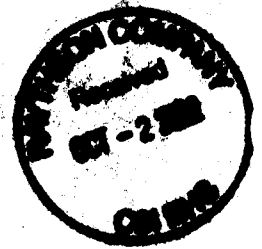




COMMONWEALTH OF MASSACHUSETTS
 EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 Metropolitan Boston - Northeast Regional Office





JANE M. SWIFT
 Governor

BOB DURAND
 Secretary

LAUREN A. LISS
 Commissioner

MEMORANDUM FOR THE RECORD

To: Baldwin Pond Wells Site Discovery File
 Thru: Stephen Johnson, Section Chief 
 From: Larry Immerman, EAIII 
 Subject: WAYLAND-Baldwin Pond Wells
 July 2002 Field Work
 Installation of DEP Wellpoints

Date: August 27, 2002

Introduction

In 1997, the volatile organic compound (VOC), (1,1,1)-trichloroethane (TCA) was detected for the first time at the Town of Natick's Baldwin Pond facility, in groundwater sampled from Supply Well #2. [As of the date of this Memorandum, the Town's Water Department is actively pumping water from two wells (Well #2 and Well #3) at the Baldwin Pond facility for use with the Town's municipal water supply.] Since the 1997 detection of TCA, low levels of this contaminant along with other chlorine-substituted VOCs, and VOCs associated with a light-end petroleum (e.g. gasoline) have been sporadically detected in groundwater sampled at the Baldwin Pond wells. In November 2001, the Department of Environmental Protection's Site Discovery group (DEP/SD) began an investigation within the Baldwin Pond wellfield, in response to the contamination at the supply wells. A major portion of the investigation has involved the installation of wellpoints to assess groundwater quality within the wellfield for the purpose of locating any potential sources of the VOC contamination identified at the municipal wells. The remainder of this Memorandum memorializes DEP's July 2002 Field Work which included the installation of wellpoints within the Zone I of the Baldwin Pond supply wells. Since the Baldwin Pond facility has had a history of limited vehicle maintenance of Town Water Department vehicles, it was determined by DEP/SD that the shallow portion of the groundwater would be assessed for the presence of both chlorinated VOCs and petroleum related VOCs. In addition to

this, wellpoints were also driven deeper into the aquifer, at the same interval of the supply well screen sections, to assess the possibility of a chlorinated VOC plume traveling into the Zone I from an off-site location.

July 12, 2002 DEP Field Work

On July 12, 2002, the writer installed five wellpoints (DEP-24, DEP-25, DEP-26, DEP-27, and DEP-28) to shallow depths within the Zone I at the Baldwin Pond facility, primarily for the purpose of assessing the top interval of the groundwater table for VOCs associated with a light-end petroleum, and secondly for chlorinated VOCs. Two wellpoints (DEP-26 and DEP-27) were installed down-gradient of the facility's vehicle maintenance building, one wellpoint (DEP-28) was installed down-gradient of the water treatment building and unnamed storage out buildings, one wellpoint (DEP-24) was installed up-gradient of the vehicle maintenance building, and one wellpoint (DEP-25) was installed up-gradient of the facility's water treatment building. Please see attached site map for locations of the wellpoints. All of the wellpoints were manually driven to depth using a Bosch® rotary hammer drill. Groundwater recharge conditions at each wellpoint were checked at five foot intervals during the time of their advancement, beginning at the 10 feet below grade mark, by inserting a mini-foot valve connected to a length of high-density polyethylene (HDPE) tubing down the entire length of the wellpoint, and then manually surging groundwater from the wellpoint. Groundwater samples were collected from the 15 foot to 20 foot below grade interval and from the 25 foot to 30 foot below grade interval at the time of the wellpoint advancement in order to obtain a vertical profile of the shallow groundwater quality. All groundwater samples were collected into 40 milliliter, VOC-type sampling vials. A total of 150 feet of well pipe was installed, and 10 groundwater samples were collected by the writer for VOC screening during this work. Additional wellpoint information is presented in "Table 1". VOC results are presented in "Table 2", the attached "NERO Lab Report", and in the "VOC Screening Results" section of this Memorandum.

July 16, 2002 DEP Field Work

On July 16, 2002, the writer installed two wellpoints (DEP-29 and DEP-30) within the Zone I of the Baldwin Pond supply wells for the purpose of assessing the groundwater for chlorinated and petroleum-related VOCs. Groundwater samples were taken every 10 feet, from 20 feet below grade to 60 feet below grade. Both wellpoints were installed up-gradient of Supply Well #2 and the inactive Supply Well #1. Please see attached site map for locations of wellpoints DEP-29 and DEP-30. The wellpoints were manually driven and sampled in the same manner as previously described in this Memorandum. Additional wellpoints information is presented in "Table 1". VOC results are presented in "Table 2", the attached "NERO Lab Report", and in the "VOC Screening Results" section of this Memorandum.

July 2002 DEP VOC Screening Results: Groundwater samples collected during DEP's July 2002 field work were screened at DEP/NERO by the writer for VOCs using a gas chromatograph (GC) equipped with photo-ionization and dry-electrolytic conductivity detectors, in series (PID/ELCD). The PID is sensitive to aromatic-type compounds (e.g. benzene, toluene) and some chlorine-substituted compounds (e.g. DCE, TCE, PCE). The ELCD is sensitive to all chlorine-substituted VOCs, only. Groundwater samples were stored in a refrigerator and screened within 14 days of their collection. At the time of screening, each groundwater sample was prepared using a "jar headspace" type sampling procedure by decanting approximately 20 milliliters of sample to produce a 1:1 ratio of headspace to aqueous phase

in the 40 ml VOC vial. Upon development of the headspace, a gas-tight syringe was used to pierce the vial's septum and evacuate one milliliter of headspace from within the vial. The syringe contents were then directly injected into the GC. Peak signal output from the GC detectors was normalized using PeakSimple® software. Final groundwater results were reported as an estimated microgram per liter concentration. See "Table 2" and attached "NERO Lab Reports" for a list of the GC results.

Chlorinated VOC Results: Chlorinated VOCs as DCA and TCA were identified by the GC screening in groundwater sampled at DEP-30, between the 30 foot to 60 foot below grade interval, with DCA reported as high as 2.8 ug/l and TCA reported as high as 28 ug/l. In addition, an unknown VOC was also reported as high as 1.4 ug/l (as TCE) at DEP-30 by the ELCD. Based on the retention time of the unknown VOC and the fact that it was identified by the ELCD, the compound is likely a chlorine-substituted ethane or ethane, such a vinyl chloride or (1,1)-dichloroethene, for example. Furthermore, PCE was "tentatively" identified in groundwater sampled at DEP-29 and DEP-30, and TCA was tentatively identified in groundwater sampled at DEP-29. The tentative identification is due to the contaminant levels being below their method detection limits. Lastly, chlorinated VOCs were not detected in groundwater sampled at DEP-24, DEP-25, DEP-26, DEP-27, and DEP-28.

Light-end Petroleum Related VOCs: The gasoline additive methyl(t)butylether (M(t)BE) was identified in groundwater sampled from DEP-29, only, between the 30 foot and 40 foot below grade interval at a concentration as high as 25 ug/l. In addition to this, benzene, was also tentatively identified at DEP-29, between the 30 foot and 40 foot below grade interval. VOCs associated with gasoline were not detected in any of the other wellpoints sampled at that time.

Baldwin Pond Wells - Water Quality Information

Well #1: From 1998 to 2000, Well #1 had a history of light-end petroleum VOC contaminants being sporadically detected in groundwater sampled at this well as: benzene, toluene, ethylbenzene, xylenes, and naphthalene. In addition, the chlorinated VOC contaminants TCA, (1,2)-dichloroethane, and (1,4)-dichloropropene have also been detected at the well. To date, concentrations for all of these contaminants have not exceeded 10 ug/l or their appropriate groundwater standard as listed in the Massachusetts Contingency Plan (MCP). Well #1 was removed from service in 2000 due to high levels of manganese and iron. A replacement well to Well #1 has been constructed, but has not been activated as of the date of this Memorandum.

Well #2: From 1997 to 2001, TCA has been detected in groundwater sampled at this well at trace levels (<1.0 ug/l) to 1.1 ug/l. TCE was detected at this well in 2000, only, at a concentration of 1.1 ug/l. As of the date of this Memorandum, petroleum related VOCs have not been identified at Well #2.

Well #3: In 2001, the gasoline additive, MtBE, was detected in groundwater sampled from this well, at a concentration of 2.2 ug/l. This is the first time that a VOC has been identified in groundwater at Well #3. No other VOCs have been reported at Well #3, as of the date of this Memorandum.

[For more information on the Baldwin Pond supply wells, Please see DEP/SD's July 18, 2002 "Memorandum For The Record", under the "Baldwin Pond Supply Well Information" section.]

Writers Comments

Results of DEP/SD's July 2002 field work reported the highest levels of chlorinated VOCs in groundwater sampled at DEP-30, where TCA, DCA, and an unknown chlorine-substituted VOC were reported to be at concentrations as high as 28 ug/l, 2.8 ug/l, and 1.4 ug/l, respectively, at the 55 foot to 60 foot below grade interval. Tentative identification of PCE (i.e. below the method detection limit) was also reported at DEP-30, at the 50 foot to 60 foot below grade interval. In addition to DEP-30, VOC contamination was also identified in groundwater sampled at DEP-29, where M(t)BE was detected between the 30 foot to 40 foot below grade interval at concentrations ranging from 23 ug/l to 25 ug/l. Tentative identification of benzene, TCA, and PCE (i.e. below their respective method detection limit) were also reported at DEP-29. Finally, VOCs were not detected in groundwater sampled from any of the other wellpoints installed during DEP/SD's July 2002 field work at the Baldwin Pond facility.

Light-end Petroleum Related Contamination: Based on the limited assessment work conducted by DEP/SD thus far, it is the opinion of the writer that activities at the water treatment building and the building used for vehicle repair and service at Baldwin Pond facility do not appear to be the source of the petroleum related VOCs detected in groundwater sampled at the supply wells at this time. According to Water Superintendent Donald Hollander, any storage and/or use of gasoline and/or other petroleum oils at the facility has been in very small quantities, and to the best of his knowledge, the facility has never used an above ground or under ground storage tank for this purpose. The facility has historically been heated with natural gas. The sporadic and low-level concentrations of M(t)BE, BTEX, and naphthalene detected at the supply wells may be more indicative of careless handling of very small quantities of gasoline either at the Baldwin Pond facility, or at nearby residential properties. Though the writer noted small, open areas used by the Town for their water pipe and related supply storage at their facility, there is no data at this time to suggest that these storage areas are a source of the gasoline related VOCs at the supply wells or at DEP-29. Lastly, in December 2001, M(t)BE was detected in groundwater sampled from wellpoint DEP-8 at a concentration of 112 ug/l. Wellpoint DEP-8 was installed off of Old Sudbury Road, approximately 1500 feet the southeast and up-gradient of Supply Well #3. DEP-8 is located in a residential area and not near an obvious source to M(t)BE such as a service station. Based on the information gathered thus far from the DEP/SD investigation, it is unlikely that a plume containing M(t)BE and other gasoline related VOCs is moving through the DEP-8 area and continuing to the supply wells.

Chlorinated VOC Contamination: In light of information provided to DEP/SD by Town Superintendent Donald Hollander for the Baldwin Pond facility and information produced from DEP/SD's 2001-2002 field work, it is the opinion of the writer that the source of the chlorinated VOC contamination at Supply Well #2 is not originating at the Baldwin Pond facility. A continuous chlorinated VOC plume that links a confirmable source area to the Baldwin Pond supply well has not been identified at this time. However, the rationale for the existence of a possible up-gradient source are based on:

- DEP/SD's December 2001 detection of chlorinated VOCs including TCA and/or PCE at trace levels to 1.2 ug/l in groundwater sampled from wellpoints DEP-6, DEP-7, and DEP-8, located along Old Sudbury Road, approximately 500 feet to 1500 feet southeast of Supply Well #2.
- Town records which indicate that the storage and/or use of chlorinated VOCs has not taken place at the Baldwin Pond facility.

- The detection of TCA in deep groundwater at the Baldwin Pond facility, but not in shallow groundwater.

Unfortunately, due to very low contaminant levels and their infrequency of detection, further groundwater assessment at other locations within the wellfield and up-gradient of Old Sudbury Road would be necessary to be able to either support or refute the existence of an up-gradient source area to the facility and a continuous plume linking the source area to the supply wells.

Former Raytheon Facility: the former Raytheon facility located at 430 Boston Post Road is the only location to date within the Zone II of the supply wells which has identified elevated levels of chlorinated VOCs at their site. The former Raytheon facility has site conditions where chlorinated VOCs have been identified as migrating off of the facility's northern property line and in the direction of the supply wells (Please See DEP/SD's July 18, 2002 "Memorandum For The Record" for more information.) Specifically, a similar contaminant signature containing PCE, TCE, DCE, and DCA has been detected in groundwater sampled at Raytheon monitoring well MW-TP-3 located near the facility's northern property line, and at DEP wellpoints located at the abutting Town conservation land and land used by Town residents for community gardening. Based on the groundwater data, the contamination extends for at least 1000 feet in a northerly direction from the Raytheon facility's northern boundary towards the Baldwin supply wells, and paralleling the Sudbury River as it travels under portions of the Town-owned conservation land and community gardening area. A continuous plume connecting the VOC contamination at the Baldwin Pond supply wells to Raytheon or any other specific source has not been identified by DEP/SD's field work. Raytheon has indicated in past submittals that the site is not posing a threat to water quality at the Baldwin Pond supply wells. Nevertheless, it is the opinion of the writer that the Raytheon site is a source of the chlorinated VOC contamination detected at the Town's conservation land and abutting community gardening area. Also, future assessment work should be conducted by Raytheon and include the installation of off-property monitoring wells, in a continuation of DEP/SD's effort, in order to determine the vertical and horizontal extent of the chlorinated VOC contamination within the aquifer. Then, based on this information, Raytheon should re-evaluate whether the site may pose a threat to sensitive receptors such as the Baldwin Pond supply wells.

Supply Well Use: the writer would also note that the Baldwin Pond supply wells are only pumped during the high water demand periods (summer and early fall), at which time they are pumped full time. During the months when the wells are pumping, it can be assumed that both groundwater flow and contaminant transport direction within the Zone II area would be influenced more towards the supply wells than under non-pumping conditions. Also, taking into consideration the drought conditions which have occurred in this region for at least the past three years, and the steady rise in water demand by Town consumers, the supply wells may exert an even greater influence on groundwater within the Zone II. Conversely, when the supply wells are not pumping, groundwater flow and contaminant transport would be expected to be directed more toward the Sudbury River. It is the opinion of the writer that the detection of VOCs at the supply wells, beginning with the first detection of TCA in 1997, is a reflection of the higher pumping demands being placed on the aquifer and the subsequent drawing of VOCs to the supply wells from greater distances.

cc: James Persky/DEP NERO/BRP WS
Superintendent Donald Hollander, Baldwin Pond Facility, 101 Old Sudbury Road, Wayland,
MA 01778
Brian Monahan, Conservation Administrator, Town Hall, 41 Cochituate Road, Wayland, MA
01778
Andrew Irwin, Irwin Engineers, Inc., 5 Washington Street, Natick, MA 01760
Town Of Wayland – Public Repository, Wayland Public Library, Ms. Louise Brown, 5 Concord
Road, Wayland, MA 01778
Town Of Wayland – Public Repository, Board Of Health, Town Hall, 41 Cochituate Road,
Wayland, MA 01778
Mr. Edwin Madera, Environmental Restoration Program, Raytheon Company, 1001 Boston
Post Road, Mail Stop-1-2-1567, Marlborough, MA 01752-3789

TABLE 1: DEP Driven Wellpoint Installation Log For July 2002

Wellpoint	Date of Installation	Final Depth (below grade)	Wellpoint Location and Approx. Distance From The Baldwin Pond Wells	VOC Sample Collection Depths (feet below grade)			
				20	30	-	-
DEP-24	7/12/02	30 feet	- 400 feet west of Well #2 - 640 feet west of Well #3	20	30	-	-
DEP-25	7/12/02	30 feet	-370 feet northwest of Well #2 -645 feet northwest of Well #3	20	30	-	-
DEP-26	7/12/02	30 feet	-210 feet west of Well #2 -480 feet northwest of Well #3	20	30	-	-
DEP-27	7/12/02	30 feet	-140 feet west Well #2 -400 feet northwest of Well #3	20	30	-	-
DEP-28	7/12/02	30 feet	-75 feet northwest of Well #2 -350 feet northwest of Well #3	20	30	-	-
DEP-29	7/16/02	60 feet	-48 feet southeast of Well #2 -270 feet northwest	20 60	30 -	40 -	50 -
DEP-30	7/16/02	60 feet	-95 feet south of Well #2 210 feet northwest of Well #3	30	40	50	60

TABLE 2: July 2002 DEP Screening Results

(ug/l)

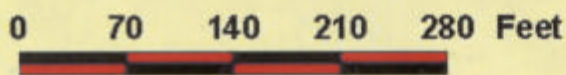
Wellpoint I.D.	Depth (b.g.)	DCA	DCE	TCA	TCE	PCE	Unk. Chloro(c)	M(t)BE	BTEX
DEP-24	20 feet	ND	ND	ND	ND	ND	ND	ND	ND
	30 feet	ND	ND	ND	ND	ND	ND	ND	ND
DEP-25	20 feet	ND	ND	ND	ND	ND	ND	ND	ND
	30 feet	ND	ND	ND	ND	ND	ND	ND	ND
DEP-26	20 feet	ND	ND	ND	ND	ND	ND	ND	ND
	30 feet	ND	ND	ND	ND	ND	ND	ND	ND
DEP-27	20 feet	ND	ND	ND	ND	ND	ND	ND	ND
	30 feet	ND	ND	ND	ND	ND	ND	ND	ND
DEP-28	20 feet	ND	ND	ND	ND	ND	ND	ND	ND
	30 feet	ND	ND	ND	ND	ND	ND	ND	ND
DEP-29	30 feet	ND	ND	ND	ND	ND	ND	23	* (b)
	40 feet	ND	ND	*	ND	ND	ND	25	* (b)
	50 feet	ND	ND	ND	ND	ND	ND	ND	ND
	60 feet	ND	ND	*	ND	*	ND	ND	ND
DEP-30	30 feet	ND	ND	1.1	ND	ND	ND	ND	ND
	40 feet	1.3	ND	4.8	ND	ND	*	ND	ND
	50 feet	TR	ND	3.5	ND	*	*	ND	ND
	60 feet	2.8	ND	28	ND	*	1.4	ND	ND

(*) = Tentative detection of compound, however, no quantitative information-below MDL

(b) = benzene

(c) =Unknown VOC detected on the ELCD and quantified using a TCE calibration curve. Based on the retention time of the unknown VOC, the compound is likely an ethane or ethane substituted with chlorine (for example- vinyl chloride, (1,1)-dichloroethene)

TOWN OF WAYLAND-BALDWIN POND WATER TREATMENT FACILITY JULY 2002 DEP FIELD WORK



VIA RC VIEW PROJECTS/VIEW00.WAYLAND.SZD & EIA.P.R.



Massachusetts Department of Environmental Protection
 Northeast Regional Office/Bureau of Waste Site Cleanup

Analytical Screening Data Report
WATER SAMPLES

Release Tracking Number:

N/A

Town:

WAYLAND

Name of Site	Address	Sample Collected By
BALDWIN POND WELLS	101 OLD SUDBURY ROAD	L. IMMERMANN

Sample Location	Field ID	Lab ID	Date Sampled	Date Analyzed
AT WATER DEPARTMENT FACILITY	DEP-24 @ 20 FT	P2582 / E2582	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-24 @ 30 FT	P2583 / E2583	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-25 @ 20 FT	P2584 / E2584	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-25 @ 30 FT	P2585 / E2585	7/12/02	7/15/02

SAMPLE RESULTS Estimated Aqueous Concentration Headspace Screening Technique		Sample Identifier								
		Est RL ug/L	DEP-24 @ 20 FT Estimated Water Conc ug/L		DEP-24 @ 30 FT Estimated Water Conc ug/L		DEP-25 @ 20 FT Estimated Water Conc ug/L		DEP-25 @ 30 FT Estimated Water Conc ug/L	
ANALYTE	Detector									
methyl(t)butylether	PID	22.00	ND		ND		ND		ND	
benzene	PID	1.50	ND		ND		ND		ND	
toluene	PID	1.50	ND		ND		ND		ND	
ethylbenzene	PID	0.51	ND		ND		ND		ND	
total xylenes	PID	0.89	ND		ND		ND		ND	
(1,2,4)-trimethylbenzene	PID	3.40	ND		ND		ND		ND	
naphthalene	PID	46.00	ND		ND		ND		ND	
Total unk. non-chloro (as xylene)	PID	0.89	ND		ND		ND		ND	
methylene chloride	ELCD	6.30	ND		ND		ND		ND	
(1,1)-dichloroethane	ELCD	1.10	ND		ND		ND		ND	
cis(1,2)-dichloroethane	ELCD	1.30	ND		ND		ND		ND	
(1,1,1)-trichloroethane	ELCD	0.87	ND		ND		ND		ND	
(1,2)-dichloroethane	ELCD	0.99	ND		ND		ND		ND	
trichloroethene (TCE)	ELCD	1.30	ND		ND		ND		ND	
tetrachloroethene	ELCD	0.80	ND		ND		ND		ND	
chlorobenzene	ELCD	2.70	ND		ND		ND		ND	
unk chloro VOC	ELCD	1.30	ND		ND		ND		ND	
unk chloro VOC	ELCD	1.30	ND		ND		ND		ND	
unk chloro VOC	ELCD	1.30	ND		ND		ND		ND	

COMMENTS

1. Estimated water concentrations based upon application of Henry's Law, assuming 80% headspace equilibrium conditions and single analyte systems. 2. ND means a compound was not detected. 3. (J) means that a target compound was found at a trace level - less than it's reportable level "RL", but above it's method detection limit (MDL).

Sampling Method: NERO Lab	Instrumentation: SRI	Analytical Method: NERO
Daily Quality Control Standards: -Air Blanks	-QC Calibration Check Standard (gaseous)	
Chromatograms Attached? Yes	Sample(s) Analyzed By: <i>[Signature]</i>	



Massachusetts Department of Environmental Protection
 Northeast Regional Office/Bureau of Waste Site Cleanup
Analytical Screening Data Report
WATER SAMPLES

Release Tracking Number:
 N/A
 Town:
WAYLAND

Name of Site	Address	Sample Collected By
BALDWIN POND WELLS	101 OLD SUDBURY ROAD	L. IMMERMANN

Sample Location	Field ID	Lab ID	Date Sampled	Date Analyzed
AT WATER DEPARTMENT FACILITY	DEP-26 @ 20 FT	P2586 / E2586	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-26 @ 30 FT	P2587 / E2587	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-27 @ 20 FT	P2588 / E2588	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-27 @ 30 FT	P2589 / E2589	7/12/02	7/15/02

SAMPLE RESULTS		Sample Identifier							
		DEP-26 @ 20 FT		DEP-26 @ 30 FT		DEP-27 @ 20 FT		DEP-27 @ 30 FT	
Estimated Aqueous Concentration Headspace Screening Technique		Est RL ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L
ANALYTE	Detector								
methyl(t)butylether	PID	22.00	ND	ND	ND	ND	ND	ND	ND
benzene	PID	1.50	ND	ND	ND	ND	ND	ND	ND
toluene	PID	1.50	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	PID	0.51	ND	ND	ND	ND	ND	ND	ND
total xylenes	PID	0.89	ND	ND	ND	ND	ND	ND	ND
(1,2,4)-trimethylbenzene	PID	3.40	ND	ND	ND	ND	ND	ND	ND
naphthalene	PID	46.00	ND	ND	ND	ND	ND	ND	ND
Total unk. non-chloro (as xylene)	PID	0.89	ND	ND	ND	ND	ND	ND	ND
methylene chloride	ELCD	6.30	ND	ND	ND	ND	ND	ND	ND
(1,1)-dichloroethane	ELCD	1.10	ND	ND	ND	ND	ND	ND	ND
cis(1,2)-dichloroethane	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
(1,1,1)-trichloroethane	ELCD	0.87	ND	ND	ND	ND	ND	ND	ND
(1,2)-dichloroethane	ELCD	0.99	ND	ND	ND	ND	ND	ND	ND
trichloroethene (TCE)	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	ELCD	0.80	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	ELCD	2.70	ND	ND	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND

COMMENTS

1. Estimated water concentrations based upon application of Henry's Law, assuming 80% headspace equilibrium conditions and single analyte systems. 2. ND means a compound was not detected. 3. (J) means that a target compound was found at a trace level - less than it's reportable level "RL", but above it's method detection limit (MDL).

Sampling Method: NERO Lab Instrumentation: SRI Analytical Method: NERO
 Daily Quality Control Standards: -Air Blanks -QC Calibration Check Standard (gaseous)
 Chromatograms Attached? Yes Sample(s) Analyzed By: *[Signature]*



Massachusetts Department of Environmental Protection
 Northeast Regional Office/Bureau of Waste Site Cleanup
Analytical Screening Data Report
WATER SAMPLES

Release Tracking Number:
 N/A
 Town:
WAYLAND

Name of Site	Address	Sample Collected By		
BALDWIN POND WELLS	101 OLD SUDBURY ROAD	L. IMMERMANN		
Sample Location	Field ID	Lab ID	Date Sampled	Date Analyzed
AT WATER DEPARTMENT FACILITY	DEP-28 @ 20 FT	P2590 / E2590	7/12/02	7/15/02
AT WATER DEPARTMENT FACILITY	DEP-28 @ 30 FT	P2591/ E2591	7/12/02	7/15/02

SAMPLE RESULTS Estimated Aqueous Concentration Headspace Screening Technique		Sample Identifier				
		Est. RL ug/L	DEP-28 @ 20 FT Estimated Water Conc ug/L	DEP-28 @ 30 FT Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L
ANALYTE	Detector					
methyl(t)butylether	PID	22.00	ND	ND		
benzene	PID	1.50	ND	ND		
toluene	PID	1.50	ND	ND		
ethylbenzene	PID	0.51	ND	ND		
total xylenes	PID	0.89	ND	ND		
(1,2,4)-trimethylbenzene	PID	3.40	ND	ND		
naphthalene	PID	46.00	ND	ND		
Total unk. non-chloro (as xylene)	PID	0.89	ND	ND		
methylene chloride	ELCD	6.30	ND	ND		
(1,1)-dichloroethane	ELCD	1.10	ND	ND		
cis(1,2)-dichloroethane	ELCD	1.30	ND	ND		
(1,1,1)-trichloroethane	ELCD	0.87	ND	ND		
(1,2)-dichloroethane	ELCD	0.98	ND	ND		
trichloroethene (TCE)	ELCD	1.30	ND	ND		
tetrachloroethene	ELCD	0.90	ND	ND		
chlorobenzene	ELCD	2.70	ND	ND		
unk chloro VOC	ELCD	1.30	ND	ND		
unk chloro VOC	ELCD	1.30	ND	ND		
unk chloro VOC	ELCD	1.30	ND	ND		

COMMENTS

1. Estimated water concentrations based upon application of Henry's Law, assuming 80% headspace equilibrium conditions and single analyte systems. 2. ND means a compound was not detected. 3. (J) means that a target compound was found at a trace level - less than it's reportable level "RL", but above it's method detection limit (MDL).

Sampling Method: NERO Lab	Instrumentation: SRI	Analytical Method: NERO
Daily Quality Control Standards: -Air Blanks -QC Calibration Check Standard (gaseous)		
Chromatograms Attached? Yes	Sample(s) Analyzed By: <i>[Signature]</i>	



Massachusetts Department of Environmental Protection
 Northeast Regional Office/Bureau of Waste Site Cleanup

Analytical Screening Data Report

WATER SAMPLES

Release Tracking Number:

N/A

Town:

WAYLAND

Name of Site	Address	Sample Collected By
BALDWIN POND WELLS	101 OLD SUDBURY ROAD	L. IMMERMANN

Sample Location	Field ID	Lab ID	Date Sampled	Date Analyzed
WATER DEPARTMENT FACILITY	DEP-29 @ 30FT	P2595 / E2595	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-29 @ 40FT	P2596 / E2596	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-29 @ 50FT	P2597 / E2597	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-29 @ 60FT	P2598 / E2598	7/16/02	7/17/02

SAMPLE RESULTS Estimated Aqueous Concentration Headspace Screening Technique		Sample Identifier					
		DEP-29 @ 30FT	DEP-29 @ 40FT	DEP-29 @ 50FT	DEP-29 @ 60FT	DEP-29 @ 30FT	DEP-29 @ 40FT
ANALYTE	Detector	Est RL ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L
methyl(t)butylether	PID	22.00	23	25	ND	ND	ND
benzene	PID	1.50	*	*	ND	ND	ND
toluene	PID	1.50	ND	ND	ND	ND	ND
ethylbenzene	PID	0.51	ND	ND	ND	ND	ND
total xylenes	PID	0.89	ND	ND	ND	ND	ND
(1,2,4)-trimethylbenzene	PID	3.40	ND	ND	ND	ND	ND
naphthalene	PID	46.00	ND	ND	ND	ND	ND
Total unk. non-chloro (as xylene)	PID	0.89	ND	ND	ND	ND	ND
methylene chloride	ELCD	0.30	ND	ND	ND	ND	ND
(1,1)-dichloroethane	ELCD	1.10	ND	ND	ND	ND	ND
cis(1,2)-dichloroethene	ELCD	1.30	ND	ND	ND	ND	ND
(1,1,1)-trichloroethane	ELCD	0.87	ND	*	ND	*	ND
(1,2)-dichloroethane	ELCD	0.99	ND	ND	ND	ND	ND
trichloroethene (TCE)	ELCD	1.30	ND	ND	ND	ND	ND
tetrachloroethene	ELCD	0.90	ND	ND	ND	ND	ND
chlorobenzene	ELCD	2.70	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND

COMMENTS

1. Estimated water concentrations based upon application of Henry's Law, assuming 80% headspace equilibrium conditions and single analyte systems. 2. ND means a compound was not detected. 3. (J) means that a target compound was found at a trace level - less than it's reportable level "RL", but above it's method detection limit (MDL). (*) Tentative identification, no quantitative results-below MDL.

Sampling Method: NERO Lab	Instrumentation: SRI	Analytical Method: NERO
Daily Quality Control Standards: -Air Blanks -QC Calibration Check Standard (gaseous)		
Chromatograms Attached? Yes	Sample(s) Analyzed By: <i>[Signature]</i>	



Massachusetts Department of Environmental Protection
 Northeast Regional Office/Bureau of Waste Site Cleanup
Analytical Screening Data Report
WATER SAMPLES

Release Tracking Number:

N/A

Town:

WAYLAND

Name of Site	Address	Sample Collected By
BALDWIN POND WELLS	101 OLD SUDBURY ROAD	L. IMMERMANN

Sample Location	Field ID	Lab ID	Date Sampled	Date Analyzed
WATER DEPARTMENT FACILITY	DEP-30 @ 30FT	P2599 / E2599	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-30 @ 40FT	P2600 / E2600	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-30 @ 50FT	P2601 / E2601	7/16/02	7/17/02
WATER DEPARTMENT FACILITY	DEP-30 @ 60FT	P2602 / E2602	7/16/02	7/17/02

SAMPLE RESULTS Estimated Aqueous Concentration Headspace Screening Technique		Sample Identifier							
		DEP-30 @ 30FT	DEP-30 @ 40FT	DEP-30 @ 50FT	DEP-30 @ 60FT	DEP-30 @ 30FT	DEP-30 @ 40FT	DEP-30 @ 50FT	DEP-30 @ 60FT
ANALYTE	Detector	Est RL ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L	Estimated Water Conc ug/L
methyl(t)butylether	PID	22.00	ND	ND	ND	ND	ND	ND	ND
benzene	PID	1.50	ND	ND	ND	ND	ND	ND	ND
toluene	PID	1.50	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	PID	0.51	ND	ND	ND	ND	ND	ND	ND
total xylenes	PID	0.39	ND	ND	ND	ND	ND	ND	ND
(1,2,4)-trimethylbenzene	PID	3.40	ND	ND	ND	ND	ND	ND	ND
naphthalene	PID	46.00	ND	ND	ND	ND	ND	ND	ND
Total unk. non-chloro (as xylene)	PID	0.89	ND	ND	ND	ND	ND	ND	ND
methylene chloride	ELCD	6.30	ND	ND	ND	ND	ND	ND	ND
(1,1)-dichloroethane	ELCD	1.10	ND	1.3	TR	2.8	ND	ND	ND
cis(1,2)-dichloroethane	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
(1,1,1)-trichloroethane	ELCD	0.87	1.1	4.8	3.5	28	ND	ND	ND
(1,2)-dichloroethane	ELCD	0.99	ND	ND	ND	ND	ND	ND	ND
trichloroethene (TCE)	ELCD	1.30	ND	ND	*	*	ND	ND	ND
tetrachloroethene	ELCD	0.90	ND	ND	ND	ND	ND	ND	ND
chlorobenzene	ELCD	2.70	ND	ND	*	1.4	ND	ND	ND
unk chloro VOC RT 1.90-1.92	ELCD	1.30	ND	*	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND
unk chloro VOC	ELCD	1.30	ND	ND	ND	ND	ND	ND	ND

COMMENTS

1. Estimated water concentrations based upon application of Henry's Law, assuming 80% headspace equilibrium conditions and single analyte systems. 2. ND means a compound was not detected. 3. (J) means that a target compound was found at a trace level - less than it's reportable level "RL", but above it's method detection limit (MDL). (*) Tentative identification, no quantitative results-below MDL.

Sampling Method: NERO Lab	Instrumentation: SRI	Analytical Method: NERO
Daily Quality Control Standards: -Air Blanks	-QC Calibration Check Standard (gaseous)	
Chromatograms Attached? Yes	Sample(s) Analyzed By: <i>[Signature]</i>	