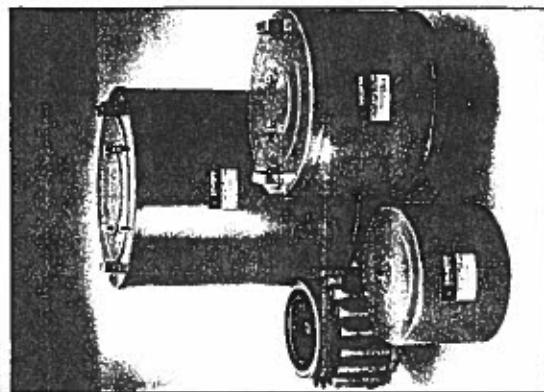


Printed on Recycled Paper



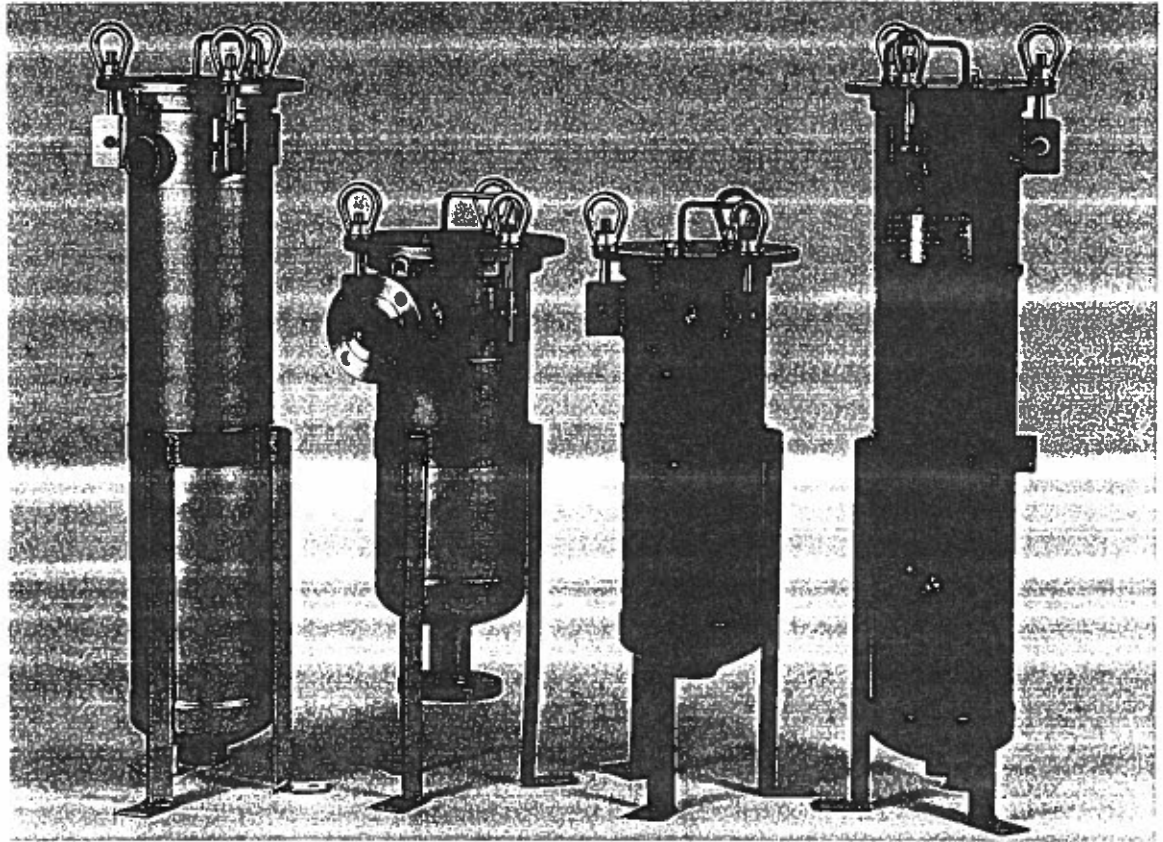
BIG BOX FILTER SILENCERS

FS Series
3" to 6" MPT
4" to 14" Flange
Up to 6000 CFM
Complete Assemblies



Bulletin BFS-40

UF & CQX (90's & 180's)



All 90 and 180 style filter bag/strainer vessels are designed with a recessed basket, a volume displacer permanently welded to the top cover, and a 304 stainless steel wire mesh retainer basket. Wire mesh baskets increase available filtration surface area by 30% compared to a perforated retainer basket. We offer our 90 and 180 size vessels in two different styles, UF and CQX, and a variety of pressure ratings with 150 psi being standard.

Standard Features

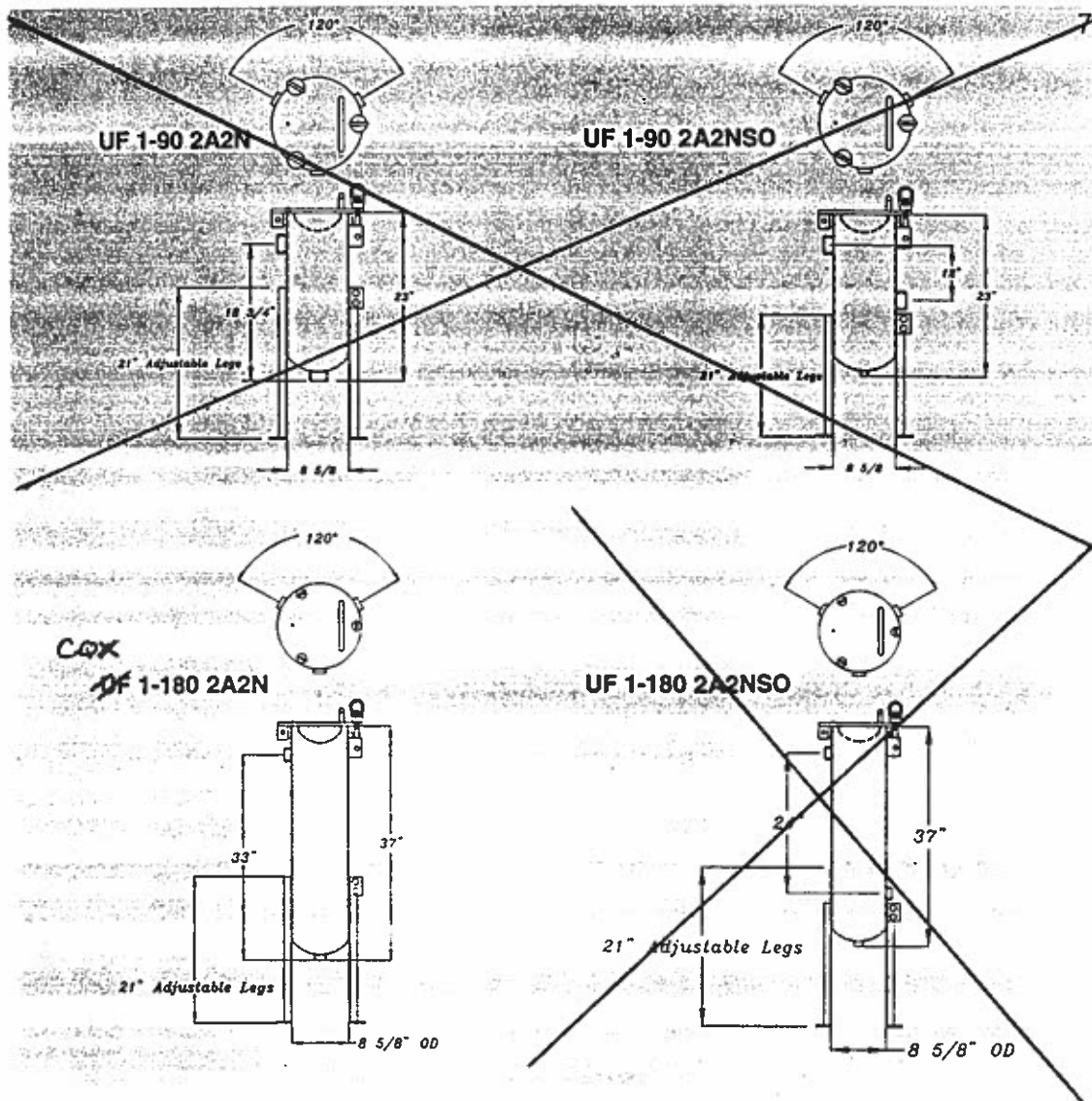
- Available in Carbon Steel, 304 and 316 Stainless Steel
- Adjustable height tri-pod stand
- Built-in volume displacer in cover
- Inlet/outlet orientation: Side-in Bottom-out (standard) or Side-in Side-out
- Low pressure drop
- Positive cover seal
- Available O'ring materials: Buna N, EPR, Viton A, Teflon, & Teflon Encapsulated
- Easy cleanability
- 304 SS wire mesh basket
- ASME Code stamp available on all UF style vessels
- Swing bolt closures
- .25" NPT differential pressure gauge/vent tap
- Pipe sizes from ~~.75" to 3"~~ ^{2"} NPT, RFF or Quick Disconnect connections

Optional Features

- Epoxy coating, electro-polish and fuse coating
- Higher pressure ratings available up to 3,000 psi
- Steam jacketed
- Differential pressure gauge taps — .25" or .5" NPT
- Bag hold down devices
- Custom designs
- Sanitary constructions
- Mesh-lined basket for straining applications — 50 micron and higher
- Other materials of construction are titanium and hastelloy

The U.F. Strainrite Advantage

- Recessed basket with welded volume displacer — allows for cleaner operation because liquid is several inches below lid
- Retainer basket with handle — allows for easy and quick access to filter bag and basket
- Wire mesh retainer basket — allows for longer filter time resulting in fewer change-outs as compared to perforated baskets (refer to page 14)
- Double O'ring seal — assures high quality filtration and minimizes bypass potential



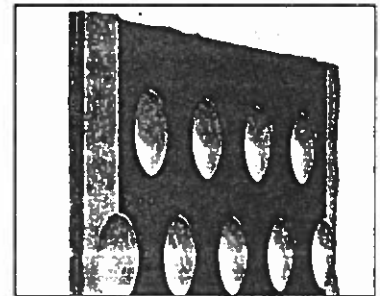
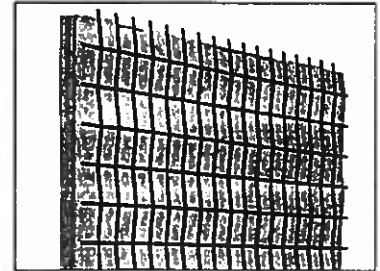
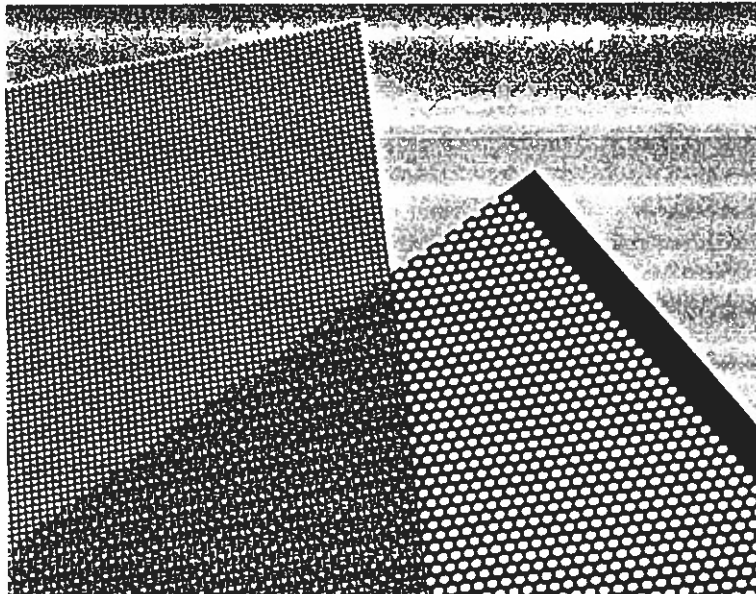
Recommended Flow Rates and Surface Area

For the following recommended flow rates, vessels need a minimum inlet/outlet size of 2" NPT. The recommended flow for basket and filter combination is for nominally rated filter bags not for our high efficiency filter bag line.

Product	Basket Strainer	Mesh lined Basket Strainer	Retainer Basket with Filter Bag	Surface Area Sq. Ft.
UF 1-90	150 gpm	110 gpm	75 gpm	2.25
UF 1-180	300 gpm	220 gpm	150 gpm	4.50

CQX

Wire Mesh vs. Perforated



Standard Features

- #1 and #2 size baskets use a wire mesh that is a 10 x 10 wire and 1600 micron
- Perforation for the 600 Series, UF 1-30 and UF 1-65 Filter Bag Vessels are 1/8" hole on 3/16" center

Advantages of Wire Mesh over Perforated

- Greater flow rates — increased production capacity — improved profits
- 28% to 38% longer bag life — reduced filter bag operating costs — improved profits
- Less down-time — increased productivity — improved profits
- Less product loss — which occurs during filter bag change-out — improved profits
- Less filter bag waste to dispose of — waste minimization — improved profits
- Easier replacement of filter bags since positive pressure tends to push clogged media deep into the perforated holes of the basket — reduced labor time for change-out — improved profits

Total Flow Filtered

Test A ΔP	10 x 10 Wire Mesh 1600 Micron	Perf. Metal 1/8" Holes on 3/16" Centers	Increased Life of U.F. Strainrite Baskets
15 psi	1370 gal.	1070 gal.	28%
20 psi	2950 gal.	2190 gal.	32%
25 psi	5905 gal.	4380 gal.	35%
27 psi	7380 gal.	5480 gal.	35%

Test B ΔP	10 x 10 Wire Mesh 1600 Micron	Perf. Metal 1/8" Holes on 1/4" Centers	Increased Life of U.F. Strainrite Baskets
15 psi	1370 gal.	1005 gal.	36%
20 psi	2950 gal.	2165 gal.	36%
25 psi	5905 gal.	4300 gal.	37%
27 psi	7380 gal.	3550 gal.	38%

O'Ring Chart

Single Basket Vessels

O'Rings

- 348** 4 3/8" ID x 4
3/4" OD x 3/16" TK
- 363** 6 1/2" ID x 6
7/8" OD x 3/16" TK
- 369** 8" ID x 8
3/8" OD x 3/16" TK →
- 444** 7 3/4" ID x 8
1/4" OD x 1/4" TK
- 447** 9" ID x 9
1/2" OD x 1/4" TK

O'Ring Materials

Buna N
PR
Viton A
Teflon
Teflon Encapsulated

Series	Basket	Size	Basket O'Ring	Cover O'Ring	Swing Blot Quantity	Swing Bolt Size
"UF" Code and Noncode 150 psi	#1	90	363	447	3	5/8"
	#2	180				
"CQ" 150 psi	#1	90	363	CQ 360	Band Clamp HD 8" 3 SB Cover	N/A 5/8"
	#2	180		CQX 444		
"LP" 75 psi	#1	90	363	360	Band Clamp LP 8"	N/A
	#2	180				
"UF" 100, 200, 300 psi	9.5	30	None	348	Band Clamp HD 4" 3 300 psi	N/A 1/2" 300 psi
	21	65				
600	5 x 12	612	None	363	3	5/8"
	5 x 18	618				
	5 x 30	630				
"OM" 150 psi	#1 Perf.	1	363	444	Band Clamp HD 8" 3 SB Cover	N/A 5/8"

** UF 1-30, 65 300 psi uses Swing Bolt Cover

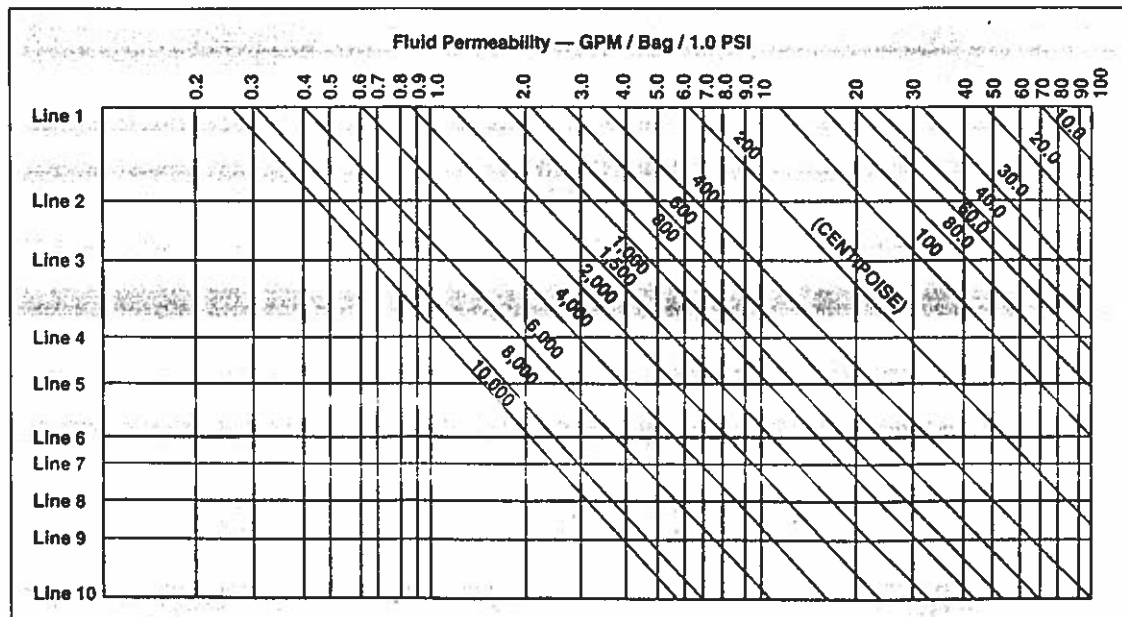
Sizing Filter Bags

- No. 1 size not to exceed 90 GPM
- No. 2 size multiply by factor of 2.1 to the flow rate on the chart.

Line 1	1.3 AP	1.3 SP
Line 2	5 AP	5 SP
Line 3	10 AP	10 SP
Line 4	15 AP	25 SP 50 SP
Line 5	25 AP	50 SP
Line 6	75 AP 100 AP	100 AP
Line 7	200 AP	
Line 8	150 thru	250 mesh
Line 9	300 thru	500 mesh
Line 10	600 thru	800 mesh

U.F. STRAINRITE
207-777-3100

Differential Pressure Drop Chart



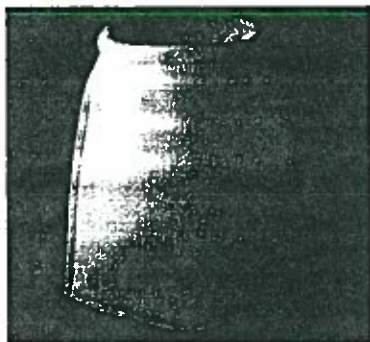
HOW TO ORDER

Before you order any filtration product from U.F. Strainrite, please call for a price list to use as a guide. The information required to "build a part num-

ber" is listed on each page of the Price List. The sample number below serves as a general guide for FELTS only. Mesh products as well as specialty filter bags

require additional information. Keep in mind that each order number must have a minimum of six parts.

AP	10	P	2	S	HA	*
MATERIAL	MICRON	FINISH	SIZE	RING	OPTIONS	ASTERISK
This one or two letter code describes the material (fiber) used to construct the filtration product. Please see individual pages in Strainrite Filter Bag Price List: FELTS: AP Polyester SP Polypropylene X Viscose N Nylon h Nomex TE Teflon MESHES:	Please check individual material for micron availability. need technical information to help with a decision regarding your needs, please call. 50 →	This letter indicates either the type of finish applied to the felt or the type of cover. Again, see individual page for ordering information. FELTS: P Plain (Standard) S Singed One Side B Singed Both Sides → C Cerex Cover N Nylon Cover MESHES:	This number indicates the filter bag size. Most bags fit into standard categories; however, special sizes are available. Please refer to the price list for all sizes. MOST COMMON: 1 7.0" x 16.0" 2 7.0" x 30.5" 3 4.0" x 8.0" 4 4.0" x 14.0" 30 4.0" x 10.0" 65 5.5" x 13.0"	These letters describe the ring type to be used. Please read ring options on each page. All standards available. RINGS: S Carbon Steel SS Stainless Steel SR Seal Rite SR-2 Seal Rite(2sides) SR-3 Flange type DS Draw String PO Polypropylene N No Ring	This item indicates a specific option choice - Handle, 4 Column, 8 Column, Extended Life. Please check individual pages of Strainrite Price List for additional information or ask Customer Service.	This last item is added to a part number to indicate that there is additional information which MUST BE added to the order before it can be manufactured. As many orders require customization, the asterisk provides all of the additional specifications needed to fulfill an order.



FELTS

MATERIAL/MICRON RATING													
	0.5	1	3	5	10	15	25	50	75	100	125	150	200
Viscose		X		X	X	X	X	X		X			
Polypropylene		X	X	X	X		X	X	X	X			
Polyester	X	X	X	X	X	X	X	X	X	X		X	X
Nomex		X		X	X	X	X	X		X			X



MESHES

MONO- and MULTIFILAMENTS	
Nylon monofilament (NMO)	5, 10, 25, 35, 50, 75, 100, 150, 200, 250, 300, 400, 600, 800
Polyester monofilament (PEMO)	5, 10, 25, 35, 50, 75, 100, 150, 200, 250, 300, 400, 600, 800
Polypropylene monofilament	30, 50, 100, 150, 200, 300, 400, 600, 800
Polyester multifilament(PEMU)	100, 125, 150, 200, 250, 300, 400, 600, 800
Nylon multifilament(NMU)	100, 125, 150, 200, 250, 300, 400, 600, 800

MEDIA INFORMATION

 Strainrite provides the most complete range of standard liquid filter bags available in the marketplace today. High quality products for almost every application and efficiency requirement imaginable, Strainrite manufactures filter bags to fit not only their own high quality filter housings, but also those of other manufacturers. The complete line of conventional filter bags are available in a wide range of sizes and materials.

BASIC MATERIALS:

FELT: A versatile fabric available in numerous micron ratings. Felt's three dimensional construction creates a fabric with low density and high permeability. These features offer longer life bags with greater flow rates and increased dirt holding capacity. Unlike woven fabrics with low permeability (only 20-30 per-useable surface area), felts provide depth for greater particle retention and generally the best cost per

gallon filter bag on the market today. Felt fabrics include: Polyester, Polypropylene, Nylon, Viscous, Teflon and Nomex.

MULTIFILAMENT MESH: This low cost, disposable woven material is available in a wide range of micron ratings. Good in applications where felt not suitable.

MONOFILAMENT MESH: This woven material is both strong and efficient and offers many micron ranges where felt is not available.

With advanced manufacturing capabilities, U.F. Strainrite can provide the perfect replacement filter bag for your particular application. Help us build a part number for your application by picking one designation from each of the categories on previous page, or call our Customer Service department for assistance. We offer experienced technical support for all of your questions about liquid filtration.

TYPICAL APPLICATIONS

Acids	Hydraulic liquids
Adhesives	Inks
Alkalines	Machinery cooling liquids
Alcohols	Magnetic coatings
Amines	Membrane protection
Beverages	Mineral oils
Beer	Oil & gas industry
Chemicals	Paints
Coating Products	Pharmaceuticals
Cooling Water	Photochemicals
Cosmetics	Process water
Drinking Water	Resins
E-coats	Semiconductors
EDM - oils	Silicones
Electroplating solutions	Soft drinks
Emulsions	Sugar
Esters	Vinegar
Food	Water
Fructose	Well/spring water
Glycols	Wine
Glues	
Greases and oils	
Giardia cysts	

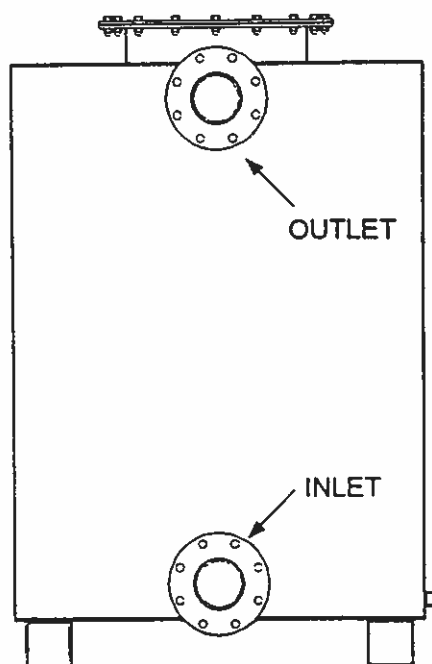
Properties of Filter Media

		Max. Operating Temperature	Operating Pressure	General Filtration Applications
Filter Bag Material	Rayon Viscose	250°F	*	Solvents, petroleum products, organic acids and alcohols
	Polypropylene Agents	200°F	*	Strong acids & bases, salt solutions, oxidizing & reducing
	Nylon	300°F	*	Solvents, petroleum products
	Nomex	400°F	*	Solvents, weak acids and bases
	Wool	200°F	*	Animal & vegetable oils, petroleum products, solvents
	Polyester	250°F	*	Solvents, petroleum products, weak acids & bases
Vessel	Carbon Steel	650°F	150/300	Most chemicals except dilute acids and some salt solutions
	SS 304 & 316	450°F	150/300	Superior chemical resistance to above
Ring	Buna N	250°F		Animal & vegetable oils, petroleum products
	Ethylene Propylene	300°F		Strong acids and bases; animal & vegetable oils
	Neoprene	300°F		Oils, fats, greases, salt solutions
	Silicone	500°F		Animal and vegetable oils, oxidizing chemicals
	Teflon™	550°F		All applications
	Thikol	160°F		Petroleum products, animal & vegetable oils, ethers
	Viton A™	400°F		Solvents, strong acids, animal & vegetable oils

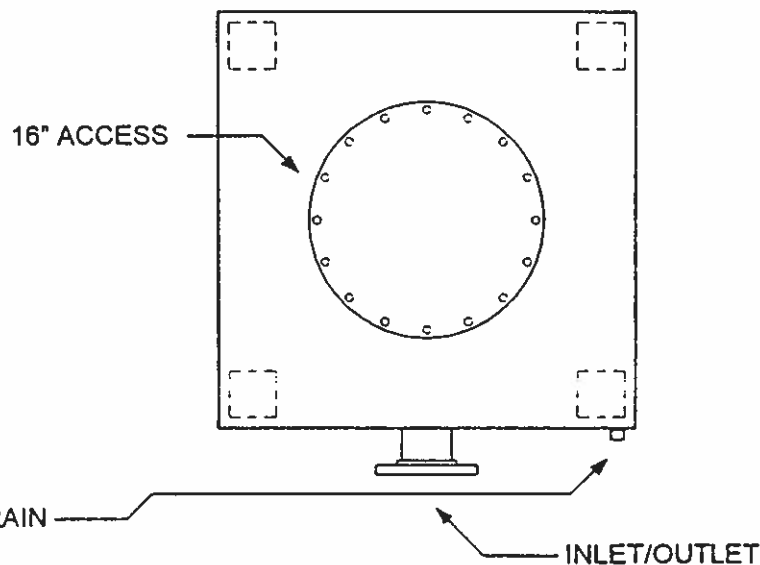
* 75 psi AP for closed systems.



PRODUCT DIMENSIONS VF SERIES FILTERS



ELEVATION VIEW
NOT TRUE ORIENTATION



PLAN VIEW
TRUE ORIENTATION

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)	½"	½"	½"	½"	¾"	¾"	¾"
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



GENERAL DESCRIPTION

The VF-2000 filter is a media filter vessel designed to treat vapor streams where pressure drop is a strong concern. While the typical design application is a activated carbon adsorption unit, the filter can easily accommodate many medias. The sturdy construction makes these filter vessels ideal for long term treatment units. Some applications include:

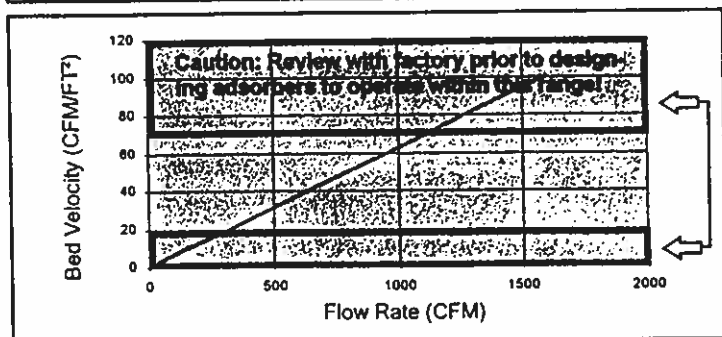
- Soil Vapor Extraction Treatment
- Air Stripper Off Gas Treatment
- Odor Removal System
- Storage Tank Purge Vapor Treatment
- Pilot Study
- Industrial Process Treatment

VF-2000 STANDARD SPECIFICATIONS

Specification	Specification Value	Options
Materials (Vessel)	Carbon Steel	Stainless Steel
Materials (False Floor)	Carbon Steel	Polypropylene, PVC, 304SS, 316SS
Internal Coating	Polyamide Epoxy Resin	Vinyl Ester, PVC
External Coating	Epoxy Mastic (Light Gray)	Any available coating
Maximum Pressure	3 PSIG	Specials Designs Available
Maximum Temperature	350° F	Up to 650° F
Cross Sectional Bed Area	16 FT ²	Special Sizes Available
Bed Depth	4.5 FT (Using 2000 Lbs. 4*10 GAC)	Dependent upon supplied media
Bed Volume	71 FT ³ (Using 2000 Lbs. 4*10 GAC)	NA

BED VELOCITY GRAPH

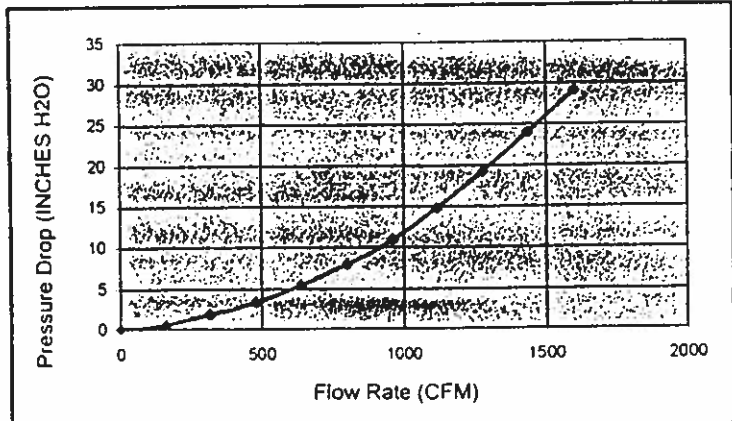
(Line indicates Flow to Velocity Relationship)



Related Bulletins:
B99-M212A - O&M Manual - VFV-1000 Filter
B99-06A - About Pressure Drop
B99-07A - Usage Rates

PRESSURE DROP GRAPH

(As Filled - 4x10 GAC)



A Full Range of Product Features Una Gama Total de Características del Producto

Superior Materials of

Construction: Complete AISI 316L stainless steel liquid handling components and mounting bracket for corrosion resistance, quality appearance, and improved strength and ductility.

High Efficiency Impeller:

Enclosed impeller with unique floating seal ring design maintains maximum efficiencies over the life of the pump without adjustment.

Casing and Adapter Features:

Stainless steel construction with NPT threaded, centerline connections, easily accessible vent, prime and drain connections with stainless steel plugs. Optional seal face vent/flush available.

Mechanical Seal: Standard John Crane Type 21 with carbon versus silicon-carbide faces, Viton elastomers, and 316 stainless metal parts. Optional high temperature and chemical duty seals available.

Motors: NEMA standard open drip-proof, totally enclosed fan cooled or explosion proof enclosures. Rugged ball bearing design for continuous duty under all operating conditions.

Materiales Superiores de

Construcción: Componentes completos para manejo de líquidos en acero inoxidable AISI 316L y consola para el montaje para resistencia a la corrosión, apariencia de calidad, y fuerza y ductilidad mejoradas.

Impulsor de Eficiencia

Superior: El impulsor encerrado con un diseño único de anillo del sello flotante, mantiene sin ajustes, la eficiencia máxima sobre la vida de la bomba.

Características de la

Carcasa y del Adaptador: Construcción en acero inoxidable con NPT roscado, conexiones centrales, válvulas de fácil acceso, conexiones de cebado y drenaje con enchufes de acero inoxidable. Cara del sello válvula/chorro opcional disponible.

Sello Mecánico: Estándar John Crane Tipo 21 con carbón en contraste con caras de silicón-carbide, elastómeros de Viton, y partes metálicas de acero inoxidable 316. Sellos de alta temperatura y productos químicos están disponibles.

Motores: Estándar NEMA a prueba de goteo, ventilador totalmente encerrado o recintos a prueba de explosión. Diseño robusto de balineras de bolas para trabajo continuo en todas las condiciones de funcionamiento.

The various versions of the NPE are identified by a product code number on the pump label. This number is also the catalog number for the pump. The meaning of each digit in the product code number is shown at left.

Las diferentes versiones de la NPE se identifican con un número de código del producto en la etiqueta de la bomba. Este número es también el número del catálogo para la bomba. El significado de cada dígito en el número de código del producto se muestra a la izquierda.

NPE Product Line Numbering System Línea de Producto NPE Sistema de Numeración

Example Product Code, Ejemplo Código del Producto

1 ST 2 C 1 A 4 F

**Seal Vent/Flush Option,
Opción de Sello Válvula/Chorro**

Mechanical Seal and O-ring

4 = Pre-engineered standard
For optional mechanical seal modify catalog order no. with seal code listed below.

Sello Mecánico y Anillo 'O'

4 = Estándar aprobado

Para sello mecánico opcional modificar el número de orden del catálogo con el código del sello anotado abajo.

John Crane Type 21 Mechanical Seal (1/4" seal), Sello Mecánico John Crane Tipo 21 (sello de 1/4")						
Seal Code, Código del Sello	Rotary, Rotativo	Stationary, Estacionario	Elastomers, Elastómeros	Metal Parts, Partes Metálicas	Part No., Pieza Número	Casing O-Ring, Carcasa Anillo 'O'
1	Carbon	Ceramic	BUNA	316 SS	10K46	BUNA
2		Sil-Carbide	EPR		10K18	EPR
3		Ceramic	Viton		10K24	Viton
4		Ceramic	Viton		10K55	Viton
5	Gil	Sil-Carbide	EPR		10K81	EPR
6	Carbide		Viton		10K62	Viton

Impeller Option . . . No Adder Required

For optional impeller diameters modify catalog order no. with impeller code listed. Select optional impeller diameter from pump performance curve.

Código del Impulsor Opcional

Para impulsores con diámetros opcionales modificar el número de orden del catálogo con el código del impulsor anotado. Escoger el impulsor con diámetro opcional de la curva de funcionamiento de la bomba.

Impeller Code, Código del Impulsor	Pump Size, Tamaño de la Bomba		
	1 x 1 1/4 - 6	1 1/4 x 1 1/2 - 6	1 1/2 x 2 - 6
	Diameter	Diameter	Diameter
G	-	5 1/4"	5"
H	-	5 1/2"	5"
A	6 1/4"	5 1/4"	4 1/4"
B	5 1/4"	5 1/4"	4 1/4"
C	5 1/4"	4 1/4"	4 1/4"
D	4 1/4"	4 1/4"	4 1/4"
E	4 1/4"	4 1/4"	3 1/4"
F	4 1/4"	3 1/4"	

Driver, Conductor

1 = 1 PH, ODP 7 = 3 PH, XP
2 = 3 PH, ODP 8 = 575 V, XP
3 = 575 V, ODP 9 = 3 PH, TEFC
4 = 1 PH, TEFC Premium Eff.
5 = 3 PH, TEFC 6 = 1 PH, XP
6 = 575 V, TEFC

HP Rating, HP Potencia

C = 1/4 HP E = 1 HP G = 2 HP J = 5 HP
D = 1/2 HP F = 1 1/2 HP H = 3 HP

**Driver: Hertz/Pole/RPM,
Conductor: Hercios/Polos/RPM**

1 = 60 Hz, 2 pole, 3500 RPM
2 = 60 Hz, 4 pole, 1750 RPM
3 = 60 Hz, 6 pole, 1150 RPM
4 = 50 Hz, 2 pole, 2900 RPM
5 = 50 Hz, 4 pole, 1450 RPM

Material

ST = Stainless steel, Acero inoxidable

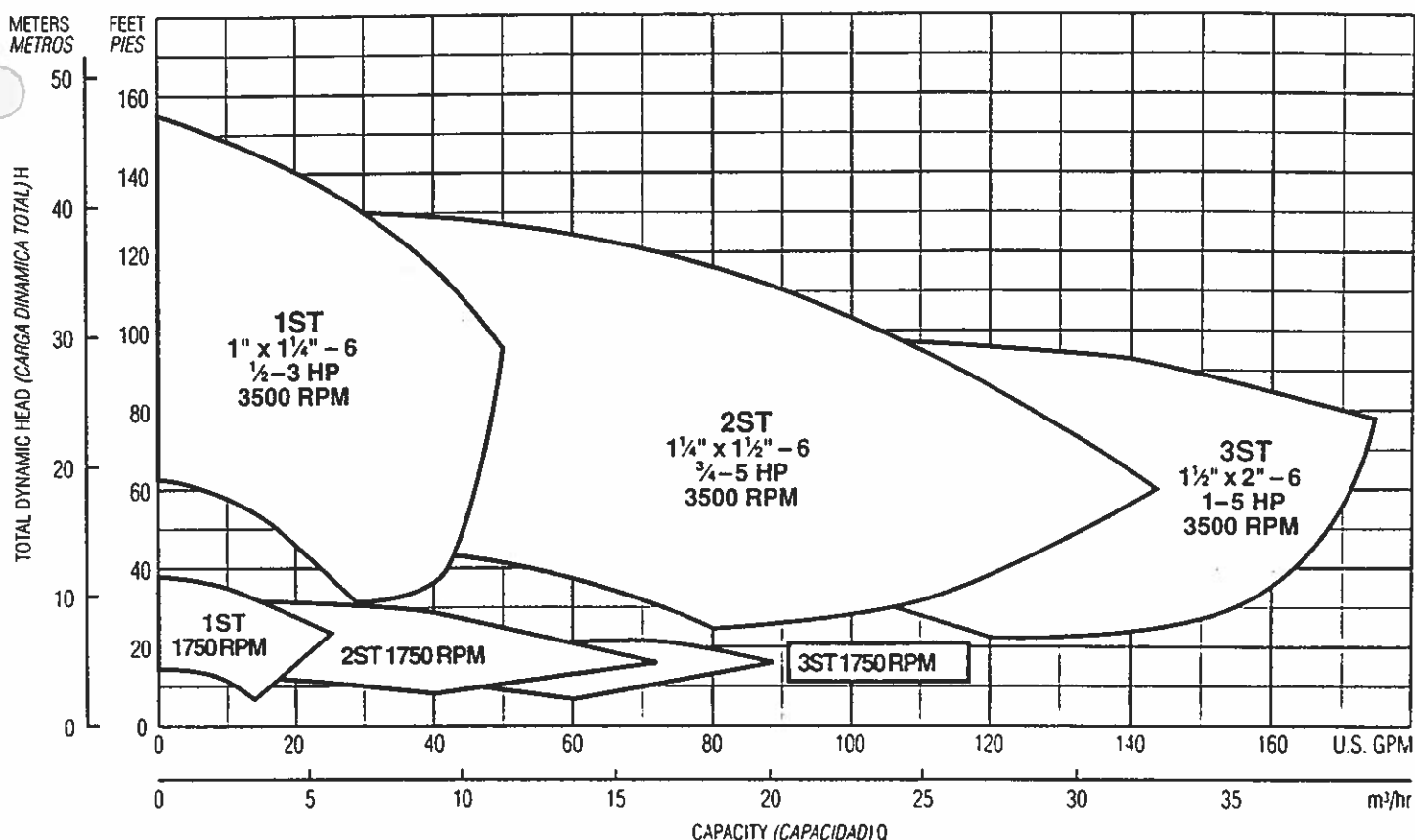
Pump Size, Tamaño de la Bomba

1 = 1 x 1 1/4" 2 = 1 1/4 x 1 1/2" 3 = 1 1/2 x 2"

For frame mounted version, substitute the letters "FRM" in these positions.

Para la versión con el armazón montado, sustituya las letras "FRM" en estas posiciones.

Performance Coverage (60 Hz)
Alcance de Funcionamiento (60 Hz)



NOTES:

Not recommended for operation beyond printed H-Q curve.

For critical application conditions consult factory.

Not all combinations of motor, impeller and seal options are available for every pump model. Please check with G&L on non-cataloged numbers.

All standard 3500 RPM ODP and TEFC motors supplied by Goulds, have minimum of 1.15 service factor. Standard catalog units may utilize available service factor. Any motors supplied other than Goulds check available service factor.

NOTAS:

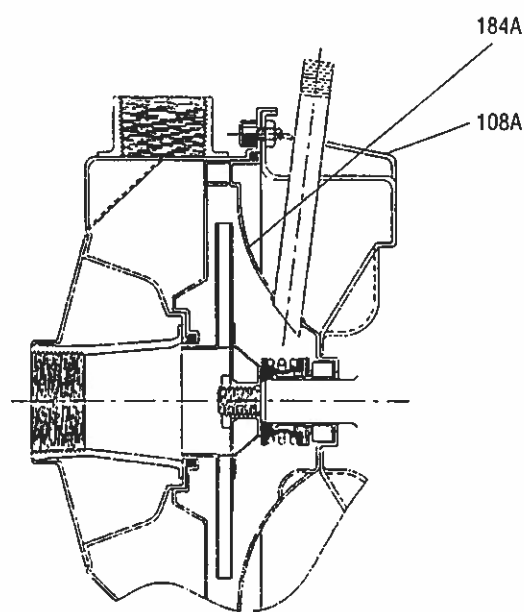
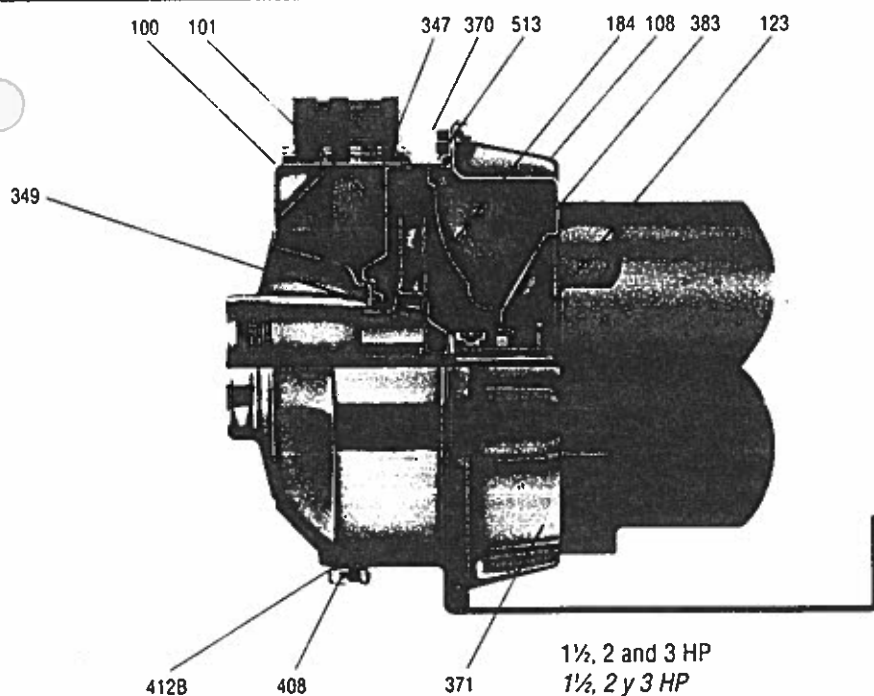
No se recomienda para funcionamiento superior al impreso en la curva H-Q.

Para condiciones de aplicaciones críticas consultar con la fábrica.

No todas las combinaciones de las opciones de motor, impulsor y sello están disponibles para cada modelo de bombas. Por favor verifique con G&L en los números no catalogados.

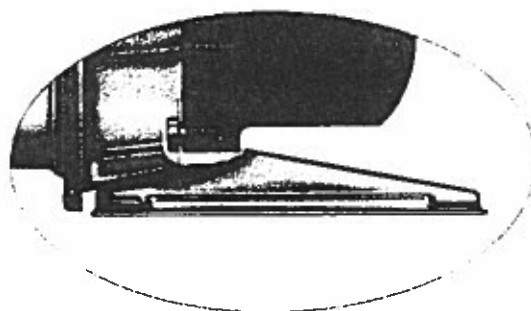
Todos los motores estándar de 3500 RPM, ODP (abiertos resguardados) y TEFC (totalmente encerrados con enfriamiento forzado) provistos por Goulds tienen un factor mínimo de servicio de 1.15. Las unidades estándar de catálogo pueden utilizar el factor de servicio disponible. Verificar el factor de servicio disponible de todo motor no provisto por Goulds.

NPE Close Coupled Pump Major Components: Materials of Construction **Bomba Cerrada Acoplada NPE Componentes Principales: Materiales de Construcción**



Seal Face Vent/Flush Option,
Opción Cara del Sello Válvula/Chorro

Item No., Parte No.	Description, Descripción	Materials, Materiales
100	Casing, Carcasa	
101	Impeller, Impulsor	
108	Motor adapter, Adaptador del motor	AISI 316L SS, AISI 316L Acero inoxidable
108A	Motor adapter seal vent/flush, Sello válvula/chorro del adaptador del motor	
123	Deflector, Deflector	BUNA-N
184	Seal housing, Alojamiento del sello	
184 A	Seal housing seal vent/flush, Sello válvula/chorro del alojamiento del sello	AISI 316L SS, AISI 316L Acero inoxidable
347	Guidevane, Difusor	
349	Seal ring, guidevane; Anillo del sello, difusor	Viton
370	Socket head screws, casing; Encajes cabezas de tornillos, carcasa	AISI 410 SS, AISI 410 Acero inoxidable
371	Bolts, motor; Tornillos, motor	Plated steel, Acero chapeado
383	Mechanical seal, Sello mecánico	**see chart, ver tabla
408	Drain and vent plug, casing; Enchufes de drenaje y válvula, carcasa	AISI 316L SS, AISI 316L Acero inoxidable
412B	O-ring, drain and vent plug; Anillo 'O', enchufe de drenaje y válvula	Viton
513	O-ring, casing; Anillo 'O', carcasa	
Motor	NEMA standard, 56J flange; NEMA estándar, brida 56J	

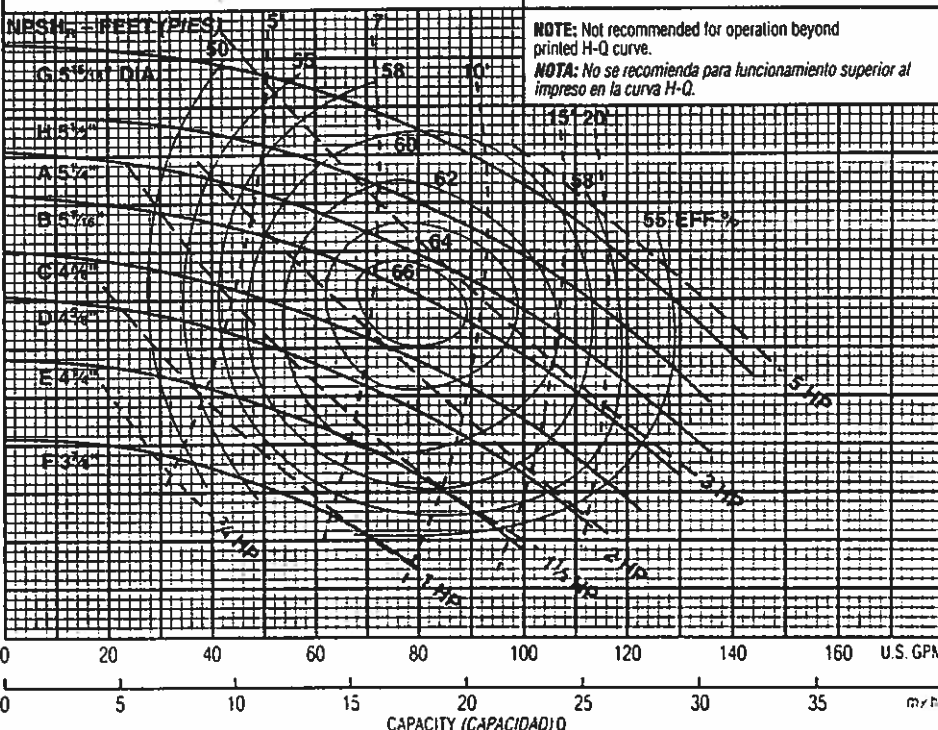


1/2, 3/4 and 1 HP
1/2, 3/4 y 1 HP

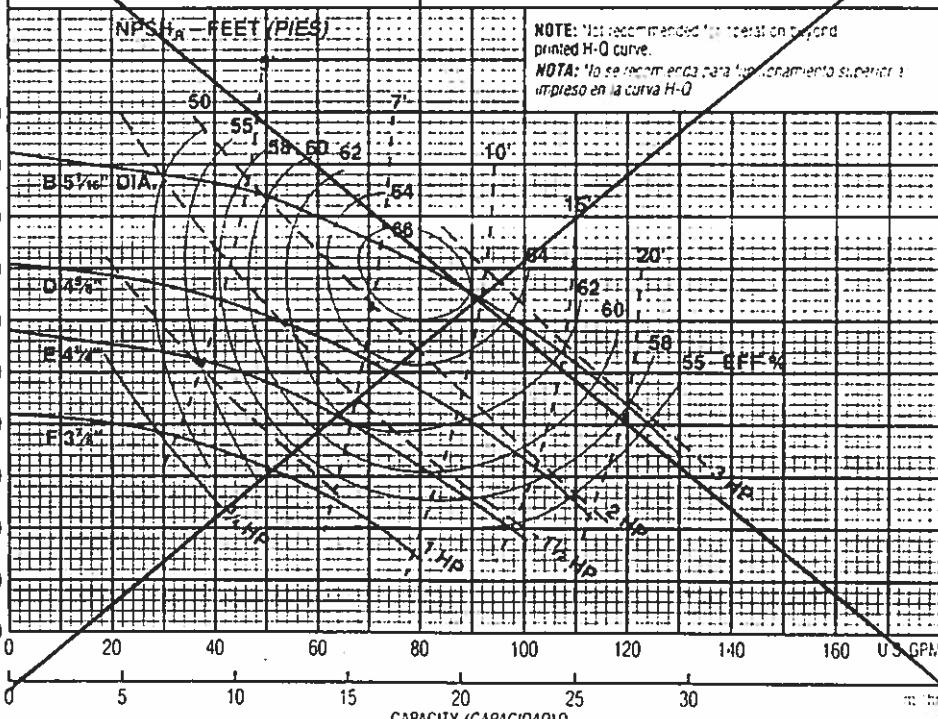
Footed motor for 1750 RPM and 5 HP ODP and TEFC, all explosion proof see page 13.

Motor con pie para 1750 RPM, 5 HP ODP y TEFC, a prueba de explosiones en la página 13.

Curvas de Funcionamiento – 60 Hz, 3500 RPM



NOTA: Si bien no se recomienda, la bomba puede pasar una esfera de 1/4".

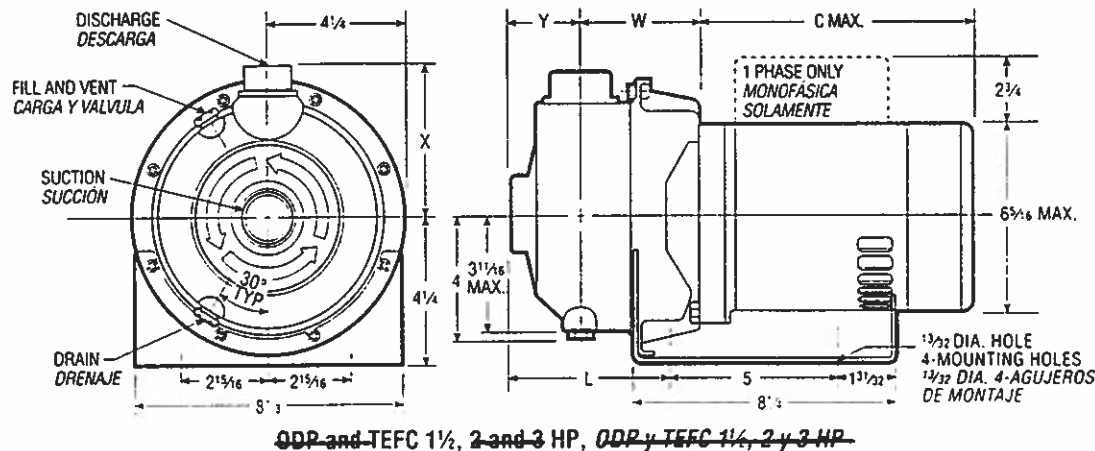
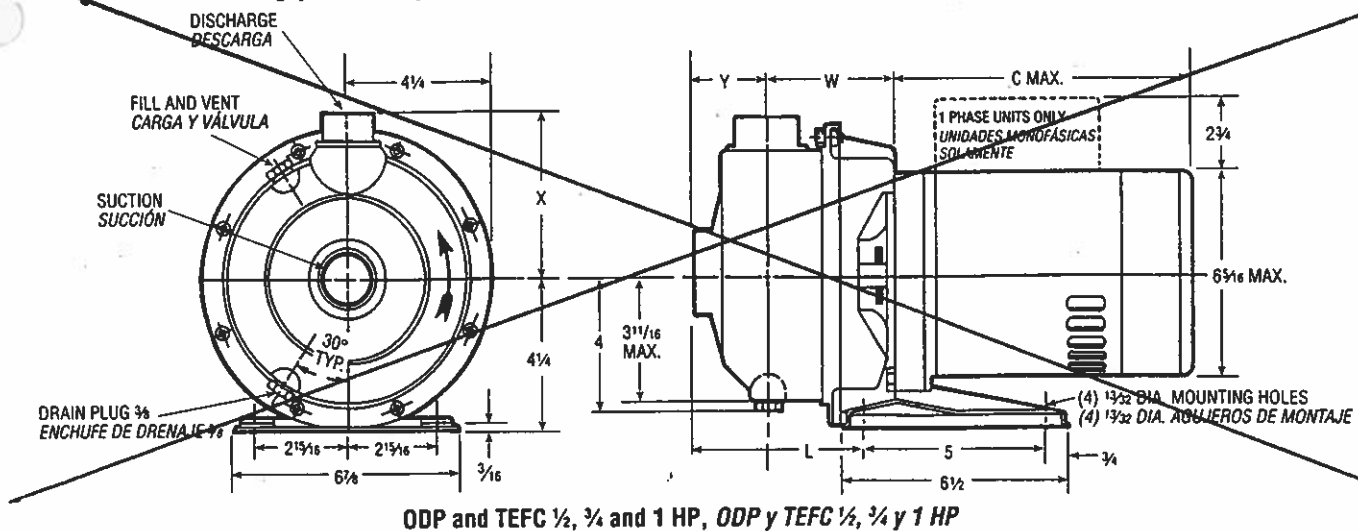


NOTA: Si bien no se recomienda, la bomba puede pasar una esfera de $\frac{3}{16}$ ".

NPE Close Coupled – Dimensions, Weights and Specifications NPE Acople Cerrado – Dimensiones, Pesos y Especificaciones

Clockwise Rotation Viewed from Drive End

Rotación en Dirección de las Agujas del Reloj Visto desde el Extremo del Motor



Specifications Especificaciones

Capacities to:

75 GPM (283L/min) at 1750 RPM
150 GPM (550L/min) at 3500 RPM

Heads to:

39 feet (11 m) at 1750 RPM
150 feet (50 m) at 3500 RPM

Working pressures to:

125 PSIG (9 bars)

Maximum temperatures to:

212°F (100°C) with standard seal
or 250°F (121°C) with optional
high temperature seal.

Direction of rotation:

Clockwise when viewed from
motor end.

Motor specifications:

NEMA 56J frame, 1750 RPM,
1/2 HP. 3500 RPM 1/2 through 5 HP.
Open drip-proof, totally enclosed
fan-cooled or 2 HP explosion proof
enclosures. Stainless steel shaft with
ball bearings.

Single phase: Voltage 115/230 ODP
and TEFC. (3 HP model – 230 V
only) Built-in overload with auto-
reset provided.

Three phase: Voltage 208-230/460
ODP, TEFC and EX PROOF.

NOTE: For three phase motors,
overload protection must be
provided in starter unit. Starter and
heaters must be ordered separately.

Capacidades:

75 GPM (283L/min) a 1750 RPM
150 GPM (550L/min) a 3500 RPM

Cargas:

39 pies (11 m) a 1750 RPM
150 pies (50 m) a 3500 RPM

Presión de trabajo:

125 PSIG (9 baras)

Temperatura máxima:

212°F (100°C) con sello estándar
o 250°F (121°C) con sello
opcional para alta temperatura.

Dirección de rotación:

En dirección de las agujas del reloj
visto desde el extremo final del
motor.

Motores:

Armazón 56J NEMA, 1750 RPM
1/2 HP. 3500 RPM 1/2 a 5 HP.

Cubiertas abiertas resguardadas,
totalmente encerradas enfriadas por
ventilador o a prueba de explosiones
de 2 HP. Eje de acero inoxidable con
balineras de bolas.

Monofásicos: Voltaje 115/230 ODP y
TEFC. (modelo 3 HP – 230 voltios
solamente) Se proporciona
protección térmica contra sobrecarga
construida con reseteo automático.

Trifásicos: Voltaje 208-230/460
ODP, TEFC y EX PROOF.

NOTA: Para motores trifásicos se
debe de proporcionar la protección
térmica contra sobrecarga en la
unidad de arranque. El arrancador y
los calentadores se deben pedir por
separado.

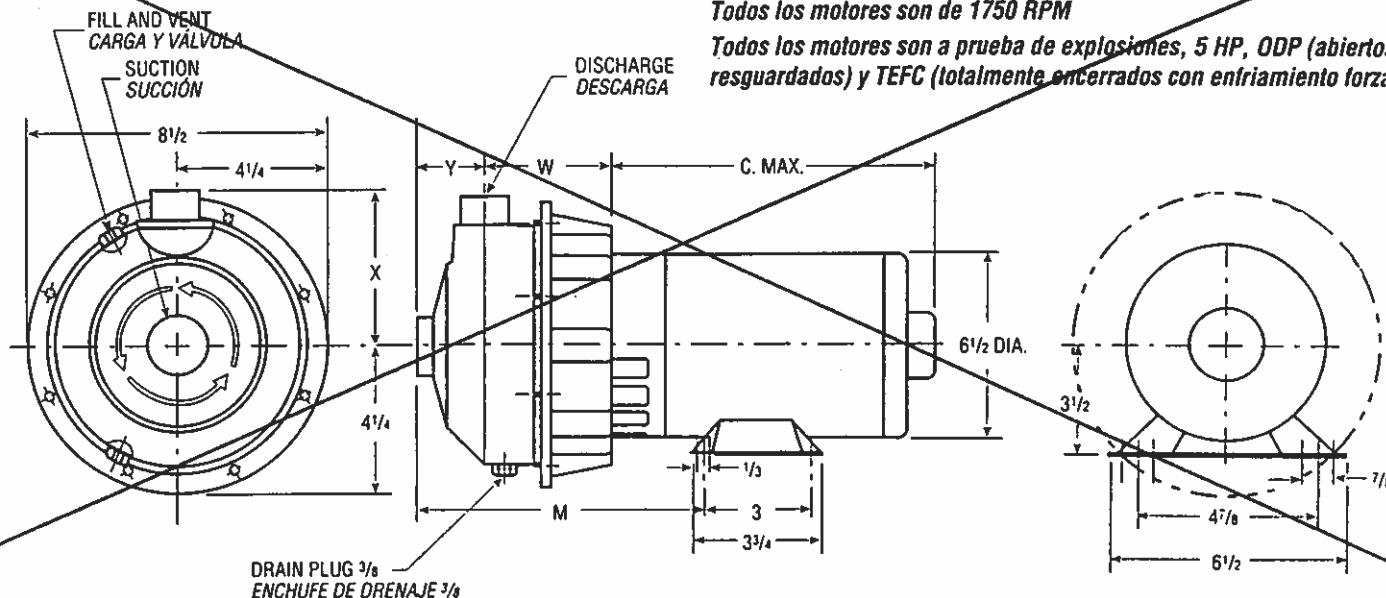
NPE Close Coupled with Footed Motor, 1750 RPM and Explosion-proof Motors
NPE Acople Cerrado con Motor con Patas, 1750 RPM y Motores a Prueba de Explosión

All 1750 RPM Motors

All Explosion Proof Motors and 5 HP ODP and TEFC

Todos los motores son de 1750 RPM

Todos los motores son a prueba de explosiones, 5 HP, ODP (abiertos resguardados) y TEFC (totalmente encerrados con enfriamiento forzado)



Dimensions - Determined by Pump,
Dimensiones - Determinadas por la Bomba

Pump, Bomba	Suction, Succión	Discharge, Descarga	HP	W	X	Y	L	M
1ST	1 1/4	1	1/4 - 3	3 1/4	4 1/4	2	4 1/4	7 1/4
2ST	1 1/2	1 1/4	1/4 - 5	3 1/4	4 1/4	2 1/4	5 1/4	7 1/4
3ST	2	1 1/4	1 - 5	3 1/4	4 1/4	2 1/4	5 1/4	7 1/4

Available Motor Weights and Dimensions,
Pesos y Dimensiones Disponibles del Motor

HP	Motor Weights, <i>Pesos del Motor</i>						C Max. Length, (<i>Longitud</i>)
	1 Phase, <i>Monofásicos</i>			3 Phase, <i>Trifásicos</i>			
	ODP	TEFC	EXP	ODP	TEFC	EXP	
½	16	21	47	19	18	27	9 ¾
¾	19	24	41	21	21	30	10 ¼
1	22	26	40	23	21	30	11
1½	28	35	56	27	27	37	11 ⅝
2	33	39	60	32	33	44	12 ⅝
3	40	43	—	41	37	—	12 ⅞
5	42	—	—	42	45	—	14 ¼

Dimensions in inches, weights in pounds.
 Dimensiones en pulgadas, pesos en libras.

NOTES:

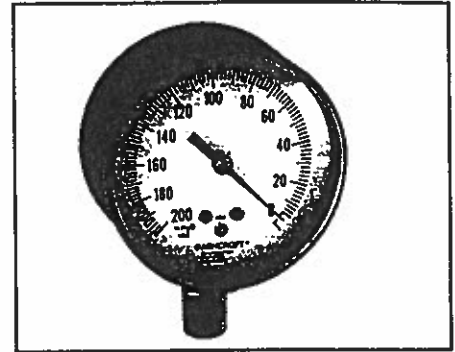
1. Pump will be shipped with top vertical discharge position as standard. For other orientations, remove casing bolts, rotate discharge to desired position, replace and tighten 6mm bolts to 5 - 6 lbs.-ft.
2. Motor dimensions may vary with motor manufacturers.
3. Dimensions in inches, weights in pounds.
4. For explosion proof motor dimensions consult factory for information.
5. Not to be used for construction purposes unless certified.

NOTAS:

1. Las bombas se transportarán con la descarga vertical superior como estándar. Para otras orientaciones, retirar los tornillos de la carcasa, rotar la descarga a la posición deseada, y reemplazar y apretar los tornillos de 6mm a 5 - 6 libras-pies.
2. Las dimensiones del motor puede que varien con los fabricantes.
3. Dimensiones en pulgadas, pesos en libras.
4. Para las dimensiones de los motores a prueba de explosión consultar con la fábrica para información.
5. No usar para propósitos de construcción sin certificar.

- 2½" dial size
- Steel case/black epoxy painted
- Bronze diaphragm
- Brass socket
- Sensitive diaphragm-capsule sensor mechanism
- For use with gases that are not corrosive to bronze and brass

The Ashcroft® Type 1490 series of product measures low pressures from 10" H₂O thru 15 psi as well as vacuum and compound ranges. This gauge uses a diaphragm capsule which is very sensitive for measuring low pressures and vacuum.



SELECTION TABLE

Case Size		Gauge Type		Tube and Socket Material		Connection Size and Location		Variations		Range
Code		Code	Steel-Black Painted case	Code		Code		Code		
25	2½	1490	Push-in poly-carbonate window	A	Bronze diaphragm	02L	¼ lower	TU NH	Throttle plug Wired stainless steel tag	Per standard range table
		02B	¼ back							
		01L	¼ lower							
		01B	¼ back							
		1491	Threaded poly-carbonate window		Brass socket					Consult factory for special range requirements
		1492	Threaded poly-carbonate window with flush mounting U-clamp							
		1493	Push in poly carbonate window with flush mounting U-clamp							

STANDARD METRIC RANGES

Pressure	Figure Intervals	Minor Graduation
0/60 cm H ₂ O	10	1
0/2.5 kPa	0.5	0.05
0/4.0 kPa	0.5	0.05
0/10 kPa	1	0.1
0/16 kPa	1	0.1
0/25 kPa	5	0.5
0/40 kPa	5	0.5
0/100 kPa	10	1
Vacuum		
2.5/0 kPa	0.5	0.05
4.0/0 kPa	0.5	0.05
10/0 kPa	1	0.1
16/0 kPa	1	0.1
25/0 kPa	5	0.5
40/0 kPa	5	0.5
100/0 kPa	10	1
Compound		
-10/60 cm H ₂ O	10	1
-10/80 cm H ₂ O	10	1
-20/40 cm H ₂ O	10	1
-10/100 cm H ₂ O	10	1
-10/120 cm H ₂ O	10	1

STANDARD RANGES

Pressure	Figure Intervals	Minor Graduation
0/10 in. H ₂ O	1	0.1
0/15 in. H ₂ O	5	0.2
0/30 in. H ₂ O	5	0.5
0/60 in. H ₂ O	10	1
0/100 in. H ₂ O	10	1
0/160 in. H ₂ O	20	2
0/200 in. H ₂ O	20	2
0/300 in. H ₂ O	50	5
0/10 oz./in. ²	1	0.1
0/15 oz./in. ²	5	0.2
0/30 oz./in. ²	1	0.1
0/60 oz./in. ²	10	1
0/100 oz./in. ²	10	1
0/160 oz./in. ²	20	2
0/250 oz./in. ²	50	5
0/3 psi	0.5	0.05
0/5 psi	1	0.1
0/10 psi	1	0.1
0/15 psi	5	0.2
Vacuum		
15/0 in. H ₂ O	5	0.2
30/0 in. H ₂ O	5	0.5
60/0 in. H ₂ O	10	1
100/0 in. H ₂ O	10	1
200/0 in. H ₂ O	20	2
15/0 oz./in. ²	5	0.2
30/0 oz./in. ²	1	0.1
60/0 oz./in. ²	10	1
100/0 oz./in. ²	10	1
Compound		
-30/30 in. H ₂ O	10	1
-30/30 in. oz./in. ²	10	1
-10/10 in. H ₂ O	2	0.2

Dual Scale

Range		Graduations			
		Inner Scale		Outer Scale	
Inner Scale	Outer Scale	Figure Intervals	Minor Grad.	Figure Intervals	Minor Grad.
0/3 oz./in. ²	0/15 in. H ₂ O	1	0.2	5	0.2
0/20 oz./in. ²	0/35 in. H ₂ O	5	0.5	5	0.5
0/35 oz./in. ²	0/60 in. H ₂ O	5	0.5	5	0.5
0/60 oz./in. ²	0/100 in. H ₂ O	10	1	10	1

Other ranges available on request. Consult factory.

TO ORDER THESE LOW PRESSURE DIAPHRAGM GAUGES:

Select: 25 1490 A 02L XXX 10" H₂O

- Dial size—2½" _____
- Case type _____
- Tube and socket material _____
- Connection size—¼ (02), ½ (01) _____
- Connection location—Lower (L), Back (B) _____
- Optional features—see page 88 _____
- Standard pressure range—10" H₂O _____

Accessories—see pages 138-144

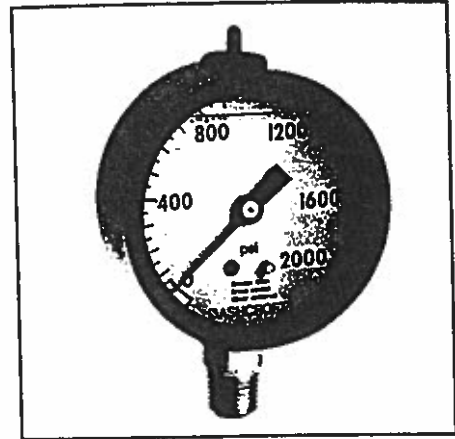
ASHCROFT

Commercial Hydraulic Gauge Type 3000, Grade B (3-2-3%)

- 304 stainless steel case liquid-filled, dry, or field-fillable
- Patented spring suspended movement with polyester segment
- Pressure ranges from vacuum to 15,000 psi and compound
- Two-year warranty on liquid-filled gauges

Ashcroft® Type 3000 gauges provide superior performance in applications where vibration, pulsation, mechanical shock and pressure spikes are common factors thus making them the ideal choice for hydraulic applications.

These gauges offer a feature only available in Ashcroft gauges—the patented spring suspended movement with polyester segment. This unique movement was designed to provide superior performance in stressful applications, resulting in extended gauge life.



GAUGE SPECIFICATIONS

Type no.: 3000
Size: 2½"
Case: 304 stainless steel, dry or liquid filled, elastomeric fill/vent plug
Fill fluid: Glycerin
Ring: Elastomeric
Window: Glass
Dial: Black figures on white background, aluminum
Pointer: Black, aluminum
Bourdon tube: "C" shaped bronze (Vac-600 psi and compound)
Helical bronze (1000-6000 psi)
Helical stainless steel (10,000-15,000 psi)
Movement: Patented spring suspended with polyester segment
Socket: Brass, O-ring case seal

Restrictor: 0.013" orifice throttle plug in all liquid-filled gauges; in dry gauges 1000 psi and above
Connection: ¼ NPT lower and back
Ranges: Vac-15,000 psi and compound, equivalent metric scales available.
Operating Temperature: Dry Gauge: -40°F to 150°F
Glycerin Filled: 0°F to 150°F

GAUGE OPTIONS

Factory variation code in ()
Case: Sealed case, fillable (XLJ)
Socket: Throttle plugs, 0.007", 0.013", 0.020", 0.031", 0.063" orifices
Connections: JIS, DIN, SAE and others available on application
Others: Customized dials
Nonstandard ranges
Special calibration on application

TO ORDER THIS TYPE 3000 GAUGE:

Select: _____ 25 W 3000 H L 02L 1000 #

1. Dial Size: 2½" _____
2. Patented Spring Suspended Movement _____
3. Case Type Number: 3000 _____
4. Socket Material: Brass _____
5. Liquid Filled Case: _____
6. Connection Size/Location: ¼ NPT lower _____
7. Range: 1000 psi _____

60
PSI



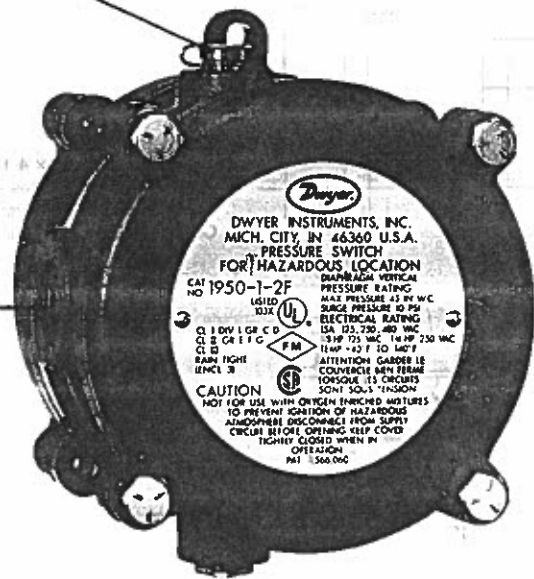
SERIES 1950

INTEGRAL EXPLOSION-PROOF PRESSURE SWITCHES

Specifications - Installation and Operating Instructions

SET POINT
ADJUSTMENT SCREW

1/2" NPT
ELECTRICAL
CONDUIT
CONNECTION



VENT DRAIN PLUG

The New Model 1950 Explosion-Proof Switch combines the best features of the popular Dwyer Series 1900 Pressure Switch with a compact explosion-proof housing.

The unit is U.L. and CSA listed, FM approved for use in Class I, Groups C & D, Class II, Groups E, F, & G and Class III atmospheres. It is also totally rain-tight for outdoor installations. Twelve models allow set-points from .03 to 20 inches W.C. and from .5 to 50 PSI.

Easy access to the SPDT switch for electrical hook-up is provided by removing the top plate of the three-part aluminum housing. Adjustment to the set point of the switch can be made without disassembly of the housing. The unit is very compact, about half the weight and bulk of equivalent conventional explosion-proof switches.

CAUTION: For use only with air or compatible gases. Use of the Model 1950 switch with explosive media connected to the Low pressure port (including differential pressure applications in such media) is not recommended. Switch contact arcing can cause an explosion inside the switch housing which, while contained, may render the switch inoperative. If switch is being used to sense a single positive pressure relative to atmosphere, run a line from the low pressure port to a non-hazardous area free of combustible gases. This may increase response time on -0 and -00 models.

UL and CSA Listed, FM Approved For
CL. I GR. C,D - CL. II GR. E,F,G - CL. III

Model 1950 Switches: Operating ranges and dead bands.

To order specify Model Number	Operating Range Inches, W.C.	Approximate Dead Band	
		At Min. Set Point	At Max. Set Point
1950-02	0.03 to 0.10	0.025	0.05
1950-00	0.07 to 0.15	0.04	0.05
1950-0	0.15 to 0.5	0.10	0.15
1950-1	0.4 to 1.6	0.15	0.20
1950-5	1.4 to 5.5	0.3	0.4
1950-10	3.0 to 11.0	0.4	0.5
1950-20	4.0 to 20.0	0.4	0.6
Model Number	Operating Range PSI	Approximate Dead Band	
		Min. Set Point	Max. Set Point
1950P-2	.5 to 2.0	0.3 PSI	0.3 PSI
1950P-8	1.5 to 8.0	1.0 PSI	1.0 PSI
1950P-15	3.0 to 15.0	0.9 PSI	0.9 PSI
1950P-25	4.0 to 25.0	0.7 PSI	0.7 PSI
1950P-50	15.0 to 50	1.0 PSI	1.5 PSI

PHYSICAL DATA

Temperature Limits: -40° to 140°F (-40° to 60°C), 1950P-8, 15, 25 & 50: 0° to 140°F (-17.8° to 60°C), 1950-02: -30° to 130°F (-34.4° to 54.4°C).

Rated Pressure: 1950 - 45 IN. W.C., 1950P - 35 PSI, 1950P-50 only - 70 PSI.

Maximum surge pressure: 1950 - 10 PSI, 1950P - 50 PSI, 1950P-50 only - 90 PSI.

Pressure Connections: 1/8" NPT.

Electrical Rating: 15 amps, 125, 250, 480 volts, 60 Hz. A.C. Resistive 1/8 H.P. @ 125 volts, 1/4 H.P. @ 250 volts, 60 Hz. A.C.

Wiring connections: 3 screw type; common, norm. open and norm. closed.

Conduit connections: 1/2" NPT.

Set point adjustment: Screw type on top of housing. Field adjustable.

Housing: Anodized cast aluminum.

Diaphragm: Molded fluorosilicone rubber. 02 model, silicone on nylon.

Calibration Spring: Stainless Steel.

Installation: Mount with diaphragm in vertical position.

Weight: 3 1/4 lbs. 02 model, 4 lbs., 7 oz.

Response Time: Because of restrictive effect of flame arrestors, switch response time may be as much as 10-15 seconds where applied pressures are near set point.

NOTE: The last number-letter combination in the 1950 model number identifies the switch electrical rating (number) and diaphragm material (letter). The 2F combination is standard as described in the physical data above. In the case of special models, a number 1 rating is the same as 2; a number 3 or 4 rating is 10A 125, 250, 480 VAC - 1/8 HP 125 VAC, 1/4 HP 250 VAC; and a number 5 or 6 rating is 1A 125 VAC. A letter B indicates a Buna-N diaphragm, N; Neoprene, S; Silicone, and V; Viton.

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46360, U.S.A.

Telephone 219/879-8000
Fax 219/872-9057

ILS-700 Series Custom Switches with a Maximum Length of 4'

The ILS-700 series level switches are individually designed from over 360 component parts to create a custom switch available in lengths of from one foot (304mm) to four feet (1.2m).

To specify, review the choices in mounting types, stem and mounting, float sizes, switching points and electrical specifications that appear on these two pages.



**ILS-700 Series
Switches**

Product Configuration Choices:

- Mounting:** Up to 12 choices; see table A-1 below.
Materials: Up to 14 choices; see tables A-2 and A-3 below.
Float Size: See table B, opposite page.
Length: 1 foot (304mm) minimum; 4 feet (1.2m) maximum

A. Component Choices:

1. MOUNTING TYPES

2. MOUNTING AND STEM MATERIALS

3. FLOAT MATERIALS

4. SWITCH TYPES

- | | | | |
|----------------------------|----------------------|--------------------|--------------------------|
| | | | 1. 1/8" NPT |
| | | | 2. 1/4" NPT |
| | | | 3. 3/8" NPT |
| | | | 4. 3/8 - 24 |
| | | 1. Brass | 5. 1/2" NPT |
| | | 2. Polypropylene | 6. 3/4" NPT |
| | | 3. Kynar | 7. 1.00" NPT |
| | | 4. PVC | 8. 1.250" NPT |
| | | 5. CPVC | 9. 1.500" NPT |
| | 1. Buna-N | → 6. 316 SS | → 10. 2.000" NPT |
| | 2. Polypropylene | → 7. 304 SS | → 11. 1.3125" 12UNF-2A |
| | 3. Kynar | → 8. 321/347 | → 12. 3.625" dia. flange |
| | 4. PVC | → 9. HC-276 | |
| → 1. 20 watt SPST | → 5. CPVC | → 10. IN 600 | |
| 2. 50 watt SPST | → 6. 316 SS | → 11. CuNi | |
| 3. 100 watt SPST | 7. 304 SS | → 12. Ti 6 Al 4V | |
| 4. 20 watt SPDT | 8. 321/347 SS | → 13. Ti Grp 2 | |
| | 9. HC-276 | | |
| | 10. IN 600 | | |
| | 11. CuNi | | |
| | 12. Ti 6 Al 4V | | |
| | 13. Ti Grp 2 | | |
| | | 14. Teflon-PFA | |

B. Series 700 Components and Operating Parameters (Selected Options Shown)

Mounting Types	Materials		Operating Parameters			Float Dimensions	
	Stem & Mount	Float	Specific Gravity	Temperature	Pressure		
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.	316 SS, Brass, or PVC.	Buna-N	0.65 minimum	H ₂ O: to +180°F (+82°C) Oil: -40°F to +220°F (-40°C to +104°C)	160 psig (11 Bar)	Part # 1010 BN Diameter: 1.00" (25mm) Height: 1.00" (25mm)	Part # 1117 BN Diameter: 1.1875" (30mm) Height: 1.75" (44mm)
1, 2, 3, 5, 6, 7, 8, 9, 10, 11.		PVC	0.7 minimum	To +140°F (+60°C)	50 psig (3 Bar)	Part # 1010 PV Diameter: 1.00" (25mm) Height: 1.00" (25mm)	
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.		316 SS	0.9 minimum 0.7 minimum	-40°F to +300°F (-40°C to +149°C)	750 psig (52 Bar)	Part # 1012 Diameter: 1.00" (25mm) Height: 1.00" (25mm)	Part # 2000 Spherical Diameter: 2.00" (50mm)

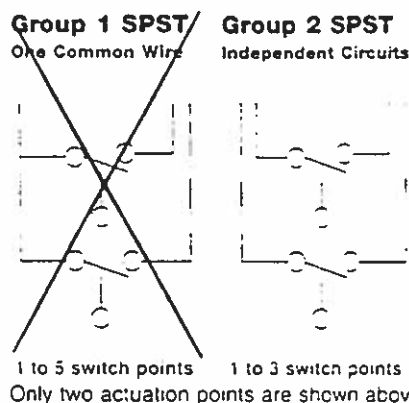
C. Switching Points and Electrical Specifications

Each switching point requires one float. For special applications, a single float can be used to activate two switch points, though these points must have a minimum separation of 1/8" (3mm). The maximum number of actuation levels depends on the wiring type selected.

Ratings: 20VA @ 120 VAC SPST
50VA @ 240 VAC SPST

Connection: 24" Free Leads
#22 AWG. PVC jacketed.

Mounting Attitude: Vertical +/- 30°



SPST Switch Wire Code

	Group 1	Group 2
Common Wire	Black	None
	NO/NC	SW Com I NO/NC
L1	Red	Red/Red
L2	Yellow	Yellow/Yellow
L3	Blue	Blue/Blue
L4	Brown	
L5	Orange	

D. Actuation Level Dimensions

A = Minimum distance from actuation point to bottom of mounting.

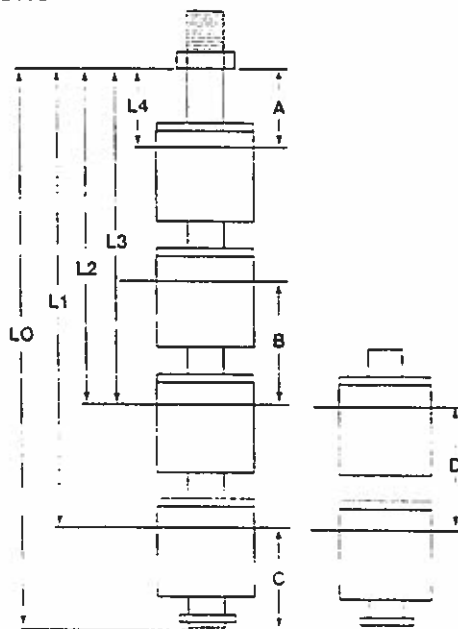
B = Minimum distance between actuation levels.

C = Minimum distance from end of unit to lowest actuation point.

D = Minimum distance between actuation points when a single float is used to actuate two switches.

Notes:

1. A, B, and C dimensions are based on a specific gravity of 1.0.
2. One float for two actuation levels can be used only with a 20VA switch.
3. Actuation levels are calibrated on descending fluid level, with water as the fluid, unless otherwise specified.
4. Standard tolerance on actuation levels is +/- 1/8" (3mm).

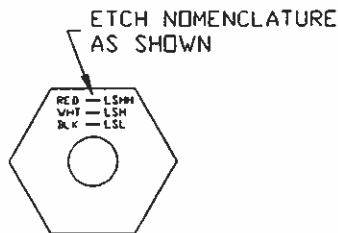
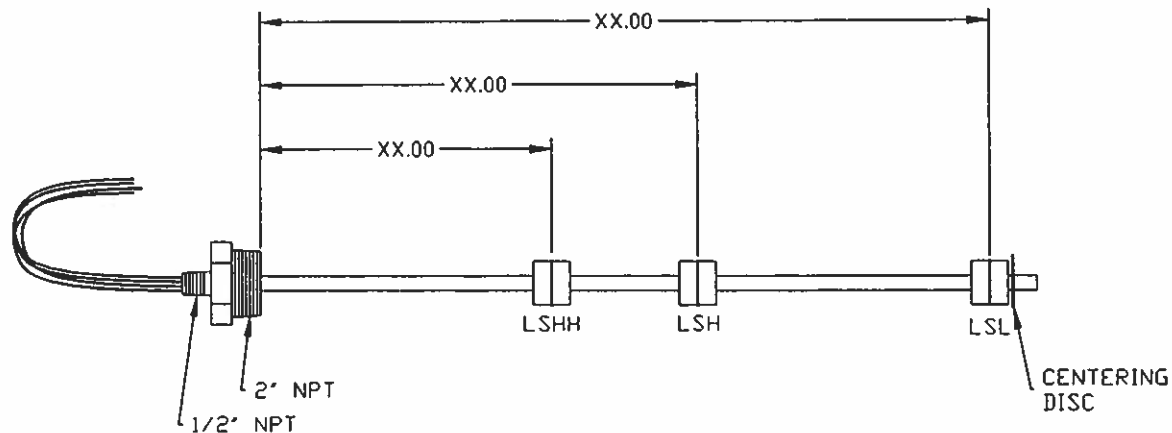


Dimensions

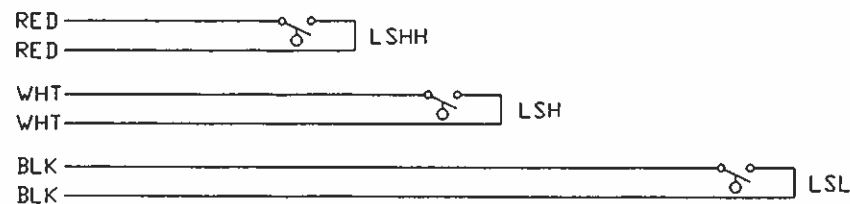
Float Type	A	B	C	D
Buna-N 1" (25mm)	1-1/8" (27mm)	1-1/2" (37mm)	2-3/16" (53mm)	1/8" (3mm)
PVC 1" (25mm)	1-1/8" (27mm)	1-1/2" (37mm)	2-3/16" (53mm)	1/8" (3mm)
SS 1" (25mm)	15/16" (23mm)	1-3/4" (42mm)	2-7/16" (59mm)	1/8" (3mm)
SS 1-3/4" (25mm)	1-1/8" (27mm)	1-1/2" (37mm)	2-3/16" (53mm)	1/8" (3mm)

**Innovative
Solutions**

A →
A →



VIEW A-A



WIRING SCHEMATIC

NOTE:

1. ALL MATERIAL TO BE 316 ST. ST'L.
2. SPECIFIC GRAVITY 0.6.
3. REED SWITCHES RATED AT 50VA, 125V.
4. SWITCH SHOULD BE IN THE DOWN POSITION FOR MEASUREMENT.
5. ALL WIRE TO BE 18 AWG., PVC JACKETED, 24' MIN. FREE LENGTH.

CONFIDENTIALITY NOTE:
The information contained in this drawing is intended for use only by BISCO Environmental. The information is confidential and any copying, distribution or dissemination without the consent of BISCO Environmental is STRICTLY PROHIBITED.

BISCO Environmental
Soil & Groundwater Remediation Equipment
Randolph, Massachusetts 02368

DRWN BY: PRS DATE: 05/29/01

CHK BY: DATE:

APPR BY: DATE:

TITLE: LEVEL SWITCH
XXXXXX

XXXXXX

SCALE: NONE SIZE: B DWG NO.: XXXX

JOB NO.

SHEET 1 OF 1 REV

REV.	DESCRIPTION	DATE	APPR.
REVISIONS			

SUPPORTING DOCUMENTATION FOR ESA ELIGIBILITY

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Department of Fish and Game

Commissioner Mary B. Griffin

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MassWildlife
 Massachusetts Division of Fisheries & Wildlife

Wayne F. MacCallum, Director


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Rare Species by Town

MESA (Massachusetts Endangered Species Act) and Federal Status

Quick Links

- » [Town Index](#)
- » [MESA List](#)
- » [Contact Us](#)

E = Endangered T = Threatened SC = Special Concern

Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Click on a town below to view MESA-listed species for that town. To print the species for a particular town, highlight the species using your mouse, go to Print under the File Menu, click on 'Selection' under 'Print Range' and click OK.

For more information about a particular species, view the list of [Natural Heritage Fact Sheets](#).

These data were extracted from the database of the Natural Heritage and Endangered Species Program in September 2009.

[Barnstable](#) | [Barre](#) | [Becket](#) | [Bedford](#) | [Belchertown](#) | [Bellingham](#) | [Belmont](#) | [Berkley](#) | [Berlin](#) | [Bernardston](#) | [Beverly](#) | [Billerica](#) | [Blackstone](#) | [Blandford](#) | [Bolton](#) | [Boston](#) | [Bourne](#) | [Boxborough](#) | [Boxford](#) | [Boylston](#) | [Braintree](#) | [Brewster](#) | [Bridgewater](#) | [Brimfield](#) | [Brockton](#) | [Brookfield](#) | [Brookline](#) | [Buckland](#) | [Burlington](#)

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BARNSTABLE	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		2009
BARNSTABLE	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		1993
BARNSTABLE	Bird	Asio flammeus	Short-eared Owl	E		Historic
BARNSTABLE	Bird	Asio otus	Long-eared Owl	SC		1978
BARNSTABLE	Bird	Charadrius melodus	Piping Plover	T	T	2006
BARNSTABLE	Bird	Parula americana	Northern Parula	T		1989
BARNSTABLE	Bird	Sterna dougallii	Roseate Tern	E	E	2008

BROOKLINE	Vascular Plant	<i>Viola brittoniana</i>	Britton's Violet	T	1913
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Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BUCKLAND	Amphibian	<i>Ambystoma jeffersonianum</i>	Jefferson Salamander	SC		1989
BUCKLAND	Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	SC		2001
BUCKLAND	Butterfly/Moth	<i>Erora laeta</i>	Early Hairstreak	T		1988
BUCKLAND	Dragonfly/Damselfly	<i>Boyeria grafiana</i>	Ocellated Darner	SC		2004
BUCKLAND	Dragonfly/Damselfly	<i>Gomphus abbreviatus</i>	Spine-crowned Clubtail	E		2004
BUCKLAND	Dragonfly/Damselfly	<i>Neurocordulia yamaskanensis</i>	Stygian Shadowdragon	SC		2004
BUCKLAND	Dragonfly/Damselfly	<i>Rhionaeschna mutata</i>	Spatterdock Darner	SC		2004
BUCKLAND	Fish	<i>Catostomus catostomus</i>	Longnose Sucker	SC		1989
BUCKLAND	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC		2007
BUCKLAND	Vascular Plant	<i>Alnus viridis</i> ssp. <i>crispa</i>	Mountain Alder	T		2004
BUCKLAND	Vascular Plant	<i>Amelanchier sanguinea</i>	Roundleaf Shadbush	SC		1911
BUCKLAND	Vascular Plant	<i>Aplectrum hyemale</i>	Putty-root	E		1904
BUCKLAND	Vascular Plant	<i>Corallorhiza odontorhiza</i>	Autumn Coralroot	SC		2006
BUCKLAND	Vascular Plant	<i>Huperzia selago</i>	Mountain Firmoss	E		1899
BUCKLAND	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1913
BUCKLAND	Vascular Plant	<i>Platanthera dilatata</i>	Leafy White Orchis	T		1932
BUCKLAND	Vascular Plant	<i>Sanicula odorata</i>	Long-styled Sanicle	T		1907
BUCKLAND	Vascular Plant	<i>Symphyotrichum tradescantii</i>	Tradescant's Aster	T		2002

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
BURLINGTON	Fish	<i>Notropis bifrenatus</i>	Bridle Shiner	SC		1994
BURLINGTON	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		1998
BURLINGTON	Vascular Plant	<i>Carex polymorpha</i>	Variable Sedge	E		2008
BURLINGTON	Vascular Plant	<i>Nabalus serpentarius</i>	Lion's Foot	E		1906

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Updated: October 27, 2009



New York Natural Heritage Program

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SEARCH](#)[Summary](#)[Conservation
Issues](#)[Habitat](#)[Range](#)[Identification
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Resources](#)**Variable Sedge***Carex polymorpha* Muhl.**monocots** [Printer Friendly Version \(PDF\)](#)**Habitat**

In New York the species has been reported from open dry ground on a sandy bank of a reservoir, the edge of swampy woods, the edge of a bog, and dry sandy open scrub (New York Natural Heritage Program 2005). Thin woods with sandy soils (Rothrock and Reznicek 2002). *Carex polymorpha* occurs in sandy soils with low or high organic content and little or substantial duff. Sometimes the soils are loams. Sites often have a clay layer below the sandy surface soils creating seasonally saturated conditions. Many sites are just upslope of more regularly inundated wetlands. Sites occur in the open and less vigorously in the shade. (Standley and Dudley 1989). Occurs in uplands or adjacent to wetlands in strongly acidic friable soils that are seasonally saturated. Habitats where it occurs include forests, woodlands, shrubby, and open sites (Rawinski 1988). Dry sandy open woods and clearings (Fernald 1970).

Associated Ecological Communities[Appalachian oak-hickory forest*](#)[Coastal plain poor fen*](#)• [Gravel mine*](#)[Pine barrens shrub swamp*](#)[Pitch pine-oak forest*](#)[Pitch pine-oak-heath woodland*](#)[Pitch pine-scrub oak barrens*](#)**Associated Species**

- Velvety Sedge (*Carex vestita*)
- Sweet Fern (*Comptonia peregrina*)
- Teaberry (*Gaultheria procumbens*)
- Black Huckleberry (*Gaylussacia baccata*)
- Mountain Laurel (*Kalmia latifolia*)
- Climbing Fern (*Lygodium palmatum*)
- Pitch Pine (*Pinus rigida*)
- Eastern Bracken (*Pteridium aquilinum* var. *latiusculum*)

- White Oak (*Quercus alba*)
- Scrub Oak (*Quercus ilicifolia*)
- Red Oak (*Quercus rubra*)
- Rhodora (*Rhododendron canadense*)
- (*Schizachyrium scoparium* ssp. *scoparium*)
- Lowbush Blueberry (*Vaccinium angustifolium*)
- Early Lowbush Blueberry (*Vaccinium pallidum*)

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Please cite this page as:

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<http://www.acris.nynhp.org/guide.php?id=9510>. Accessed November 30th, 2010.




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251. **Carex polymorpha** Muhlenberg, Descr. Gram. 239. 1817.

Plants colonial, long-rhizomatous. Culms 30–60 cm, scabrous to smooth distally. Leaves: proximal sheaths fibrillose, bladeless, brown- to reddish purple tinged, 2–4.5 mm diam.; ligules 2–10 mm, longer than wide; largest blades green, flat, 4–45 cm × 2.5–6 mm. Inflorescences 6–19 cm, 1.4–2.2 times longer than proximal bract; proximal bracts 2–9 cm; sheath 0.6–2 cm, blade 1.5–7 cm; proximal spikes pistillate or androgynous; lateral spikes cylindric, 1.5–3.5 cm × 7.5–11 mm; terminal 1–3 spikes, staminate. Pistillate scales purple or brown, apex rounded or obtuse. Perigynia densely arranged, green to light brown, 2-ribbed and finely veined, 4.2–6.8 × 1.5–2.5 mm, with low, broad papillae; beak purple tinged, mouth hyaline, obliquely bidentate, asymmetrically flared, 0.8–1.8(–2.2) mm. Achenes light to dark brown, 2.2–2.8 × 1.4–2.3 mm.

Fruiting early–mid summer. Thin woods with sandy soils; of conservation concern; 30–1200 m; Conn., Del., Maine, Md., Mass., N.H., N.J., N.Y., Pa., R.I., Va., W.Va.

Carex polymorpha, rare throughout its range, is of conservation concern (L. A. Standley and J. L. Dudley 1991).

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Illustration

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New England Plant Conservation Program

Nabalus serpentarius Pursh

Prenanthes serpentaria Pursh

Lion's Foot

Conservation and Research Plan
For New England

Prepared by:
Marylee Everett
Burlington, Massachusetts

And

Don Lepley
Meadville, Pennsylvania

For:

New England Wild Flower Society
180 Hemenway Road
Framingham, MA 01701
508/877-7630
e-mail: conserve@newfs.org • website: www.newfs.org

Approved, Regional Advisory Council, 2002

PREFACE

This document is an excerpt of a New England Plant Conservation Program (NEPCoP) Conservation and Research Plan. Because they contain sensitive information, full plans are made available to conservation organizations, government agencies and individuals with responsibility for rare plant conservation. This excerpt contains general information on the species biology, ecology, and distribution of rare plant species in New England.

NEPCoP is a voluntary association of private organizations and government agencies in each of the six states of New England, interested in working together to protect from extirpation, and promote the recovery of the endangered flora of the region.

In 1996, NEPCoP published "*Flora Conservanda: New England*," which listed the plants in need of conservation in the region. NEPCoP regional plant Conservation Plans recommend actions that should lead to the conservation of Flora Conservanda species. These recommendations derive from a voluntary collaboration of planning partners, and their implementation is contingent on the commitment of federal, state, local, and private conservation organizations.

NEPCoP Conservation Plans do not necessarily represent the official position or approval of all state task forces or NEPCoP member organizations; they do, however, represent a consensus of NEPCoP's Regional Advisory Council. NEPCoP Conservation Plans are subject to modification as dictated by new findings, changes in species status, and the accomplishment of conservation actions.

Completion of the NEPCoP Conservation and Research Plans was made possible by generous funding from an anonymous source, and data were provided by state Natural Heritage Programs. NEPCoP gratefully acknowledges the permission and cooperation of many private and public landowners who granted access to their land for plant monitoring and data collection. If you require additional information on the distribution of this rare plant species in your town, please contact your state's Natural Heritage Program.

This document should be cited as follows:

Everett, Marylee and Don Lepley. 2002. *Nabalus serpentarius* Pursh (Lion's Foot) Conservation and Research Plan for New England. New England Wild Flower Society, Framingham, Massachusetts, USA. <http://www.newfs.org>

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WASTEWATER TREATMENT OPERATOR CERTIFICATION

COMMONWEALTH OF MASSACHUSETTS
D.E.P.
BOARD OF CERTIFICATION OF
WASTEWATER TREATMENT PLANT OPERATORS

ISSUES THIS LICENSE TO

Grady M. Konieczko
53 Nesmith St., Apt. 1
Lowell, MA 01852--

NOTE: You need to obtain 20 TCHs before 12/31/2011.

REGISTRATION NO.	EXPIRATION DATE	GRADE
13235	12/31/2011	2-M FULL
PURSUANT TO THE GENERAL LAWS		ACTIVE

Signature of Licensee

December 17, 2010

Electronic submission via NPDES.Generalpermits@epa.gov

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912
ATTN: Remediation General Permit NOI Processing

RE: Addendum to Notice of Intent for Remediation General Permit
American Landmark III, LLC
85 South Bedford Street
Burlington, Massachusetts
MassDEP Release Tracking Number 3-0981

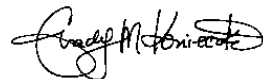
To Whom It May Concern:

GeoTrans, Inc., on the behalf of American Landmark III, LLC is submitting this addendum to the Notice of Intent (NOI) for a Remediation General Permit (RGP) for the former High Voltage Disposal Site (MassDEP Release Tracking Number 3-098) that was submitted to the United States Environmental Protection Agency (USEPA) on December 10, 2010. Per instruction received from Victor Alvarez of the USEPA on December 9, 2010, the original NOI was submitted without all of the required laboratory analytical data. The additional laboratory data for Pentachlorophenol, Phthalate compounds, and 1,4-Dioxane with a lower detection level was received from the analytical laboratory. The laboratory data indicate that none of these compounds were detected in the influent to the treatment plant and as a result they will not be in the discharge water. The laboratory analytical data summaries are attached.

This completes the 2010 NOI for RGP submission. If there are any questions regarding this NOI please do not hesitate to call Ms. Grady Konieczko at (978) 952-0120.

Sincerely,

GeoTrans, Inc.



Grady Konieczko
Senior Project Scientist

Attachments: Analytical Data

CC: Mara Riemer-Goldstein
Town of Burlington Conservation Commission
MassDEP Northeast Regional Office

ANALYTICAL DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Extracted: 12/6/10
Date Analyzed: 12/16/10 11:44

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: µg/L
Basis: NA

1,4-Dioxane by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C
Data File Name: J:\ACQUDATA\5973C\DATA\121610\AZ834.D\

Analysis Lot: 229366
Extraction Lot: 125030
Instrument Name: R-MS-53
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
123-91-1	1,4-Dioxane	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	85	64-126	12/16/10 11:44	
2-Fluorobiphenyl	67	60-106	12/16/10 11:44	
Nitrobenzene-d5	74	60-117	12/16/10 11:44	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: GeoTrans, Inc.
Project: HVEC - 11/10/117-7013.001.01
Sample Matrix: Water

Service Request: R1006632
Date Collected: 11/29/10 1140
Date Received: 11/30/10
Date Extracted: 12/6/10
Date Analyzed: 12/15/10 17:37

Sample Name: INF-11-29-10
Lab Code: R1006632-001

Units: µg/L
Basis: NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C
Data File Name: J:\ACQUDATA\5973B\DATA\121510\DE824.D\

Analysis Lot: 229287
Extraction Lot: 125081
Instrument Name: R-MS-52
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
117-81-7	Bis(2-ethylhexyl) Phthalate	4.7	U	4.7	
85-68-7	Butyl Benzyl Phthalate	4.7	U	4.7	
84-74-2	Di-n-butyl Phthalate	4.7	U	4.7	
117-84-0	Di-n-octyl Phthalate	4.7	U	4.7	
84-66-2	Diethyl Phthalate	4.7	U	4.7	
131-11-3	Dimethyl Phthalate	4.7	U	4.7	
87-86-5	Pentachlorophenol (PCP)	0.94	U	0.94	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	72	60-106	12/15/10 17:37	
Nitrobenzene-d5	72	60-117	12/15/10 17:37	
p-Terphenyl-d14	80	64-126	12/15/10 17:37	