



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

MAY 31 2012

Yoon Chae
Chief Technical Officer
Veolia Energy North America
15 Elkins Street
South Boston, MA 02127

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Veolia Energy Steam Pipeline Installation site located at Edwin H. Land
Boulevard/Cambridge Parkway to Monsignor O'Brien Highway to Nashua Street,
Cambridge, MA 02141/02114 in Middlesex/Suffolk Counties: Authorization #
MAG910537

Dear Mr. Chae:

Based on the review of a Notice of Intent (NOI) submitted on your behalf by the firm
SAK Environmental LLC, for the site referenced above, the U.S. Environmental
Protection Agency (EPA) hereby authorizes you, as the named Owner and 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 checklist 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 the enclosed checklist includes parameters that exceeded Appendix III limits.
Also, please note that the metals included on the checklist are dilution dependent
pollutants and subject to limitations based on a dilution factor range (DFR), due to the
ample dilution at the point of discharge (142) the DFR applicable for this pollutant is
within a dilution range greater than one hundred (>100) established in the RGP. (See the
RGP Appendix IV for Massachusetts facilities). Therefore, the limit for arsenic of 540

ug/L, copper of 520 ug/L, selenium of 408 ug/L, zinc of 1,480 ug/L and iron of 5,000 ug/L, shall not be exceeded in the discharge.

Finally, please note the checklist 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 this project will terminate on June 31, 2014. If for any reason the discharge terminates sooner 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,



Thelma Murphy, Manager
Storm Water and Construction
Permits Section

Enclosure

cc: Kathleen Keohane, MassDEP
Cambridge DPW
Paul Canavan, BWSC
Mark P. Grady, SAK Environmental, LLC

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

NPDES Authorization Number:	MAG910537
Authorization Issued:	May, 2012
Facility/Site Name:	Veolia Energy Steam Pipeline Installation
Facility/Site Address:	Edwin H. Land Boulevard/Cambridge Parkway to Monsignor O'Brien Highway to Nashua Street
	Email address of owner: Ychae@veolianergyna.com
Legal Name of Operator:	Veolia Energy North America
Operator contact name, title, and Address:	Yoon Chae, Chief Technical Officer (CTO), 15 Elkins Street, South Boston, MA 02127, Suffolk County
	Email: Owner and Operator is same person
Estimated date of Completion:	June 31, 2014
Category and Sub-Category:	Category III- Contaminated Construction Dewatering. Sub-category A&B. General Urban Fill Sites and Known Contaminated Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Charles River

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/ML5ug/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 10ug/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	100 ug/L/ Me#8260C/ ML 2ug/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)
	(BTEX) ⁴	
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	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/ ML 5ug/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/ML 5ug/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

	<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)
	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

		<u>Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l)</u> 11/12		<u>Minimum level=ML</u>
	<u>Metal parameter</u>	<u>Freshwater</u>	<u>Saltwater</u>	
	39. Antimony	5.6/ML	10	

	Metal parameter	Total Recoverable Metal Limit @ $H^{10} = 50$ mg/l $CaCO_3$ for discharges in Massachusetts (ug/l) 11/12		Minimum level=ML	
		Freshwater	Saltwater		
✓	40. Arsenic **	540/ML20	36/ML 20		
	41. Cadmium **	0.2/ML10	8.9/ML 10		
	42. Chromium III (trivalent) **	48.8/ML15	100/ML 15		
	43. Chromium VI (hexavalent) **	11.4/ML10	50.3/ML 10		
✓	44. Copper **	520/ML15	3.7/ML 15		
	45. Lead **	1.3/ML20	8.5/ML 20		
	46. Mercury **	0.9/ML0.2	1.1/ML 0.2		
	47. Nickel **	29/ML20	8.2/ML 20		
✓	48. Selenium **	408/ML20	71/ML 20		
	49. Silver	1.2/ML10	2.2/ML 10		
✓	50. Zinc **	1,480/ML15	85.6/ML 15		
✓	51. Iron	5,000/ML 20			

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

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.

May 14, 2012

US Environmental Protection Agency
RGP – NOC Processing
Municipal Assistance Unit
One Congress Street, Suite 1100
Boston, Massachusetts 02114

Re: Veolia Energy North America – Steam Pipeline Installation
Kendal Station to Nashua Street
Cambridge to Boston, Massachusetts
Construction Dewatering Remediation General Permit Application
Under Massachusetts General Permit No. MAG910000

To Whom It May Concern:

1. Introduction

This Remediation General Permit (RGP) was prepared for Veolia Energy North America (VEOLIA) for the installation of a steam pipeline extending from Cambridge to Boston Massachusetts. This steam pipeline installation will hereinafter be referred to as the “Project”. The Project is located in Cambridge, Massachusetts along Edwin H. Land Boulevard and Cambridge Parkway, and extends into Boston along Monsignor O’Brien Highway onto Nashua Street. The pipeline extends approximately 7,000 feet south from the Kendall Station Steam Plant in Cambridge to the North Station Area in Boston (See Figure 1). The steam line will be installed at depths ranging from 8 to 14 feet with some manholes extending to depths of 22 feet. Near continuous dewatering is anticipated throughout the Project. A National Pollution Discharge Elimination System (NPDES) Remediation General Permit (RGP) is required for this project due to contaminants in groundwater above RGP thresholds. The Project is expected to generate water that will be discharged to local storm drains via catch basins. Proposed groundwater treatment will consist of a fractionation tank(s) for particulate settling throughout the Project. Bag filters may be used for removal of suspended solids and flocculation logs may be added to accelerate the settlement of suspended solids if hold times are not sufficient. It is anticipated that Project dewatering will commence in May of 2012 and be completed on or before November 2013. There will be a winter shutdown period required by State and local authority permits from 11/14/2012 to 4/15/2013 where no work related to this permit will be completed. Project information listed below:

Permit Applicant: Veolia Energy North America
15 Elkins Street
Boston, MA 02127

Permit Preparer: SAK Environmental LLC
231 Sutton Street, Suite 2G
North Andover, MA 01845

The average rate of dewatering is estimated to be 45 gallons per minute (gpm) and the maximum rate is 90 gpm. Storm drains along the Project route discharge into the Charles River.

2. Project Conditions

2.1. Project Setting

The proposed construction route is shown on Figure 3 and is the source of the intake water (Part 2(d)(1) of the RGP Permit). As described above, the steam line will be installed beneath the existing roadway. The roadway abutted by commercial and industrial businesses throughout most of the 7,000-foot route. The project is along Charles River Dam Road (an earth dam) in front the Museum of Science. The alignment will travel through the dam and or bridge structures.

A review of the Massachusetts Department of Environmental Protection (MADEP) Priority Resource Map (Figure 2) indicates the Project is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the MADEP. No known public or private drinking water supply wells, Areas of Critical Environmental Concern (ACEC), habitats of Species of Special Concern or Threatened or Endangered Species are located within 500 feet of the Project route. The Project passes adjacent to an area designated as Protected Open Space for long stretches of the project, but stays on the roadway which is not protected open space. The nearest surface water body is the Charles River, located between 25 and 500 feet away at any given location along the Project route. The Charles River is classified as a Class B Surface Water Body, which services a drainage basin of approximately 308 square miles. Storm drains along the alignment discharge to the Charles River.

A review of the federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service identified no threatened and/or endangered species at, or within, the vicinity of the discharge locations. A review of the Massachusetts Division of Fisheries and Wildlife on-line database identified no threatened or endangered species. Based on review of the National Register of Historical Places, the Project route passes through Cambridge Parkway, and the Charles River Dam. The Cambridge Parkway Bridge over Broad Canal is also listed, but is just south of the lower end of the alignment. All of these structures are listed on the Massachusetts Historical Commission website (MACRIS) website. These structures are unlikely to be impacted by dewatering activities as the project is on existing roadway and will be restored to its' original condition post construction.

2.2. Subsurface Investigation

2.2.1. Soil

Subsurface information was obtained during precharacterization activities overseen by in part by SAK, and performed by BSI Engineering Inc. BSI advanced four borings (H-1 through H-4) along Cambridge Parkway during April of 2012 using a vactor truck. Three of the four soil borings were completed as MWs by BSI (H-1, H-3 & H-4). See Figure 3 for soil boring locations. Note that additional soil borings

and monitoring wells are currently being installed along the project route. This data will be submitted to the Agency with an addendum letter detailing conditions.

The subsurface conditions encountered during drilling consisted of fill consisting of mostly dense to very dense fine to coarse sand with varying proportions of silt and gravel extending about 3 to 10 feet below ground surface. The material was consistent with urban fill generally found in this area. Bedrock was not encountered in any of the soil borings. Groundwater was encountered between 7.61 feet and 7.82 feet below ground surface.

Soil samples collected during the field program were analyzed by a state-certified laboratory, GeoLabs of Braintree, Massachusetts for the Massachusetts Department of Environmental Protection's (MADEP) Policy #COMM97-001: Reuse & Disposal of Contaminated Soil at Massachusetts Landfills. SAK compared soil sample results to the Reportable Concentration threshold for S-1 soils (RCS-1). RCS-1 is applicable because the Project is located at or within 500 feet of a residential dwelling, a residentially zoned property, school, playground, recreational area or park. Most concentrations were below the MCP reportable concentrations for S-1 soil (RCS-1). Management of soils with contamination exceeding the Massachusetts Contingency Plan's (MCP) RCS-1 thresholds will be performed under a Utility Release Abatement Measure (URAM).

2.2.2. Groundwater

Three soil borings were completed as groundwater monitoring wells (MWs – H-1, H-3, & H-4). On March 31, 2012 MWs were sampled using low-flow techniques by SAK and samples were submitted to GeoLabs to be analyzed for the RGP parameters by Appendix VI Methods. Groundwater analytical results are shown in **Table 1** and laboratory data is included in **Appendix A**. The results were compared to RCGW-2 criteria, which applies to non-potential drinking water resource areas. Results were also compared to the RGP limits as shown in Table 1.

The RGP metals thresholds were adjusted by the appropriate Dilution Factor (see Section 3 below). Iron was detected in H-4 at a concentration of 5,760 micrograms per liter (µg/L) which exceeded the RGP criterion of 5,000 µg/L. All other results were below RGP criteria.

Treatment under the RGP will be site-specific and monitored, as contaminant levels and chemical compounds detected in preconstruction studies are not consistent at all monitoring well locations. Note that additional soil borings and monitoring wells will be installed along the project route after the submittal of this permit request. This data will be submitted to the Agency with an addendum letter detailing conditions.

3. **Dilution Factor for Metals (Calculations)**

A Dilution Factor (DF) was calculated to establish the Total Recoverable Limits for metals taking into consideration the anticipated dilution of the detected analytes upon discharge of effluent to the receiving waters. The DF calculation was performed in accordance with the MAG 910000, Appendix V - "Calculation of Dilution Factor for Applications in Massachusetts." The Project DF was calculated by the following equation:

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

Where: Q_d is the maximum discharge flow rate
 Q_s is the receiving water flow rate (minimum for 7 consecutive days
with a recurrence interval of 10 years – 7Q10)

$$Q_d = \frac{90 \text{ gpm}}{\text{Conversion } 1.0 \text{ gpm} = 0.00223 \text{ ft}^3/\text{s}}$$

90	x	0.00223	=	0.2007	ft ³ /s
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Therefore, $Q_d = 0.2007 \text{ ft}^3/\text{s}$

$$Q_s = 28.2 \text{ ft}^3/\text{s} \quad 7Q_{10} \text{ Flow}$$

From: <http://streamstatsags.cr.usgs.gov/> ...

DF =	$(Q_d + Q_s)/Q_d =$	141.51	(See Table 1)
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The value for Q was based on information provided by the US Geological Survey (USGS) – Massachusetts Stream Flow Data for the Charles River (see **Appendix B**). The calculated DF was then used to find the appropriate Dilution Range Concentrations (DRCs) contained in MAG91000, Appendix IV. A summary of the metals Total Recoverable Limits (TRL) is presented in **Table 2**.

4. Dewatering and Groundwater Treatment System

The new steam lines will be installed generally at 8 to 9 feet below grade and the trench excavations will extend up to 14 feet in depth. Manhole locations will require excavation to greater depths (estimated 22 feet). Measured groundwater levels were 7.61 to 7.82 feet below grade during sampling. The recommended water levels should be maintained a minimum of 1 foot below the trench bottom at all times while the trench is open. The estimated dewatering range for a 14-foot deep, 10-foot wide, by 200-foot long trench will range from 10 to 90 gpm depending on depth to groundwater, soil permeability, trench length, and other factors.

The treatment system will consist of a 10,000-gallon fractionation (frac) tank and bag filters. Groundwater will be pumped from the excavation into the frac tank to remove readily settleable sediment and solids. FlocLogs, which are non-hazardous polymer blocks, may be placed in the frac tank to enhance sediment deposition. A Material Safety Data Sheet (MSDS) is included in **Appendix C**. The frac tank will discharge through two 10-micron bag filters in series to remove suspended solids including iron not captured by the frac tank. The final treated effluent will be discharged to storm water catch basins along the Project route. Stormwater outfall locations are shown in Figure 4. An oil/water separator will be added to the beginning of the treatment system in areas where there is evidence of significant petroleum contamination (i.e. separate phase product) is of concern. The proposed groundwater treatment system diagram is shown in Figure 5. The size of the frac tank and filter size may change based on actual field conditions. Additionally, if the frac tank is unable to be completely discharged by the end of the work shift it will be moved to the North Point Park area where it will be allowed to settle, and subsequently be discharged to the Charles River.

5. Monitoring

Sampling and chemical testing of the treatment system influent and effluent will be performed in accordance with the provisions in EPA's Authorization to Discharge. Startup monitoring, as defined in the RGP, will be conducted at commencement of the Project.

In summary, treatment under the RGP will be location-specific and monitored, as contaminant levels and chemical compounds detected in preconstruction studies are not consistent at all monitoring well locations. Treatment components, excluding the frac tank, may be removed from the system, subject to review, if monitoring results demonstrate reliable compliance with RGP effluent discharge limits. If effluent concentrations exceed the RGP limits, appropriate corrective measures will be implemented and additional confirmatory monitoring will be performed. This may include additional holding time, bag filters, granular activated carbon, or other treatment device(s) in order to comply with this permits discharge limits. Additionally, if groundwater concentrations discharging from the frac tank are consistently below RGP effluent limits, the bag filters may be removed from the system.

Sincerely,

SAK Environmental, LLC

Prepared By:



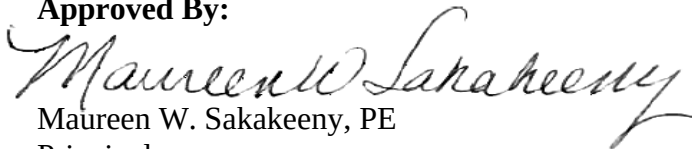
Mark P. Grady Jr., EIT

Reviewed By:



Sherry Albert, PE

Approved By:



Maureen W. Sakakeeny, PE
Principal

Enclosure

Notice of Intent (NOI) for the Remediation General Permit

Attachments

Figure 1 – Site Location Map

Figure 2 – Priority Resource Map

Figure 3 – Boring Locations

Figure 4 – Stormwater Outfall Locations

Figure 5 – Schematic of Groundwater Treatment System

Table 1 – Laboratory Data

Table 2 – Total Recoverable Metals Limitations ($\mu\text{g/L}$) At Selected Dilution Ranges and Technology Based Ceiling Limitations for Facilities Located in Massachusetts (For Discharges To Freshwater at $H = 50$ mg/L CaCO_3)

Appendix A – Laboratory Data

Appendix B – Charles River Data

Appendix C – Material Safety Data Sheets

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 : Veolia Energy Steam Pipeline Install		Facility/site mailing address:	
Location of facility/site : longitude: 42 22' 00"N latitude: 71 04'30"W	Facility SIC code(s): 1623	Street: Edwin H Land Boulevard/Cambridge Parkway to Monsignor O'Brien Highway to Nashua Street	
b) Name of facility/site owner :		Town: Cambridge to Boston	
Email address of facility/site owner: ychae@veoliaenergyna.com		State: Massachusetts	Zip: 02141/02114
Telephone no. of facility/site owner : 617.502.4478		County: Middlesex/Suffolk	
Fax no. of facility/site owner : 617.502.4471		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Address of owner (if different from site):		3. Private ☒ 4. Other ☐ if so, describe:	
Street: 15 Elkins Street			
Town: South Boston	State: MA	Zip: 02127	County: Suffolk
c) Legal name of operator : Veolia Energy North America		Operator telephone no: 617.502.4478	
		Operator fax no.: 617.502.4471	Operator email: ychae@veoliaenergyna.com
Operator contact name and title: Yoon Chae, Chief Technical Officer (CTO)			
Address of operator (if different from owner):		Street:	
Town:	State:	Zip:	County:

d) Check Y for “yes” or N for “no” for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☐ N ☒, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ☐ N ☒, if Y, date and tracking #:
3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y ☒ N ☐
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ☒ N ☐

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☐ N ☒

If Y, please list:

1. site identification # assigned by the state of NH or MA:
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

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

1. Multi-Sector General Permit? Y ☐ N ☒,
if Y, number:
2. Final Dewatering General Permit? Y ☐ N ☒,
if Y, number:
3. EPA Construction General Permit? Y ☒ N ☐,
if Y, number:
4. Individual NPDES permit? Y ☐ N ☒,
if Y, number:
5. any other water quality related individual or general permit? Y ☐ N ☒, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ☐ N ☒

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

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

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:																					
TEMPORARY CONSTRUCTION DEWATERING FROM TRENCHES BEING EXCAVATED TO INSTALL A NEW STEAMLINE FROM CAMBRIDGE INTO BOSTON.																					
b) Provide the following information about each discharge:																					
1) Number of discharge points: 1 (Cambridge) 2 (Boston) +	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow 0.200 (90 gpm) Is maximum flow a design value ? Y ☐ N ☒ Average flow (include units) 0.100 cfs (45 gpm) Is average flow a design value or estimate? ESTIMATE																				
3) Latitude and longitude of each discharge within 100 feet: <table border="0"> <tr> <td>pt.1: lat. 42 21' 49.61 </td> <td>long. 71 04'37.60 </td> <td>pt.2: lat. 41 21'52.57 </td> <td>long. 70 04'30.53 </td> <td>;</td> </tr> <tr> <td>pt.3: lat. 42 21'59.09 </td> <td>long. 71 04'28.36 </td> <td>pt.4: lat. 42 22'01.70 </td> <td>long. 71 04'05.78 </td> <td>;</td> </tr> <tr> <td>pt.5: lat. 42 22'01.70 </td> <td>long. 71 04'05.78 </td> <td>pt.6: lat. 42 22'04.73 </td> <td>long. 70 03'59.78 </td> <td>;</td> </tr> <tr> <td>pt.7: lat. </td> <td>long. </td> <td>pt.8: lat. </td> <td>long. </td> <td>; etc.</td> </tr> </table>		pt.1: lat. 42 21' 49.61	long. 71 04'37.60	pt.2: lat. 41 21'52.57	long. 70 04'30.53	;	pt.3: lat. 42 21'59.09	long. 71 04'28.36	pt.4: lat. 42 22'01.70	long. 71 04'05.78	;	pt.5: lat. 42 22'01.70	long. 71 04'05.78	pt.6: lat. 42 22'04.73	long. 70 03'59.78	;	pt.7: lat.	long.	pt.8: lat.	long.	; etc.
pt.1: lat. 42 21' 49.61	long. 71 04'37.60	pt.2: lat. 41 21'52.57	long. 70 04'30.53	;																	
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pt.7: lat.	long.	pt.8: lat.	long.	; etc.																	
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent ☒ or seasonal ☐ ? Is discharge ongoing? Y ☐ N ☒																				
c) Expected dates of discharge (mm/dd/yy): start 6/1/2012 end 6/1/2014																					
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 FIGURES																					

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)		☐	☒	3	Grab	2540D	4.0 mg/L	ND	NA	ND	NA
2. Total Residual Chlorine (TRC)		☒	☐	3	Grab	4500 CL-G	0.02 mg/L	ND			
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	3	Grab	1664A	5.0 mg/L	ND			
4. Cyanide (CN)	57125	☒	☐	3	Grab	E335.4	0.005 mg/L	0.006 (1 DETECTION)		0.006	
5. Benzene (B)	71432	☒	☐	3	Grab	8260C		ND			
6. Toluene (T)	108883	☒	☐	3	Grab	8260C		ND			
7. Ethylbenzene (E)	100414	☒	☐	3	Grab	8260C		ND			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	3	Grab	8260C		ND			
9. Total BTEX ²	n/a	☒	☐	3	Grab	8260C		ND			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐	3	Grab	8260C		ND			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	3	Grab	8260C		ND			
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.

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								<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	☒	☐	3	GRAB	8260C		ND			
15. Carbon Tetrachloride	56235	☒	☐	3	GRAB	8260C		ND			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	3	GRAB	8260C		ND			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	3	GRAB	8260C		ND			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	3	GRAB	8260C		ND			
18a. Total dichlorobenzene		☒	☐	3	GRAB	8260C		ND			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	3	GRAB	8260C		ND			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	3	GRAB	8260C		ND			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	3	GRAB	8260C		ND			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	3	GRAB	8260C		ND			
23. Methylene Chloride	75092	☒	☐	3	GRAB	8260C		ND			
24. Tetrachloroethene (PCE)	127184	☒	☐	3	GRAB	8260C		ND			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	3	GRAB	8260C		ND			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	3	GRAB	8260C		ND			
27. Trichloroethene (TCE)	79016	☒	☐	3	GRAB	8260C		ND			

<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	☒	☐	3	GRAB	8260C		ND			
29. Acetone	67641	☒	☐	3	GRAB	8260C		29.0 (1 DETECTION)		29.0	
30. 1,4 Dioxane	123911	☒	☐	3	GRAB	8260C		15.3		12.44	
31. Total Phenols	108952	☒	☐	3	GRAB	8270D		ND			
32. Pentachlorophenol (PCP)	87865	☒	☐	3	GRAB	8270D		ND			
33. Total Phthalates (Phthalate esters) ⁴		☒	☐	3	GRAB	8270D		ND			
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	117817	☒	☐	3	GRAB	8270D		ND			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	3	GRAB	8270D		ND			
a. Benzo(a) Anthracene	56553	☒	☐	3	GRAB	8270D		ND			
b. Benzo(a) Pyrene	50328	☒	☐	3	GRAB	8270D		ND			
c. Benzo(b)Fluoranthene	205992	☒	☐	3	GRAB	8270D		ND			
d. Benzo(k)Fluoranthene	207089	☒	☐	3	GRAB	8270D		ND			
e. Chrysene	21801	☒	☐	3	GRAB	8270D		ND			
f. Dibenzo(a,h)anthracene	53703	☒	☐	3	GRAB	8270D		ND			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	3	GRAB	8270D		ND			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	3	GRAB	8270D		2.52		2.52	

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	☒	☐	3	GRAB	8270D		1.34 (1 DETECTION_		1.34	
i. Acenaphthylene	208968	☒	☐	3	GRAB	8270D		ND			
j. Anthracene	120127	☒	☐	3	GRAB	8270D		ND			
k. Benzo(ghi) Perylene	191242	☒	☐	3	GRAB	8270D		ND			
l. Fluoranthene	206440	☒	☐	3	GRAB	8270D		ND			
m. Fluorene	86737	☒	☐	3	GRAB	8270D		ND			
n. Naphthalene	91203	☒	☐	3	GRAB	8270D		1.18 (1 DETECTION)		1.18	
o. Phenanthrene	85018	☒	☐	3	GRAB	8270D		ND			
p. Pyrene	129000	☒	☐	3	GRAB	8270D		ND			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	3	GRAB	8082		ND			
38. Chloride	16887006	☐	☒	3	GRAB	E300		2720		1755	
39. Antimony	7440360	☒	☐	3	GRAB	7010		ND			
40. Arsenic	7440382	☐	☒	3	GRAB	7010		24.2		9.02	
41. Cadmium	7440439	☒	☐	3	GRAB	6010C		ND			
42. Chromium III (trivalent)	16065831	☒	☐	3	GRAB	6010C		ND			
43. Chromium VI (hexavalent)	18540299	☒	☐	3	GRAB	3500 CR-D		ND			
44. Copper	7440508	☐	☒	3	GRAB	6010C		30.0		27.67	
45. Lead	7439921	☒	☐	3	GRAB	7010		ND			
46. Mercury	7439976	☒	☐	3	GRAB	E245.1		ND			
47. Nickel	7440020	☒	☐	3	GRAB	6010C		ND			
48. Selenium	7782492	☐	☒	3	GRAB	6010C		16.0 (2 DETECTIONS)		14.5	
49. Silver	7440224	☒	☐	3	GRAB	6010C		ND			
50. Zinc	7440666	☐	☒	3	GRAB	6010C		31.0		25.33	
51. Iron	7439896	☐	☒	3	GRAB	6010C		5760		3420	
Other (describe):		☐	☐								

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

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

<i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ☒ N ☐	If yes, which metals? ARSENIC, COPPER, SELENIUM, IRON										
<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? <table border="1"> <tr> <td>Metal: ARSENIC</td> <td>DF: 540</td> </tr> <tr> <td>Metal: COPPER</td> <td>DF: 520</td> </tr> <tr> <td>Metal: SELENIUM</td> <td>DF: 408</td> </tr> <tr> <td>Metal: IRON</td> <td>DF: 5000</td> </tr> <tr> <td>Etc.</td> <td></td> </tr> </table>	Metal: ARSENIC	DF: 540	Metal: COPPER	DF: 520	Metal: SELENIUM	DF: 408	Metal: IRON	DF: 5000	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: IRON (5760>5000)
Metal: ARSENIC	DF: 540										
Metal: COPPER	DF: 520										
Metal: SELENIUM	DF: 408										
Metal: IRON	DF: 5000										
Etc.											

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
SEE FIGURE 5.						
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):	FLOCCULATION LOGS		

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

Average flow rate of discharge gpm Maximum flow rate of treatment system gpm

Design flow rate of treatment system gpm

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

SEE ATTACHED

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

a) Identify the discharge pathway:

Direct to
receiving
water ☐

Within facility
(sewer) ☐

Storm
drain ☒

Wetlands ☐

Other (describe):

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

STORM DRAINS ALONG ROUTE TO CULVERTS WHICH DISCHARGE TO THE CHARLES RIVER.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:

1. For multiple discharges, number the discharges sequentially.

2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water

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

Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ☒ N ☐ If yes, for which pollutant(s)?

Is there a final TMDL? Y ☒ N ☐ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

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

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

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐

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

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

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

1 ☒ 2 ☐ 3 ☐

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

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

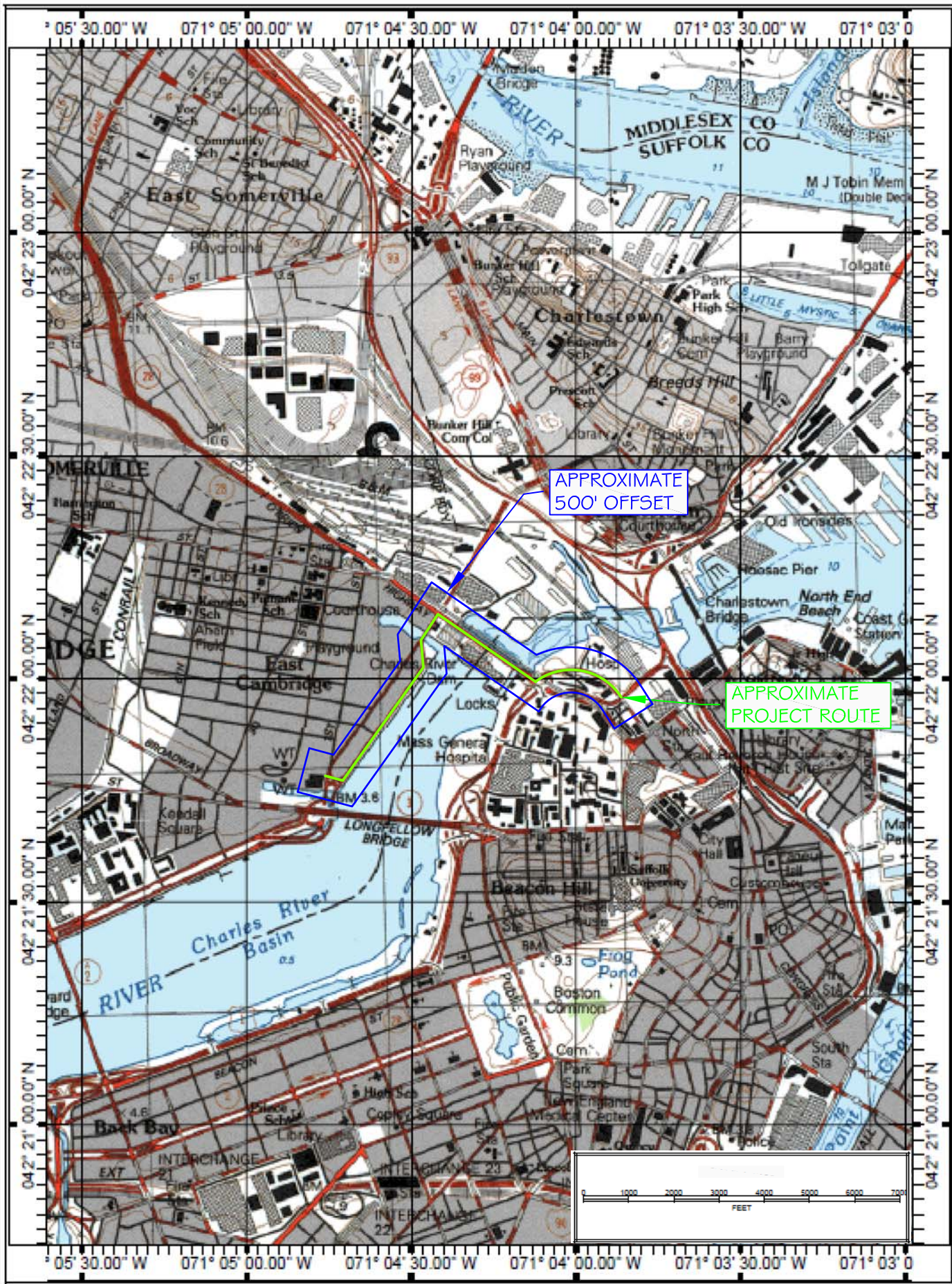
SEE ATTACHED

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

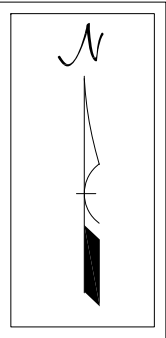
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	
Operator signature:	
Printed Name & Title:	YOON CHAE, Chief Technical Officer
Date:	5/14/12

FIGURES







LEGEND

- 100' WETLAND BUFFER
- PROPOSED PIPE ALIGNMENT
- PLANNED BORING/MW LOCATIONS
- EXISTING MW LOCATIONS
- EXISTING BORING LOCATIONS

NOTES

- TRENCH DIMENSIONS ARE ASSUMED TO BE 10' x 8', REQUIRING ONE BORING EVERY 168' TO MEET THE 500 CY SAMPLING FREQUENCY.
- BORING LOCATIONS SUBJECT TO CHANGE.

NOTES:
MONITORING WELLS H-5, H-6, H-7 AND H-8 WERE SAMPLED TO OBTAIN DATA DURING PROJECT PLANNING STAGES.

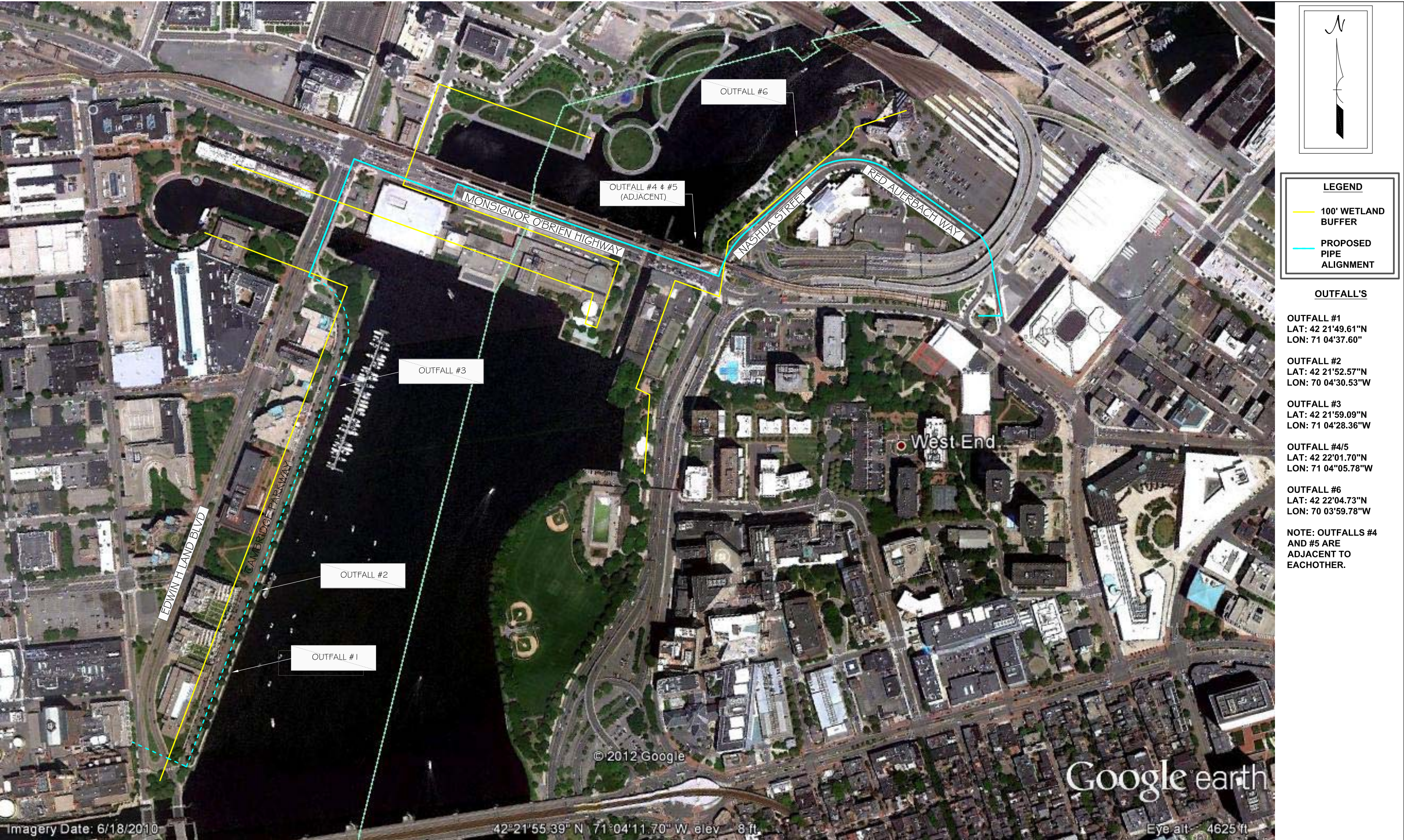
STEAM PIPELINE INSTALLATION
CAMBRIDGE-BOSTON,
MASSACHUSETTS

CLIENT:
VEOLIA ENERGY NORTH AMERICA
APPROXIMATE SCALE:
1" = 350'

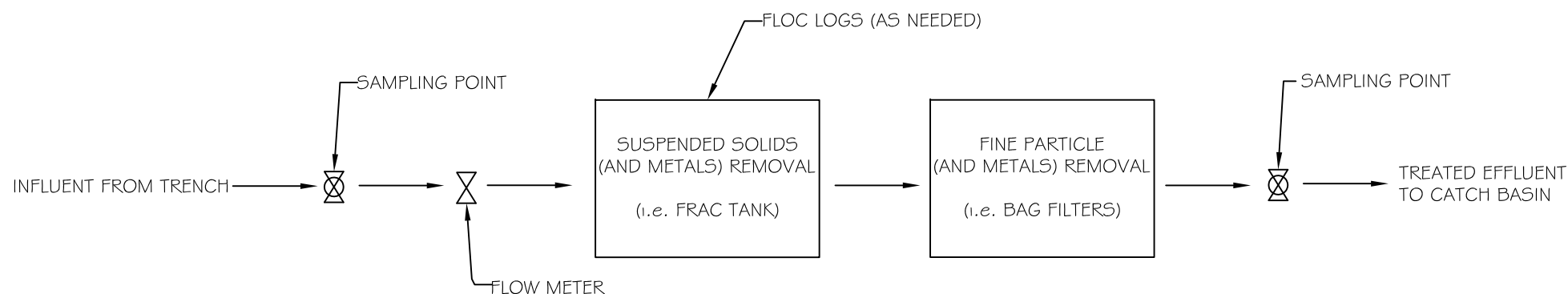
DRAWN BY:
MPG/SJD
CHECKED BY:
SAS/MWS

FIGURE 3 - BORING LOCATIONS
PROJECT NO. 07.27.10
DATE: MAY 2, 2012

sak Environmental
231 SUTTON STREET SUTIE 2G
NORTH ANDOVER, MA 01845
TELEPHONE:(978)688-7804
FAX:(978)688 - 7801
www.SAKEnvironmental.com



	STEAM PIPELINE INSTALLATION CAMBRIDGE-BOSTON, MASSACHUSETTS	CLIENT: VEOLIA ENERGY NORTH AMERICA	DRAWN BY: MPG/SJD	FIGURE 4 - STORMWATER OUTFALL LOCATIONS	 231 SUTTON STREET SUTIE 2G NORTH ANDOVER, MA 01845 TELEPHONE:(978)688-7804 FAX:(978)688 - 7801 www.SAKEnvironmental.com
		APPROXIMATE SCALE: 1" = 350'	CHECKED BY: SAS	PROJECT NO. 07.27.10	
				DATE: MAY 2, 2012	



TABLES

TABLE 1 - LABORATORY DATA				CAMBRIDGE PARKWAY		
ANALYTES	UNITS	REPORTABLE ³ CONC. RC GW-2	RGP Limit	1204008-001 H-1	1204008-002 H-3	1204008-003 H-4
TOTAL PETROLEUM HYDROCARBONS (US EPA Method E1664A)						
TPH	ug/L	5000	5	ND	ND	ND
POLYCHLORINATED BIPHENYLS (US EPA Method 8082)						
PCBs	ug/L	5	0.000064	ND	ND	ND
TOTAL METALS (US EPA 6000/7000 Series Methods)						
Chromium	ug/L	300	SEE BELOW	ND	ND	ND
Copper	ug/L	100000	520	25.0	28.0	30.0
Iron	ug/L	NS	5000	2040	2460	5760
Lead	ug/L	10	132	ND	ND	ND
Nickel	ug/L	200	2380	ND	ND	ND
Selenium	ug/L	100	408	13.0	ND	16.0
Silver	ug/L	7	115	ND	ND	ND
Zinc	ug/L	900	1480	19.0	26.0	31.0
Antimony	ug/L	8000	141	ND	ND	ND
Arsenic	ug/L	900	540	1.30	24.2	1.56
Cadmium	ug/L	4	20	ND	ND	ND
Mercury	ug/L	20	2.3	ND	ND	ND
SEMI-VOLATILE ORGANIC COMPOUNDS (USEPA Method 8270D)						
Acenaphthene	ug/L	6000	100 (Total for Group II PAHs)	ND	ND	1.34
Naphthalene	ug/L	1000	20	ND	1.18	ND
SEMI-VOLATILE ORGANIC COMPOUNDS (USEPA Method 8270D)				ND	ND	ND
VOLATILE ORGANIC COMPOUNDS (US EPA Method 8260C)						
Acetone	ug/L	50000	Monitor Only	29.0	ND	ND
Dioxane, 1,4-	ug/L	6000	Monitor Only	15.3	13.6	8.42
Methyl ethyl ketone (2-Butanone)	ug/L	4000	Monitor Only	50.8	ND	ND
Tetrahydrofuran	ug/L	50000	Monitor Only	89.8	ND	ND
TOTAL SUSPENDED SOLIDS (SM2540D)						
Total Suspended Solids	mg/L		30	ND	ND	ND
CHLORIDE (E300.0)						
Chloride	mg/L		Monitor Only	394	2150	2720
TOTAL CYANIDE (E335.4)						
Total Cyanide	mg/L		5.2	ND	ND	0.006
TOTAL RESIDUAL CHLORINE (SM500 CL-G)						
Total Residual Chlorine	mg/L		11	ND	ND	ND
TRIVALENT CHROMIUM (6010C)						
Trivalent Chromium	mg/L		1710	ND	ND	ND
HEXAVALENT CHROMIUM (SM3500 CR-D)						
Hexavalent Chromium	mg/L		1140	ND	ND	ND

1. Shaded Results exceed the RGP limits

TABLE 2: FROM APPENDIX IV
TOTAL RECOVERABLE METALS LIMITATIONS (ug/L) AT SELECTED DILUTION RANGES AND TECHNOLOGY BASED CEILING LIMITATIONS
FOR FACILITIES LOCATED IN MASSACHUSETTS (for discharges to freshwater at H = 50 mg/L CaCO₃)¹

PARAMETER	DILUTION RANGE CONCENTRATION						Boring Locations	
	0 - 5	5 to 10	10 to 50	50 - 100	>100	CEILING VALUE	Maxium	Average
1. Antimony	5.6	30	60	141	141	141 ¹	ND	
2. Arsenic	10	50	100	500	540	540 ²	24.2	9.02
3. Cadmium	0.2	1	2	10	20	260 ³	ND	
4. ChromiumIII (Trivalent)	48.8	244	489	1710	1710	1710	ND	
5. ChromiumVI (Hexavalent)	11.4	57	114	570	1140	1710 ⁴	ND	
6. Copper	5.2	26	52	260	520	2070	30.0	27.7
7. Lead	1.3	6.5	13	66	132	430	ND	
8. Mercury	0.9	2.3	2.3	2.3	2.3	2.3 ⁵	ND	
9. Nickel	29	145	290	1451	2380	2380	ND	
10. Selenium	5	25	50	250	408	408 ⁶	16.0	14.5
11. Silver	1.2	6	12	57	115	240	ND	
12. Zinc	66.6	333	666	1480	1480	1480	31.0	25.3
13. Iron	1000	5000	5000	5000	5000	5000	5760	3420

Note: Empty cells represents values below detection limits.

1. Based on 7Q10 Flow.

2. Based on 40 CFR 437.42, "The Centralized Waste Treatment Point Source Category - Subpart D - Multiple Wastestreams -Best Practicable Control Technology" (BPT) daily maximum for Antimony

3. Based on 40 CFR 445.11, "RCRA Subtitle C Landfill Best Practicable Control Technology" (BPT) for Arsenic.

4. Assumes Hexavalent Chromium reduced to Tri-valent Chromium in treatment.

5. Based on 40 CFR 437.42, "The Centralized Waste Treatment Point Source Category - Subpart D - Multiple Wastestreams -Best Practicable Control Technology" (BPT) daily maximum for Mercury

6. Based on 40 CFR 437.42, "The Centralized Waste Treatment Point Source Category - Subpart D - Multiple Wastestreams -Best Practicable Control Technology" (BPT) daily maximum for Selenium

Appendix A
Laboratory Data

ANALYTICAL REPORT



Friday, April 06, 2012

Steve Dowaliby
SAK Environmental
1538 Turnpike Street
North Andover, MA 01845

GeoLabs, Inc.
45 Johnson Lane
Braintree MA 02184
Tele: 781 848 7844
Fax: 781 848 7811

TEL: (978) 688-7804
FAX: (978) 688-7801

Project: 07-27-10
Location: Cambridge

Order No.: 1204008

Dear Steve Dowaliby:

GeoLabs, Inc. received 7 sample(s) on 4/2/2012 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Mick
Laboratory Director

For current certifications, please visit our website at www.geolabs.com

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - NJ (MA009) - RI (LA000252)
Accredited in Accordance with NELAC

Date: 06-Apr-12

CLIENT: SAK Environmental
Project: 07-27-10
Lab Order: 1204008

CASE NARRATIVE

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

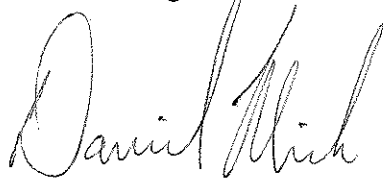
All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure, with the following exceptions:

TRC and Hexavalent Chromium were received and analyzed out of holding time.

The following analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples:

Samples 002 and 003 8270 surrogates fail due to matrix interference, confirmed by re-extraction.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: April 6, 2012

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.263		µg/L	1	4/4/2012
Aroclor 1221	ND	0.263		µg/L	1	4/4/2012
Aroclor 1232	ND	0.263		µg/L	1	4/4/2012
Aroclor 1242	ND	0.263		µg/L	1	4/4/2012
Aroclor 1248	ND	0.263		µg/L	1	4/4/2012
Aroclor 1254	ND	0.263		µg/L	1	4/4/2012
Aroclor 1260	ND	0.263		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	85.7	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	96.4	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 1	97.0	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 2	112	30-150		%REC	1	4/4/2012

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0250	0.0100		mg/L	1	4/3/2012
Iron	2.04	0.0100		mg/L	1	4/3/2012
Lead	ND	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	0.0130	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.0190	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.00130	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
1,2-Dinitrobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
1,3-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
1,4-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,4,5-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,4,6-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,4-Dichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,4-Dimethylphenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,4-Dinitrophenol	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2-Chloronaphthalene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2-Chlorophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike Recovery outside recovery limits

BRL Below Reporting Limit
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270D						

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
2-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
3,3'-Dichlorobenzidine	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
3-Methylphenol/4-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
3-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
4-Bromophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
4-Chloro-3-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
4-Chloroaniline	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
4-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
4-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Acenaphthene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Acenaphthylene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Acetophenone	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Aniline	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Anthracene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Azobenzene	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Benz(a)Anthracene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Benzidine	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Benzo(a)Pyrene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Benzo(b)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Benzo(g,h,i)Perylene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Benzo(k)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Benzyl Alcohol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Bis(2-Chloroethyl)Ether	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Butyl Benzyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Carbazole	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Chrysene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Dibenz(a,h)Anthracene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Dibenzofuran	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Dimethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Di-n-Butyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Di-n-Octyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Fluoranthene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Fluorene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Hexachlorobenzene	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
Hexachlorobutadiene	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
Hexachlorocyclopentadiene	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Hexachloroethane	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		µg/L	1	4/3/2012 3:07:00 PM
Isophorone	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Naphthalene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Nitrobenzene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
N-Nitrosodimethylamine	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
N-Nitrosodi-n-Propylamine	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
N-Nitrosodiphenylamine	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Pentachlorophenol	ND	2.50		µg/L	1	4/3/2012 3:07:00 PM
Phenanthrene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Phenol	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Pyrene	ND	1.00		µg/L	1	4/3/2012 3:07:00 PM
Pyridine	ND	5.00		µg/L	1	4/3/2012 3:07:00 PM
Surr: 2,4,6-Tribromophenol	51.4	15-110		%REC	1	4/3/2012 3:07:00 PM
Surr: 2-Fluorobiphenyl	39.5	30-130		%REC	1	4/3/2012 3:07:00 PM
Surr: 2-Fluorophenol	19.8	15-110		%REC	1	4/3/2012 3:07:00 PM
Surr: Nitrobenzene-d5	33.5	30-130		%REC	1	4/3/2012 3:07:00 PM
Surr: Phenol-d6	13.6	15-110	S	%REC	1	4/3/2012 3:07:00 PM
Surr: Terphenyl-d14	102	30-130		%REC	1	4/3/2012 3:07:00 PM

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	15.3	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
2-Butanone	50.8	10.0		µg/L	1	4/4/2012 10:52:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 10:52:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 10:52:00 PM
Acetone	29.0	10.0		µg/L	1	4/4/2012 10:52:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-001

Client Sample ID: H-1
 Collection Date: 3/31/2012 8:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 10:52:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Diethy Ether	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 10:52:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Tetrahydrofuran	89.8	2.00		µg/L	1	4/4/2012 10:52:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 10:52:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 10:52:00 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	4/4/2012 10:52:00 PM
Surr: 4-Bromofluorobenzene	116	70-130		%REC	1	4/4/2012 10:52:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
Lab Order: 1204008
Project: 07-27-10
Lab ID: 1204008-001

Client Sample ID: H-1
Collection Date: 3/31/2012 8:40:00 AM
Date Received: 4/2/2012
Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	105	70-130	%REC	1	4/4/2012 10:52:00 PM
Surr: Toluene-d8	102	70-130	%REC	1	4/4/2012 10:52:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	394	30.0	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium, Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.250		µg/L	1	4/4/2012
Aroclor 1221	ND	0.250		µg/L	1	4/4/2012
Aroclor 1232	ND	0.250		µg/L	1	4/4/2012
Aroclor 1242	ND	0.250		µg/L	1	4/4/2012
Aroclor 1248	ND	0.250		µg/L	1	4/4/2012
Aroclor 1254	ND	0.250		µg/L	1	4/4/2012
Aroclor 1260	ND	0.250		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	75.1	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	93.5	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal	83.0	30-150		%REC	1	4/4/2012
1 Surr: Tetrachloro-m-Xylene Signal	114	30-150		%REC	1	4/4/2012
2						

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0280	0.0100		mg/L	1	4/3/2012
Iron	2.46	0.0100		mg/L	1	4/3/2012
Lead	ND	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	ND	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.0260	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.0242	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
1,2-Dinitrobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
1,3-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
1,4-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,4,5-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,4,6-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,4-Dichlorophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,4-Dimethylphenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,4-Dinitrophenol	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2-Chloronaphthalene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2-Chlorophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
2-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
3,3'-Dichlorobenzidine	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
3-Methylphenol/4-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
3-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
4-Bromophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
4-Chloro-3-Methylphenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
4-Chloroaniline	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
4-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
4-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Acenaphthene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Acenaphthylene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Acetophenone	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Aniline	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Anthracene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Azobenzene	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Benz(a)Anthracene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Benzidine	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Benzo(a)Pyrene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Benzo(b)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Benzo(g,h,i)Perylene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Benzo(k)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Benzyl Alcohol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Bis(2-Chloroethyl)Ether	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Butyl Benzyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Carbazole	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Chrysene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Dibenz(a,h)Anthracene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Dibenzofuran	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Dimethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Di-n-Butyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Di-n-Octyl Phthalate	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Fluoranthene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Fluorene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Hexachlorobenzene	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
Hexachlorobutadiene	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
Hexachlorocyclopentadiene	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Hexachloroethane	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		µg/L	1	4/3/2012 3:43:00 PM
Isophorone	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Naphthalene	1.18	1.00		µg/L	1	4/3/2012 3:43:00 PM
Nitrobenzene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
N-Nitrosodimethylamine	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
N-Nitrosodi-n-Propylamine	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
N-Nitrosodiphenylamine	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Pentachlorophenol	ND	2.50		µg/L	1	4/3/2012 3:43:00 PM
Phenanthrene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Phenol	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Pyrene	ND	1.00		µg/L	1	4/3/2012 3:43:00 PM
Pyridine	ND	5.00		µg/L	1	4/3/2012 3:43:00 PM
Surr: 2,4,6-Tribromophenol	4.09	15-110	S	%REC	1	4/3/2012 3:43:00 PM
Surr: 2-Fluorobiphenyl	41.4	30-130		%REC	1	4/3/2012 3:43:00 PM
Surr: 2-Fluorophenol	1.31	15-110	S	%REC	1	4/3/2012 3:43:00 PM
Surr: Nitrobenzene-d5	33.3	30-130		%REC	1	4/3/2012 3:43:00 PM
Surr: Phenol-d6	0.693	15-110	S	%REC	1	4/3/2012 3:43:00 PM
Surr: Terphenyl-d14	74.9	30-130		%REC	1	4/3/2012 3:43:00 PM

NOTES:

Surrogates fail due to matrix interference, confirmed by re-extract.

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	13.6	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
2-Butanone	ND	10.0		µg/L	1	4/4/2012 8:09:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 8:09:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 8:09:00 PM
Acetone	ND	10.0		µg/L	1	4/4/2012 8:09:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 8:09:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Diethy Ether	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 8:09:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 8:09:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 8:09:00 PM
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%REC	1	4/4/2012 8:09:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	4/4/2012 8:09:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-002

Client Sample ID: H-3
 Collection Date: 3/31/2012 11:40:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	106	70-130	%REC	1	4/4/2012 8:09:00 PM
Surr: Toluene-d8	103	70-130	%REC	1	4/4/2012 8:09:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	2150	150	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium, Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.250		µg/L	1	4/4/2012
Aroclor 1221	ND	0.250		µg/L	1	4/4/2012
Aroclor 1232	ND	0.250		µg/L	1	4/4/2012
Aroclor 1242	ND	0.250		µg/L	1	4/4/2012
Aroclor 1248	ND	0.250		µg/L	1	4/4/2012
Aroclor 1254	ND	0.250		µg/L	1	4/4/2012
Aroclor 1260	ND	0.250		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	78.4	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	92.4	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal	86.3	30-150		%REC	1	4/4/2012
1 Surr: Tetrachloro-m-Xylene Signal	109	30-150		%REC	1	4/4/2012
2						

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0300	0.0100		mg/L	1	4/3/2012
Iron	5.76	0.0100		mg/L	1	4/3/2012
Lead	ND	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	0.0160	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.0310	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.00156	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
1,2-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
1,2-Dinitrobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
1,3-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
1,3-Dinitrobenzene	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
1,4-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
1,4-Dinitrobenzene	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,4,5-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,4,6-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,4-Dichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,4-Dimethylphenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,4-Dinitrophenol	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
2,4-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2,6-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2-Chloronaphthalene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2-Chlorophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270D						

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
2-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
3,3'-Dichlorobenzidine	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
3-Methylphenol/4-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
3-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
4-Bromophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
4-Chloro-3-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
4-Chloroaniline	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
4-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
4-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Acenaphthene	1.34	1.01		µg/L	1	4/3/2012 4:19:00 PM
Acenaphthylene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Acetophenone	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Aniline	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Anthracene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Azobenzene	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Benz(a)Anthracene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Benzidine	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Benzo(a)Pyrene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Benzo(b)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Benzo(g,h,i)Perylene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Benzo(k)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Benzyl Alcohol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Bis(2-Chloroethyl)Ether	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Butyl Benzyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Carbazole	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Chrysene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Dibenz(a,h)Anthracene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Dibenzofuran	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Dimethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Di-n-Butyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Di-n-Octyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Fluoranthene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Fluorene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Hexachlorobenzene	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
Hexachlorobutadiene	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
Hexachlorocyclopentadiene	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Hexachloroethane	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.101		µg/L	1	4/3/2012 4:19:00 PM
Isophorone	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Naphthalene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Nitrobenzene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
N-Nitrosodimethylamine	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
N-Nitrosodi-n-Propylamine	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
N-Nitrosodiphenylamine	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Pentachlorophenol	ND	2.51		µg/L	1	4/3/2012 4:19:00 PM
Phenanthrene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Phenol	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Pyrene	ND	1.01		µg/L	1	4/3/2012 4:19:00 PM
Pyridine	ND	5.03		µg/L	1	4/3/2012 4:19:00 PM
Surr: 2,4,6-Tribromophenol	24.2	15-110		%REC	1	4/3/2012 4:19:00 PM
Surr: 2-Fluorobiphenyl	44.3	30-130		%REC	1	4/3/2012 4:19:00 PM
Surr: 2-Fluorophenol	4.20	15-110	S	%REC	1	4/3/2012 4:19:00 PM
Surr: Nitrobenzene-d5	34.5	30-130		%REC	1	4/3/2012 4:19:00 PM
Surr: Phenol-d6	8.35	15-110	S	%REC	1	4/3/2012 4:19:00 PM
Surr: Terphenyl-d14	99.6	30-130		%REC	1	4/3/2012 4:19:00 PM

NOTES:

Surrogates fail due to matrix interference, confirmed by re-extract.

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	8.42	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
1,4-Dioxane	ND	500		µg/L	1	4/4/2012 7:37:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
2-Butanone	ND	10.0		µg/L	1	4/4/2012 7:37:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 7:37:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 7:37:00 PM
Acetone	ND	10.0		µg/L	1	4/4/2012 7:37:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-003

Client Sample ID: H-4
 Collection Date: 3/31/2012 10:10:00 AM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 7:37:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 7:37:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 7:37:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 7:37:00 PM
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%REC	1	4/4/2012 7:37:00 PM
Surr: 4-Bromofluorobenzene	113	70-130		%REC	1	4/4/2012 7:37:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
Lab Order: 1204008
Project: 07-27-10
Lab ID: 1204008-003

Client Sample ID: H-4
Collection Date: 3/31/2012 10:10:00 AM
Date Received: 4/2/2012
Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	104	70-130	%REC	1	4/4/2012 7:37:00 PM
Surr: Toluene-d8	103	70-130	%REC	1	4/4/2012 7:37:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	2720	300	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	0.00600	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium,Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.272		µg/L	1	4/4/2012
Aroclor 1221	ND	0.272		µg/L	1	4/4/2012
Aroclor 1232	ND	0.272		µg/L	1	4/4/2012
Aroclor 1242	ND	0.272		µg/L	1	4/4/2012
Aroclor 1248	ND	0.272		µg/L	1	4/4/2012
Aroclor 1254	ND	0.272		µg/L	1	4/4/2012
Aroclor 1260	ND	0.272		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	73.1	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	81.0	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 1	87.5	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 2	105	30-150		%REC	1	4/4/2012

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0300	0.0100		mg/L	1	4/3/2012
Iron	2.91	0.0100		mg/L	1	4/3/2012
Lead	ND	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	0.0130	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.0400	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3020A)

Prep Date: 4/4/2012 1:39:27 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.00127	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
1,2-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
1,2-Dinitrobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
1,3-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
1,3-Dinitrobenzene	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
1,4-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
1,4-Dinitrobenzene	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,4,5-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,4,6-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,4-Dichlorophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,4-Dimethylphenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,4-Dinitrophenol	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
2,4-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2,6-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2-Chloronaphthalene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2-Chlorophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
2-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
3,3'-Dichlorobenzidine	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
3-Methylphenol/4-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
3-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
4-Bromophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
4-Chloro-3-Methylphenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
4-Chloroaniline	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
4-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
4-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Acenaphthene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Acenaphthylene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Acetophenone	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Aniline	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Anthracene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Azobenzene	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Benz(a)Anthracene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Benzidine	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Benzo(a)Pyrene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Benzo(b)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Benzo(g,h,i)Perylene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Benzo(k)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Benzyl Alcohol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Bis(2-Chloroethyl)Ether	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Butyl Benzyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Carbazole	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Chrysene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Dibenz(a,h)Anthracene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Dibenzofuran	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike Recovery outside recovery limits

BRL Below Reporting Limit
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Dimethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Di-n-Butyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Di-n-Octyl Phthalate	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Fluoranthene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Fluorene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Hexachlorobenzene	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
Hexachlorobutadiene	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
Hexachlorocyclopentadiene	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Hexachloroethane	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.101		µg/L	1	4/3/2012 4:54:00 PM
Isophorone	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Naphthalene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Nitrobenzene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
N-Nitrosodimethylamine	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
N-Nitrosodi-n-Propylamine	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
N-Nitrosodiphenylamine	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Pentachlorophenol	ND	2.51		µg/L	1	4/3/2012 4:54:00 PM
Phenanthrene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Phenol	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Pyrene	ND	1.01		µg/L	1	4/3/2012 4:54:00 PM
Pyridine	ND	5.03		µg/L	1	4/3/2012 4:54:00 PM
Surr: 2,4,6-Tribromophenol	58.8	15-110		%REC	1	4/3/2012 4:54:00 PM
Surr: 2-Fluorobiphenyl	48.1	30-130		%REC	1	4/3/2012 4:54:00 PM
Surr: 2-Fluorophenol	21.7	15-110		%REC	1	4/3/2012 4:54:00 PM
Surr: Nitrobenzene-d5	37.6	30-130		%REC	1	4/3/2012 4:54:00 PM
Surr: Phenol-d6	17.3	15-110		%REC	1	4/3/2012 4:54:00 PM
Surr: Terphenyl-d14	89.6	30-130		%REC	1	4/3/2012 4:54:00 PM

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	6.34	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental

Client Sample ID: H-5

Lab Order: 1204008

Collection Date: 3/31/2012 2:35:00 PM

Project: 07-27-10

Date Received: 4/2/2012

Lab ID: 1204008-004

Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1,1-Trichloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1,2-Trichloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1-Dichloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1-Dichloroethene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,1-Dichloropropene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2,3-Trichlorobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2,3-Trichloropropane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2,4-Trichlorobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2,4-Trimethylbenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2-Dibromoethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2-Dichlorobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2-Dichloroethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,2-Dichloropropane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,3,5-Trimethylbenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,3-Dichlorobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,3-Dichloropropane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
1,4-Dichlorobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
2,2-Dichloropropane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
2-Butanone	34.6	10.0	µg/L	1	4/4/2012 8:42:00 PM
2-Chlorotoluene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
2-Hexanone	ND	10.0	µg/L	1	4/4/2012 8:42:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
4-Chlorotoluene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
4-Isopropyltoluene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
4-Methyl-2-Pentanone	ND	5.00	µg/L	1	4/4/2012 8:42:00 PM
Acetone	59.5	10.0	µg/L	1	4/4/2012 8:42:00 PM
Benzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Bromobenzene	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Bromochloromethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Bromodichloromethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Bromoform	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Bromomethane	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM
Carbon Disulfide	ND	2.00	µg/L	1	4/4/2012 8:42:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 8:42:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Diethy Ether	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 8:42:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Tetrahydrofuran	419	20.0		µg/L	10	4/5/2012 1:27:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 8:42:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 8:42:00 PM
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%REC	1	4/4/2012 8:42:00 PM
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	4/4/2012 8:42:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-004

Client Sample ID: H-5
 Collection Date: 3/31/2012 2:35:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	101	70-130	%REC	1	4/4/2012 8:42:00 PM
Surr: Toluene-d8	105	70-130	%REC	1	4/4/2012 8:42:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	ND	3140	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium, Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental

Client Sample ID: H-6

Lab Order: 1204008

Collection Date: 3/31/2012 3:00:00 PM

Project: 07-27-10

Date Received: 4/2/2012

Lab ID: 1204008-005

Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						
Analyst: Admin						

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00	mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00	mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.278	µg/L	1	4/4/2012
Aroclor 1221	ND	0.278	µg/L	1	4/4/2012
Aroclor 1232	ND	0.278	µg/L	1	4/4/2012
Aroclor 1242	ND	0.278	µg/L	1	4/4/2012
Aroclor 1248	ND	0.278	µg/L	1	4/4/2012
Aroclor 1254	ND	0.278	µg/L	1	4/4/2012
Aroclor 1260	ND	0.278	µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	70.0	30-150	%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	82.3	30-150	%REC	1	4/4/2012
1 Surr: Tetrachloro-m-Xylene Signal	86.8	30-150	%REC	1	4/4/2012
2 Surr: Tetrachloro-m-Xylene Signal	97.6	30-150	%REC	1	4/4/2012

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100	mg/L	1	4/3/2012
Copper	0.0310	0.0100	mg/L	1	4/3/2012
Iron	1.44	0.0100	mg/L	1	4/3/2012
Lead	0.0170	0.0100	mg/L	1	4/3/2012
Nickel	ND	0.0100	mg/L	1	4/3/2012
Selenium	0.0100	0.0100	mg/L	1	4/3/2012
Silver	ND	0.0100	mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-005

Client Sample ID: H-6
 Collection Date: 3/31/2012 3:00:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.215	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3020A)

Prep Date: 4/4/2012 1:39:27 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.00204	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
1,2-Dichlorobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
1,2-Dinitrobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
1,3-Dichlorobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
1,3-Dinitrobenzene	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
1,4-Dichlorobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
1,4-Dinitrobenzene	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,4,5-Trichlorophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,4,6-Trichlorophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,4-Dichlorophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,4-Dimethylphenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,4-Dinitrophenol	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
2,4-Dinitrotoluene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2,6-Dinitrotoluene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2-Chloronaphthalene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2-Chlorophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-005

Client Sample ID: H-6
 Collection Date: 3/31/2012 3:00:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2-Methylphenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2-Nitroaniline	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
2-Nitrophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
3,3'-Dichlorobenzidine	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
3-Methylphenol/4-Methylphenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
3-Nitroaniline	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
4-Bromophenyl Phenyl Ether	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
4-Chloro-3-Methylphenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
4-Chloroaniline	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
4-Nitroaniline	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
4-Nitrophenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Acenaphthene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Acenaphthylene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Acetophenone	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Aniline	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Anthracene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Azobenzene	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Benz(a)Anthracene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Benzidine	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Benzo(a)Pyrene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Benzo(b)Fluoranthene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Benzo(g,h,i)Perylene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Benzo(k)Fluoranthene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Benzyl Alcohol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Bis(2-Chloroethyl)Ether	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Butyl Benzyl Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Carbazole	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Chrysene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Dibenz(a,h)Anthracene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Dibenzofuran	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-005

Client Sample ID: H-6
 Collection Date: 3/31/2012 3:00:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Dimethyl Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Di-n-Butyl Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Di-n-Octyl Phthalate	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Fluoranthene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Fluorene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Hexachlorobenzene	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
Hexachlorobutadiene	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
Hexachlorocyclopentadiene	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Hexachloroethane	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.111		µg/L	1	4/3/2012 5:30:00 PM
Isophorone	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Naphthalene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Nitrobenzene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
N-Nitrosodimethylamine	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
N-Nitrosodi-n-Propylamine	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
N-Nitrosodiphenylamine	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Pentachlorophenol	ND	2.78		µg/L	1	4/3/2012 5:30:00 PM
Phenanthrene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Phenol	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Pyrene	ND	1.11		µg/L	1	4/3/2012 5:30:00 PM
Pyridine	ND	5.56		µg/L	1	4/3/2012 5:30:00 PM
Surr: 2,4,6-Tribromophenol	42.1	15-110		%REC	1	4/3/2012 5:30:00 PM
Surr: 2-Fluorobiphenyl	44.1	30-130		%REC	1	4/3/2012 5:30:00 PM
Surr: 2-Fluorophenol	19.1	15-110		%REC	1	4/3/2012 5:30:00 PM
Surr: Nitrobenzene-d5	35.4	30-130		%REC	1	4/3/2012 5:30:00 PM
Surr: Phenol-d6	13.9	15-110	S	%REC	1	4/3/2012 5:30:00 PM
Surr: Terphenyl-d14	73.0	30-130		%REC	1	4/3/2012 5:30:00 PM

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	6.71	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-005

Client Sample ID: H-6
 Collection Date: 3/31/2012 3:00:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
2-Butanone	14.0	10.0		µg/L	1	4/4/2012 9:14:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 9:14:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 9:14:00 PM
Acetone	12.5	10.0		µg/L	1	4/4/2012 9:14:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-005

Client Sample ID: H-6
 Collection Date: 3/31/2012 3:00:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 9:14:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 9:14:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Tetrahydrofuran	122	2.00		µg/L	1	4/4/2012 9:14:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 9:14:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 9:14:00 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	4/4/2012 9:14:00 PM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	4/4/2012 9:14:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
Lab Order: 1204008
Project: 07-27-10
Lab ID: 1204008-005

Client Sample ID: H-6
Collection Date: 3/31/2012 3:00:00 PM
Date Received: 4/2/2012
Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	105	70-130	%REC	1	4/4/2012 9:14:00 PM
Surr: Toluene-d8	103	70-130	%REC	1	4/4/2012 9:14:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	1950	150	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium,Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	273	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.250		µg/L	1	4/4/2012
Aroclor 1221	ND	0.250		µg/L	1	4/4/2012
Aroclor 1232	ND	0.250		µg/L	1	4/4/2012
Aroclor 1242	ND	0.250		µg/L	1	4/4/2012
Aroclor 1248	ND	0.250		µg/L	1	4/4/2012
Aroclor 1254	ND	0.250		µg/L	1	4/4/2012
Aroclor 1260	ND	0.250		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	62.7	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	69.8	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 1	91.5	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 2	106	30-150		%REC	1	4/4/2012

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0920	0.0100		mg/L	1	4/3/2012
Iron	5.63	0.0100		mg/L	1	4/3/2012
Lead	0.263	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	13.0	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.705	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3020A)

Prep Date: 4/4/2012 1:39:27 PM

Antimony	ND	0.00200		mg/L	1	4/4/2012
Arsenic	0.00902	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
1,2-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
1,2-Dinitrobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
1,3-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
1,3-Dinitrobenzene	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
1,4-Dichlorobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
1,4-Dinitrobenzene	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,4,5-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,4,6-Trichlorophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,4-Dichlorophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,4-Dimethylphenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,4-Dinitrophenol	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
2,4-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2,6-Dinitrotoluene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2-Chloronaphthalene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2-Chlorophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2-Methylphenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
2-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
3,3'-Dichlorobenzidine	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
3-Methylphenol/4-Methylphenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
3-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
4-Bromophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
4-Chloro-3-Methylphenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
4-Chloroaniline	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
4-Nitroaniline	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
4-Nitrophenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Acenaphthene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Acenaphthylene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Acetophenone	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Aniline	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Anthracene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Azobenzene	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Benz(a)Anthracene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Benzidine	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Benzo(a)Pyrene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Benzo(b)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Benzo(g,h,i)Perylene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Benzo(k)Fluoranthene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Benzyl Alcohol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Bis(2-Chloroethyl)Ether	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Butyl Benzyl Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Carbazole	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Chrysene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Dibenz(a,h)Anthracene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Dibenzofuran	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Dimethyl Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Di-n-Butyl Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Di-n-Octyl Phthalate	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Fluoranthene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Fluorene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Hexachlorobenzene	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
Hexachlorobutadiene	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
Hexachlorocyclopentadiene	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Hexachloroethane	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.101		µg/L	1	4/3/2012 6:05:00 PM
Isophorone	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Naphthalene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Nitrobenzene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
N-Nitrosodimethylamine	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
N-Nitrosodi-n-Propylamine	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
N-Nitrosodiphenylamine	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Pentachlorophenol	ND	2.53		µg/L	1	4/3/2012 6:05:00 PM
Phenanthrene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Phenol	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Pyrene	ND	1.01		µg/L	1	4/3/2012 6:05:00 PM
Pyridine	ND	5.05		µg/L	1	4/3/2012 6:05:00 PM
Surr: 2,4,6-Tribromophenol	55.1	15-110		%REC	1	4/3/2012 6:05:00 PM
Surr: 2-Fluorobiphenyl	46.2	30-130		%REC	1	4/3/2012 6:05:00 PM
Surr: 2-Fluorophenol	24.8	15-110		%REC	1	4/3/2012 6:05:00 PM
Surr: Nitrobenzene-d5	36.7	30-130		%REC	1	4/3/2012 6:05:00 PM
Surr: Phenol-d6	16.5	15-110		%REC	1	4/3/2012 6:05:00 PM
Surr: Terphenyl-d14	77.2	30-130		%REC	1	4/3/2012 6:05:00 PM

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	9.32	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
2-Butanone	19.4	10.0		µg/L	1	4/4/2012 9:47:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 9:47:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 9:47:00 PM
Acetone	19.3	10.0		µg/L	1	4/4/2012 9:47:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 9:47:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 9:47:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Tetrahydrofuran	72.9	2.00		µg/L	1	4/4/2012 9:47:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 9:47:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 9:47:00 PM
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%REC	1	4/4/2012 9:47:00 PM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	4/4/2012 9:47:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-006

Client Sample ID: H-7
 Collection Date: 3/31/2012 3:55:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	103	70-130	%REC	1	4/4/2012 9:47:00 PM
Surr: Toluene-d8	105	70-130	%REC	1	4/4/2012 9:47:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	223	30.0	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium, Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike Recovery outside recovery limits

BRL Below Reporting Limit
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
NON-POLAR 1664A - E1664A						

Analyst: Admin

Prep Method:

Prep Date:

Total Petroleum Hydrocarbons	ND	5.00		mg/L	1	4/4/2012
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TOTAL SUSPENDED SOLIDS - SM2540D

Analyst: Admin

Prep Method:

Prep Date:

Total Suspended Solids	ND	4.00		mg/L	1	4/2/2012
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PCBS - E608

Analyst: KG

Prep Method: (SW3510B)

Prep Date: 4/3/2012 9:50:09 AM

Aroclor 1016	ND	0.250		µg/L	1	4/4/2012
Aroclor 1221	ND	0.250		µg/L	1	4/4/2012
Aroclor 1232	ND	0.250		µg/L	1	4/4/2012
Aroclor 1242	ND	0.250		µg/L	1	4/4/2012
Aroclor 1248	ND	0.250		µg/L	1	4/4/2012
Aroclor 1254	ND	0.250		µg/L	1	4/4/2012
Aroclor 1260	ND	0.250		µg/L	1	4/4/2012
Surr: Decachlorobiphenyl Signal 1	77.2	30-150		%REC	1	4/4/2012
Surr: Decachlorobiphenyl Signal 2	80.2	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 1	91.1	30-150		%REC	1	4/4/2012
Surr: Tetrachloro-m-Xylene Signal 2	93.4	30-150		%REC	1	4/4/2012

TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Chromium	ND	0.0100		mg/L	1	4/3/2012
Copper	0.0210	0.0100		mg/L	1	4/3/2012
Iron	0.331	0.0100		mg/L	1	4/3/2012
Lead	0.0100	0.0100		mg/L	1	4/3/2012
Nickel	ND	0.0100		mg/L	1	4/3/2012
Selenium	0.0200	0.0100		mg/L	1	4/3/2012
Silver	ND	0.0100		mg/L	1	4/3/2012

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3010A)

Prep Date: 4/3/2012 12:47:06 PM

Zinc	0.208	0.0150		mg/L	1	4/3/2012
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TOTAL METALS BY GFAA - 7010

Analyst: QS

Prep Method: (SW3020A)

Prep Date: 4/4/2012 1:39:27 PM

Antimony	0.00509	0.00200		mg/L	1	4/4/2012
Arsenic	0.00476	0.00100		mg/L	1	4/4/2012
Cadmium	ND	0.00100		mg/L	1	4/4/2012

TOTAL MERCURY - E245.1

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/4/2012 3:46:06 PM

Mercury	ND	0.0005		mg/L	1	4/4/2012
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
1,2-Dinitrobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
1,3-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
1,4-Dinitrobenzene	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,4,5-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,4,6-Trichlorophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,4-Dichlorophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,4-Dimethylphenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,4-Dinitrophenol	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
2,4-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2,6-Dinitrotoluene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2-Chloronaphthalene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2-Chlorophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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SEMIVOLATILE ORGANICS - SW8270D

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

2-Methylnaphthalene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2-Methylphenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
2-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
3,3'-Dichlorobenzidine	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
3-Methylphenol/4-Methylphenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
3-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
4,6-Dinitro-2-Methylphenol	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
4-Bromophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
4-Chloro-3-Methylphenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
4-Chloroaniline	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
4-Nitroaniline	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
4-Nitrophenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Acenaphthene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Acenaphthylene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Acetophenone	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Aniline	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Anthracene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Azobenzene	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Benz(a)Anthracene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Benzidine	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Benzo(a)Pyrene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Benzo(b)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Benzo(g,h,i)Perylene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Benzo(k)Fluoranthene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Benzyl Alcohol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Bis(2-Chloroethyl)Ether	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Butyl Benzyl Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Carbazole	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Chrysene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Dibenz(a,h)Anthracene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Dibenzofuran	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270D						

Analyst: ZYZ

Prep Method: (SW3510)

Prep Date: 4/3/2012 10:31:55 AM

Diethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Dimethyl Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Di-n-Butyl Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Di-n-Octyl Phthalate	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Fluoranthene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Fluorene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Hexachlorobenzene	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
Hexachlorobutadiene	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
Hexachlorocyclopentadiene	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Hexachloroethane	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		µg/L	1	4/3/2012 6:41:00 PM
Isophorone	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Naphthalene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Nitrobenzene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
N-Nitrosodimethylamine	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
N-Nitrosodi-n-Propylamine	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
N-Nitrosodiphenylamine	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Pentachlorophenol	ND	2.50		µg/L	1	4/3/2012 6:41:00 PM
Phenanthrene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Phenol	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Pyrene	ND	1.00		µg/L	1	4/3/2012 6:41:00 PM
Pyridine	ND	5.00		µg/L	1	4/3/2012 6:41:00 PM
Surr: 2,4,6-Tribromophenol	50.6	15-110		%REC	1	4/3/2012 6:41:00 PM
Surr: 2-Fluorobiphenyl	49.6	30-130		%REC	1	4/3/2012 6:41:00 PM
Surr: 2-Fluorophenol	23.4	15-110		%REC	1	4/3/2012 6:41:00 PM
Surr: Nitrobenzene-d5	39.2	30-130		%REC	1	4/3/2012 6:41:00 PM
Surr: Phenol-d6	16.7	15-110		%REC	1	4/3/2012 6:41:00 PM
Surr: Terphenyl-d14	78.2	30-130		%REC	1	4/3/2012 6:41:00 PM

VOLATILE ORGANICS - 8260C

Analyst: ZC

Prep Method:

Prep Date:

1,4-Dioxane	8.40	5.00		µg/L	1	4/5/2012
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
2-Butanone	ND	10.0		µg/L	1	4/4/2012 10:19:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/4/2012 10:19:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/4/2012 10:19:00 PM
Acetone	ND	10.0		µg/L	1	4/4/2012 10:19:00 PM
Benzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Bromoform	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Bromomethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
 Lab Order: 1204008
 Project: 07-27-10
 Lab ID: 1204008-007

Client Sample ID: H-8
 Collection Date: 3/31/2012 2:25:00 PM
 Date Received: 4/2/2012
 Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260C						

Analyst: ZYZ

Prep Method:

Prep Date:

Carbon Tetrachloride	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Chloroethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Chloroform	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Chloromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/4/2012 10:19:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Naphthalene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Styrene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/4/2012 10:19:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Tetrahydrofuran	187	20.0		µg/L	10	4/5/2012 2:00:00 PM
Toluene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/4/2012 10:19:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/4/2012 10:19:00 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	4/4/2012 10:19:00 PM
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	4/4/2012 10:19:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date:

CLIENT: SAK Environmental
Lab Order: 1204008
Project: 07-27-10
Lab ID: 1204008-007

Client Sample ID: H-8
Collection Date: 3/31/2012 2:25:00 PM
Date Received: 4/2/2012
Matrix: GROUNDWATER

Analyses	Result	Det. Limit	Qual	Units	DF	Date Analyzed
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VOLATILE ORGANIC COMPOUNDS - SW8260C

Analyst: ZYZ

Prep Method:

Prep Date:

Surr: Dibromofluoromethane	105	70-130	%REC	1	4/4/2012 10:19:00 PM
Surr: Toluene-d8	101	70-130	%REC	1	4/4/2012 10:19:00 PM

CHLORIDE - E300.0

Analyst: SUB

Prep Method:

Prep Date:

Chloride	618	30.0	mg/L	1	4/5/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

CYANIDE, TOTAL - E335.4/9010

Analyst: SUB

Prep Method:

Prep Date:

Cyanide	ND	0.00500	mg/L	1	4/4/2012
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TOTAL RESIDUAL CHLORINE- SM 4500 CL-G

Analyst: SUB

Prep Method:

Prep Date:

Total Residual Chlorine	ND	0.0200	H mg/L	1	4/3/2012 6:20:00 PM
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NOTES:

Sample was analyzed by Phoenix Environmental Laboratories, M-CT007.

TRIVALENT CHROMIUM IN WATER - 6010C&3500

Analyst: RP

Prep Method:

Prep Date:

Trivalent Chromium, Cr3+	ND	0.050	mg/L	1	4/4/2012
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HEXAVALENT CHROMIUM - SM3500-CR-D

Analyst: JC

Prep Method:

Prep Date:

Chromium, Hexavalent	ND	0.0500	H mg/L	1	4/3/2012 9:00:00 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside recovery limits		

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

Geolabs, Inc. *Environmental Laboratories*
45 Johnson Lane, Braintree, MA 02184
p 781.848.7844 • f 781.848.7811
www.geolabs.com

Special Instructions

Client:	SAK Environmental	Phone:	978-688-7804	Project:	Cambridge
Address:	231 Sutton St., Suite 26 North Andover, MA 01845	Fax:	978-688-7801	Project PO:	07-27-10
Contact:	Steve Dowallby	email:	sdowallby@sakenvironmental.com	Invoice to *:	Veolia Energy

Matrix Codes:		Received on Job		Preservatives		Containers:	
GW = Ground Water	DW = Drinking Water	S = Soil	A = Air	1 = HCl	3 = H2SO4	5 = NaOH	7 = Other
WW = Waste Water	SL = Sludge	O = Oil	OT = Other	2 = HNO3	4 = Na2S2O3	6 = MeOH	
Relinquished by: <i>Subir Datta</i>		Date / Time <i>4/12/12</i>		Received by:		Date / Time	
<i>Sanjit K. Chatterjee</i>		<i>4/12/12 11:15</i>		<i>PCB, ABN, TPH - 2-1 liter Amber Cans (700-4004) 2000 - 2 Voas (HCL)</i>			
<i>Notes: All sampling was completed within 30min of Collection time.</i>				<i>Cu, Cr⁶⁺, Cl, TRC, TSS - 1-250mL plastic container</i>			
<i>(For example: 4-6 - begin @ 3:00pm → Finish @ 3:30pm)</i>				<i>Metal(s) (Cr³⁺) - 500mL plastic (40003)</i>		<i>Phosds - 1 Liter Amber</i>	

Terms: Payment due within 30 days unless other arrangements are made. Past due balances subject to interest and collection cost.
 Note: Homeowners and Law Firms must pay when dropping off samples. We accept cash, check and credit cards.

2010730 J&P.C of CR 08/22/10 NH (2508) NJ (MA-009)
 21/1/20002501 CT (PH-0148)

Appendix B
Charles River Data

**Massachusetts StreamStats****Streamstats Ungaged Site Report****Date:** Fri Apr 27 2012 12:05:46 Mountain Daylight Time**Site Location:** Massachusetts**NAD27 Latitude:** 42.3658 (42 21 57)**NAD27 Longitude:** -71.0710 (-71 04 16)**NAD83 Latitude:** 42.3659 (42 21 57)**NAD83 Longitude:** -71.0705 (-71 04 14)**ReachCode:** 01090001000111**Measure:** 5.29**Drainage Area:** 308 mi²**Low Flows Basin Characteristics****100 % Statewide Low Flow (308 mi²)**

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	308 (above max value 149)	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.33	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.24	0	1.29
Massachusetts Region (dimensionless)	0	0	1

*Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.***Probability of Perennial Flow Basin Characteristics****100 % Perennial Flow Probability (308 mi²)**

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	308 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	46.74	0	100
Percent Forest (percent)	39.30	0	100
Massachusetts Region (dimensionless)	0	0	1

*Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.***Low Flows Streamflow Statistics**

Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	330				
D60	274				
D70	190				
D75	156				
D80	123				
D85	98.6				
D90	77.4				
D95	52.5				
D98	35.1				
D99	29.2				
M7D2Y	56				
AUGD50	106				
M7D10Y	28.2				

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

Probability of Perennial Flow Statistics

Appendix C
Material Safety Data Sheets

Applied Polymer Systems, Inc.



Material Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 702aa Floc Log

Supplied: Applied Polymer Systems, Inc.
519 Industrial Drive
Woodstock, GA 30189
www.siltstop.com
Tel. 678-494-5998
Fax. 678-494-5298

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer gel

3. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

4. FIRST AID MEASURES

Inhalation: None

Skin contact: Contact with wet skin could cause dryness and chapping. Wash with soap and water. Use of rubber gloves required.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Floc Logs that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.
After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.

Storage: Keep in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:

Use dry handling areas only.

Personal protection equipment

Respiratory Protection:

None

Hand protection:

Dry cloth, leather or rubber gloves.

Eye Protection:

Safety glasses with side shields. Do not wear contact lenses.

Skin protection:

No special protective clothing required.

Hygiene measures:

Wash hands before breaks and at end of work day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Granular semi-solid gel
Color:	White to Brown
Odor:	None
pH:	7.89
Melting point:	N/A
Flash point:	N/A
Vapor density:	N/A

10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.

Materials to avoid: Oxidizing agents may cause exothermic reactions.

Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral:

LC 50/*Daphnia Magna*/48h>420mg/L

Inhalation:

None

12. ECOLOGICAL INFORMATION

Water Flea: LC 50/*Daphnia Magna*/48h>420mg/l

Algae: EC 50/*Selenastrum capricornutum*/96h>500mg/l

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / degradability: Not readily biodegradable: (~85% after 180 days).

13. TRANSPORT AND REGULATORY INFORMATION

Not regulated by DOT, RCRA status-Not a hazardous waste

NFPA and HMIS ratings:

NFPA	Health:	3	Flammability:	0	Reactivity:	1
HMIS	Health	2	Flammability	0	Reactivity	1