

**GROUNDWATER MONITORING PROGRAM – MAY, 2005
GARDINER EXPRESSWAY DISMANTLING
LAKESHORE BOULEVARD EAST RECONSTRUCTION AT LESLIE STREET
TORONTO, ONTARIO**

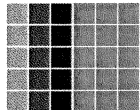
Prepared For:

**CITY OF TORONTO
C/O URS CANADA INC.**

Prepared by:

SHAHEEN & PEAKER LIMITED

**Project: SP3977C
June 20, 2005**



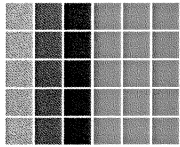
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Project: SP3977C

June 20, 2005

**City of Toronto
c/o URS Canada Inc.
75 Commerce Valley Drive East,
Thornhill, Ontario
L3T 7N9**

Attention: Mr. Keith Hutchinson, P.Eng., Senior Project Manager

Dear Mr. Hutchinson;

**Groundwater Monitoring Program – May, 2005
Gardiner Expressway Dismantling
Lakeshore Boulevard East Reconstruction at Leslie Street
Toronto, Ontario**

Shaheen & Peaker Limited (S&P) was retained by URS Canada Inc. (URS) on behalf of the City of Toronto to conduct a groundwater monitoring program at the above captioned site. This work was requested by URS to confirm that the environmental quality of the groundwater at the subject site remains unaffected by the presence of impacted soil on-site. The groundwater monitoring program is a requirement of the Risk Management Plan (RMP) developed as part of the Site Specific Risk Assessment (SSRA). These results update those previously presented in our letter dated June 15, 2004.

Groundwater levels were measured on May 13, 2005 and are summarized in **Table 1**. Based on these measurements, the inferred direction of groundwater flow is southwesterly towards Lake Ontario. A localized depression of the shallow groundwater table was located at the area between monitoring wells BH604 and BH605A which could be explained by an unnamed creek previously present in this area and interference from underground utility trenches (see **Drawing 2**).

Groundwater sampling was carried out at the site on May 13, 2005. Monitoring wells (BH602, BH603, BH604, BH605A, BH700, BH702, BH704A, BH705, BH706 and BH707) were located, purged and sampled on May 13, 2005. The location of the monitoring wells is shown on **Drawing 1** attached. Prior to obtaining samples at the wells, a minimum of three volumes of standing water were purged from each monitoring well. Groundwater samples were collected in laboratory supplied containers and placed in a cooler on ice for field storage and during transport to the laboratory for analysis.

No sheen was observed on any of the groundwater samples obtained from the monitoring wells during this investigation. Sewage-like odour was detected in groundwater samples obtained from five monitoring wells (BH602, BH604, BH700, BH704A and BH705). No noticeable odour was observed in any of the remaining groundwater samples obtained from the monitoring wells.

The laboratory analyses were performed by Entech Laboratories (a division of Agri-Service Laboratory Inc.) of Mississauga, Ontario. One groundwater sample from each monitoring well was submitted for analysis of volatile organic compounds (VOCs), various metals, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (PHC) and benzene, toluene, ethylbenzene and toluene (BTEX), and pH.

The results of the groundwater chemical analyses were evaluated using the Standards contained in the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*", dated March, 2004 (Standards). These Standards, together with Ontario Regulation 153/04 issued in June, 2004 are similar to but replace the criteria contained in the MOE guideline issued in February 1997 entitled "Guideline for Use at Contaminated Sites in Ontario". The 1997 criteria were previously used by S&P and Land, Air & Water Environmental Consultants to assess the site and these were the criteria that were in effect at the time of the remediation. One of the differences between the criteria in effect in 1997 and the Standards currently in effect is that the Standards for petroleum hydrocarbon criteria have changed. The 1997 criteria divided petroleum hydrocarbons into two assessment ranges; one from C₅ to C₂₄ (gasoline/diesel range) and the other from >C₂₄ to C₅₀ (heavy oil range). The current MOE Standards divide the hydrocarbon assessment Standards into four fractions, specifically: C₆-C₁₀ (F1); >C₁₀-C₁₆ (F2); >C₁₆-C₃₄ (F3) and >C₃₄ (F4).

In accordance with O.Reg. 153/04, the site was assessed using the Standards contained in Table 3 of the above referenced Standards. The use of the MOE Table 3 Standards is considered appropriate by S&P based on the following:

- The adjacent properties are supplied by municipal drinking water not derived from groundwater and all properties within 100 m of the subject site are also assumed to be supplied by a similar source of municipal drinking water;
- The property is not located within an area designated as a well-head protection area or other designation identified for the protection of groundwater;
- The site is not within 30 m of a water body;
- The property is not located within or adjacent to an area designated by the municipality in its official plan as environmentally significant;
- The property is not located adjacent to a provincial or municipal park, adjacent to an area of natural significance or a wetland area and based on this, it is not anticipated to provide a habitat of endangered or threatened species identified by the Ministry of Natural Resources;

- The pH of the soil samples submitted for analysis in S&P's report "Soil and Groundwater Quality Assessment" (SP3201C, dated August 22, 2001) were 7.24 to 8.30 and therefore the pH is within the allowable range for the use of generic Standards for surface soil
- The site is not located within areas where the *Niagara Escarpment Planning and Development Act* or the *Oak Ridges Moraine Conservation Act, 2001* apply.
- The subsurface soils at the subject site are considered by S&P to be coarse textured material in accordance with the definition from O.Reg 153/04.

Based on the above considerations, the Standards for community property use in a non-potable groundwater Standards for coarse textured soils contained in Table 3 of the Soil MOE Standards were used to evaluate the environmental quality of the groundwater encountered at the site. The MOE Table 3 Standards contained in the above publication were used to assess whether concentrations of contaminants in the groundwater were sufficiently elevated to require restoration (remedial action).

Table 2, 3, 4 and 5 present a summary of the results of the laboratory analyses. Copies of the Laboratory Certificates of Analyses are attached in **Appendix A**.

The results of the VOC analyses as shown in **Table 2** indicate that the concentrations of most VOCs were less than the analytical Method Detection Limits (MDL), which are well below MOE Table 3 Standards for coarse textured soils. Detectable concentrations of VOCs were present in all ten groundwater samples. Concentrations of the following nine VOC parameters were slightly above the MDLs, but still well below the MOE Table 3 Standards for a non-potable groundwater condition for coarse textured soil: acetone, benzene, chlorobenzene, dichlorobenzene, ethylbenzene, tetrachloroethylene, toluene, trichloroethylene and xylenes.

Table 3 indicates that the concentrations of heavy metals in all groundwater samples met the MOE Table 3 Standards for a non-potable groundwater condition for coarse textured soil.

Table 4 presents a summary of the analysis of groundwater samples for PAHs. The concentrations of most PAH parameters were below the MDL, which are well below MOE Table 3 Standards. Detectable concentrations of three PAHs were present but in all cases the reported concentrations were more than two orders of magnitude less than the MOE Table 3 Standards in samples from three monitoring wells.

A summary of the analyses of groundwater samples for BTEX and PHC and is provided in **Table 5**. The results indicate that detectable concentrations of one or more BTEX parameters were present in the samples analyzed; however, the concentrations were at least two orders of magnitude less than the MOE Table 3 Standards. The MOE Table 3 Standards do not have numerical values for petroleum hydrocarbons and as no free product or sheen was observed on either the water purged from the monitoring wells or the groundwater samples, the samples met the MOE Table 3 Standards. Detectable concentrations of F1 fraction petroleum hydrocarbons

were reported in three groundwater samples but reported concentration was equal to or slightly greater than the MDL. The concentrations of the F2, F3 and F4 fractions in the ten groundwater samples analyzed were all less than the MDLs.

Groundwater pH was found to vary from 6.8 to 7.4, which is within the expected range of pH.


S&P recommends that groundwater monitoring should be carried out on an annual basis in accordance with the RMP.

We trust that the foregoing meets your current requirements. Please contact our office if you have any further questions.

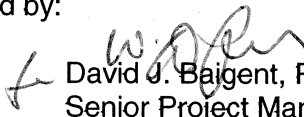
Yours very truly,

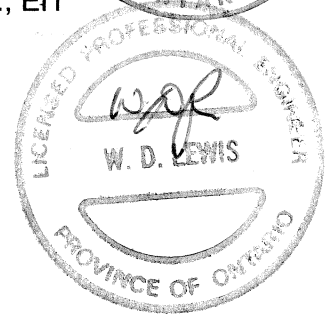
SHAHEEN & PEAKER LIMITED

prepared by:


for Raed B. Wohayeb, M.Sc., EIT
Project coordinator

reviewed by:


David J. Baigent, P.Eng.
Senior Project Manager



Attachments: Table 1 – Groundwater Observations
Table 2 – Summary of VOCs in Groundwater
Table 3 – Summary of Metals Scan and pH in Groundwater
Table 4 – Summary of PAHs in Groundwater
Table 5 – Summary of TPH in Groundwater
Drawing 1 – Monitoring Well Location Plan
Drawing 2 – Groundwater Observations May 13, 2005
Appendix A – Certificates of Analyses

cc: Mr. George Rozanski, P.Eng., Senior Project Engineer - City of Toronto

TABLES

TABLE 1: GROUNDWATER OBSERVATIONS

Monitoring Well	Groundwater Observations May 13, 2005		
	Elevation of Top of Riser * (m)	Depth Below Top of Riser (m)	Groundwater Elevation * (m)
BH602	77.87**	2.01	75.86
BH603	77.47**	1.64	75.83
BH604	77.47**	1.86	75.61
BH605A***	77.79	2.31	75.48
BH700	77.02**	1.09	75.93
BH702	77.19**	1.47	75.72
BH704A***	77.02**	2.28	74.74
BH705	77.39**	2.33	75.06
BH706	77.48	2.02	75.46
BH707	77.02**	1.96	75.06

NOTES:

- * Geodetic elevations are referenced to the Benchmark No.BM157 (Geodetic elevation – 76.986 meters), located on the northeast exterior wall of existing Brewers Retail Distribution Centre building at the southwest corner Lakeshore Blvd. East and Leslie St.
- ** Elevation of top of the riser has been changed from that shown in S&P's report SP3977C, dated August 23, 2002.to reflect the reconstruction of the well cover.
- *** Monitoring wells BH605 and BH704 were damaged due to onsite construction activities and replaced in July 2002 by BH605A and BH704A, respectively.

TABLE 2: SUMMARY OF VOCs IN GROUNDWATER (PAGE 1 OF 2)

Parameter	Table 3	MDL (µg/L)	BH602	BH603	BH604	BH605A	BH700
Acetone	3,300	8.0	<	<	<	<	33
Benzene	1,900	0.2	0.51	<	<	2.6	<
Bromodichloromethane	50,000	0.2	<	<	<	<	<
Bromoform	840	0.2	<	<	<	<	<
Bromomethane	3.7	0.3	<	<	<	<	<
Carbon Tetrachloride	17	0.2	<	<	<	<	<
Chlorobenzene	500	0.2	<	<	<	2.4	<
Chloroform	430	0.3	<	<	<	<	<
Dibromochloromethane (see notes)	50,000	0.3	<	<	<	<	<
Dichlorobenzene, 1,2- (o-DCB)	7,600	0.1	<	<	<	0.23	<
Dichlorobenzene, 1,3- (m-DCB)	7,600	0.2	<	<	<	0.2	<
Dichlorobenzene, 1,4- (p-DCB)	7,600	0.2	<	<	<	0.44	<
Dichloroethane, 1,1-	9,000	0.2	<	<	<	<	<
Dichloroethane, 1,2-	17	0.2	<	<	<	<	<
Dichloroethylene, 1,1-	0.66	0.2	<	<	<	<	<
Dichloroethylene, Cis-1,2-	70	0.3	<	<	<	<	<
Dichloroethylene, Trans-1,2-	100	0.2	<	<	<	<	<
Dichloropropane, 1,2-	9.3	0.2	<	<	<	<	<
Dichloropropene, 1,3- (see notes)	3.8	0.4	<	<	<	<	<
Ethylbenzene	28,000	0.2	0.3	<	<	<	0.2
Ethylene Dibromide	3.3	0.2	<	<	<	<	<
Methyl Ethyl Ketone (MEK)	50,000	0.8	<	<	<	<	<
Methyl Isobutyl Ketone (MIBK)	50,000	7.2	<	<	<	<	<
Methyl Tert Butyl Ether (MTBE)	50,000	1.5	<	<	<	<	<
Methylene Chloride	50,000	0.3	<	<	<	<	<
Styrene	940	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,1,2-	6.0	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,2,2-	22	0.3	<	<	<	<	<
Tetrachloroethylene	5.0	0.2	0.57	0.86	0.5	0.5	0.92
Toluene	5,900	0.2	1	1.3	0.8	0.72	1.7
Trichloroethane, 1,1,1-	200	0.3	<	<	<	<	<
Trichloroethane, 1,1,2-	16,000	0.2	<	<	<	<	<
Trichloroethylene	50	0.2	<	0.24	<	<	0.26
Vinyl Chloride	0.5	0.2	<	<	<	<	<
Xylenes	5,600	0.4	5.8	0.42	<	<	0.75

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
3. < Indicates less than Method Detection Limits (MDL)
4. Dibromochloromethane also known as chlorodibromomethane
5. Dichloropropene, 1,3- value represents the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene
6. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

TABLE 2: SUMMARY OF VOCs IN GROUNDWATER (PAGE 2 OF 2)

Parameter	Table 3	MDL (µg/L)	BH702	BH704A	BH705	BH706	BH707
Acetone	3,300	8.0	<	<	<	<	<
Benzene	1,900	0.2	<	<	<	1.4	<
Bromodichloromethane	50,000	0.2	<	<	<	<	<
Bromoform	840	0.2	<	<	<	<	<
Bromomethane	3.7	0.3	<	<	<	<	<
Carbon Tetrachloride	17	0.2	<	<	<	<	<
Chlorobenzene	500	0.2	<	<	<	0.73	<
Chloroform	430	0.3	<	<	<	<	<
Dibromochloromethane (see notes)	50,000	0.3	<	<	<	<	<
Dichlorobenzene, 1,2- (o-DCB)	7,600	0.1	<	<	<	<	<
Dichlorobenzene, 1,3- (m-DCB)	7,600	0.2	<	<	<	0.38	<
Dichlorobenzene, 1,4- (p-DCB)	7,600	0.2	<	<	<	0.55	<
Dichloroethane, 1,1-	9,000	0.2	<	<	<	<	<
Dichloroethane, 1,2-	17	0.2	<	<	<	<	<
Dichloroethylene, 1,1-	0.66	0.2	<	<	<	<	<
Dichloroethylene, Cis-1,2-	70	0.3	<	<	<	<	<
Dichloroethylene, Trans-1,2-	100	0.2	<	<	<	<	<
Dichloropropane, 1,2-	9.3	0.2	<	<	<	<	<
Dichloropropene, 1,3- (see notes)	3.8	0.4	<	<	<	<	<
Ethylbenzene	28,000	0.2	<	<	0.26	0.5	0.2
Ethylene Dibromide	3.3	0.2	<	<	<	<	<
Methyl Ethyl Ketone (MEK)	50,000	0.8	<	<	<	<	<
Methyl Isobutyl Ketone (MIBK)	50,000	7.2	<	<	<	<	<
Methyl Tert Butyl Ether (MTBE)	50,000	1.5	<	<	<	<	<
Methylene Chloride	50,000	0.3	<	<	<	<	<
Styrene	940	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,1,2-	6.0	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,2,2-	22	0.3	<	<	<	<	<
Tetrachloroethylene	5.0	0.2	<	<	<	0.6	0.83
Toluene	5,900	0.2	<	0.44	0.36	0.87	1.5
Trichloroethane, 1,1,1-	200	0.3	<	<	<	<	<
Trichloroethane, 1,1,2-	16,000	0.2	<	<	<	<	<
Trichloroethylene	50	0.2	0.72	0.56	<	<	<
Vinyl Chloride	0.5	0.2	<	<	<	<	<
Xylenes	5,600	0.4	<	<	<	1.13	0.61

NOTES:

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6. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

TABLE 3: SUMMARY OF METAL SCAN AND PH IN GROUNDWATER (PAGE 1 OF 2)

Parameter	Table 3	MDL (µg/L)	BH602	BH603	BH604	BH605A	BH700
pH (pH units)	n.a.	n.a.	7.4	7.0	7.0	6.8	7.4
Antimony	16,000	1	10	2	<	<	<
Arsenic	480	1	44	5	12	<	3
Barium	23,000	1	156	280.1	<	327	239
Beryllium	53	0.2	<	<	<	0.62	<
Boron (available)	50,000	1	3338	472	1387	1384	339
Cadmium	11	0.2	0.5	<	<	<	<
Chromium (total)	2,000	10	45	<	<	<	<
Cobalt	100	2	<	2	<	3	<
Copper	23	2	2	2	3	2	2
Lead	32	4	<	<	<	<	<
Mercury	0.12	0.02	<	0.09	<	<	<
Molybdenum	7,300	7	8	<	<	<	<
Nickel	1,600	5	<	<	<	<	<
Selenium	50	1	<	<	<	<	<
Silver	1.2	1	<	<	<	<	<
Vanadium	200	5	<	<	<	<	<
Zinc	1,100	2	<	<	<	<	2

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
3. < Indicates less than Method Detection Limits (MDL)
4. n.a. = Indicates no applicable Table 3 criteria
5. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

TABLE 3: SUMMARY OF METAL SCAN AND PH IN GROUNDWATER (PAGE 2 OF 2)

Parameter	Table 3	MDL (µg/L)	BH702	BH704A	BH705	BH706	BH707
pH (pH units)	n.a.	n.a.	7.4	7.4	6.9	7.0	7.2
Antimony	16,000	1	<	2	<	<	<
Arsenic	480	1	3	2	7	<	1
Barium	23,000	1	229	568	220	423.3	488
Beryllium	53	0.2	<	<	<	<	<
Boron (available)	50,000	1	150	191	217	2772	633
Cadmium	11	0.2	<	<	<	<	<
Chromium (total)	2,000	10	<	<	<	<	<
Cobalt	100	2	<	<	<	8.1	<
Copper	23	2	3	5	2	3	3
Lead	32	4	<	<	<	<	<
Mercury	0.12	0.02	<	<	<	<	<
Molybdenum	7,300	7	<	<	<	<	<
Nickel	1,600	5	<	<	<	<	<
Selenium	50	1	<	<	<	<	<
Silver	1.2	1	<	1	1	<	<
Vanadium	200	5	<	<	<	<	<
Zinc	1,100	2	<	<	<	<	<

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
3. < Indicates less than Method Detection Limits (MDL)
4. n.a. = Indicates no applicable Table 3 criteria
5. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

TABLE 4: SUMMARY OF PAHS IN GROUNDWATER (PAGE 1 OF 2)

Parameter	Table 3	MDL (µg/L)	BH602	BH603	BH604	BH605A	BH700
Acenaphthene	1,700	0.3	<	<	<	<	<
Acenaphthylene	2,000	0.3	<	<	<	<	<
Anthracene	12	0.01	<	<	<	<	<
Benzo (a) anthracene	5.0	0.05	<	<	<	<	<
Benzo (b) fluoranthene	7.0	0.1	<	<	<	<	<
Benzo (k) fluoranthene	0.4	0.01	<	<	<	<	<
Benzo (a) pyrene	1.9	0.01	<	<	<	<	<
Benzo (g,h,i) perylene	0.2	0.1	<	<	<	<	<
Chrysene	3.0	0.05	<	<	<	<	<
Dibenzo (a,h) anthracene	0.25	0.1	<	<	<	<	<
Fluoranthene	130	0.1	<	<	<	<	<
Fluorene	290	0.4	<	<	<	<	<
Indeno (1,2,3- cd) pyrene	0.27	0.2	<	<	<	<	<
Naphthalene	5,900	0.2	0.22	<	<	<	<
Phenanthrene	63	0.1	<	<	<	<	<
Pyrene	40	0.1	<	<	<	<	<

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
3. < Indicates less than Method Detection Limits (MDL)
4. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

TABLE 4: SUMMARY OF PAHS IN GROUNDWATER (PAGE 2 OF 2)

Parameter	Table 3	MDL (µg/L)	BH702	BH704A	BH705	BH706	BH707
Acenaphthene	1,700	0.3	<	0.54	<	<	<
Acenaphthylene	2,000	0.3	<	<	<	<	<
Anthracene	12	0.01	<	<	<	0.02	<
Benzo (a) anthracene	5.0	0.05	<	<	<	<	<
Benzo (b) fluoranthene	7.0	0.1	<	<	<	<	<
Benzo (k) fluoranthene	0.4	0.01	<	<	<	<	<
Benzo (a) pyrene	1.9	0.01	<	<	<	<	<
Benzo (g,h,i) perylene	0.2	0.1	<	<	<	<	<
Chrysene	3.0	0.05	<	<	<	<	<
Dibenzo (a,h) anthracene	0.25	0.1	<	<	<	<	<
Fluoranthene	130	0.1	<	<	<	<	<
Fluorene	290	0.4	<	<	<	<	<
Indeno (1,2,3- cd) pyrene	0.27	0.2	<	<	<	<	<
Naphthalene	5,900	0.2	<	1.34	<	1.63	<
Phenanthrene	63	0.1	<	<	<	<	<
Pyrene	40	0.1	<	<	<	<	<

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
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TABLE 5: SUMMARY OF PHC/BTEX IN SOIL

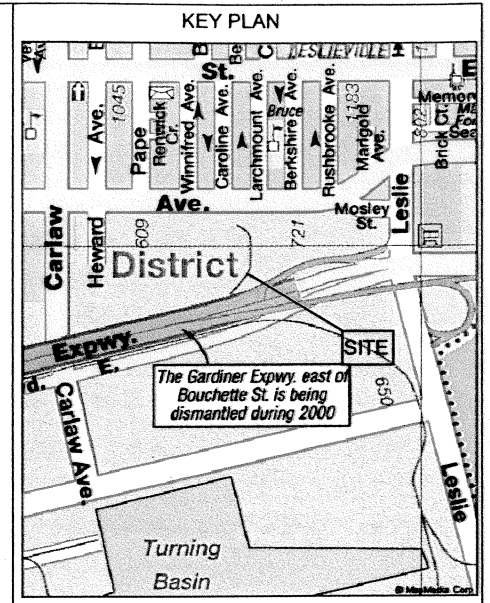
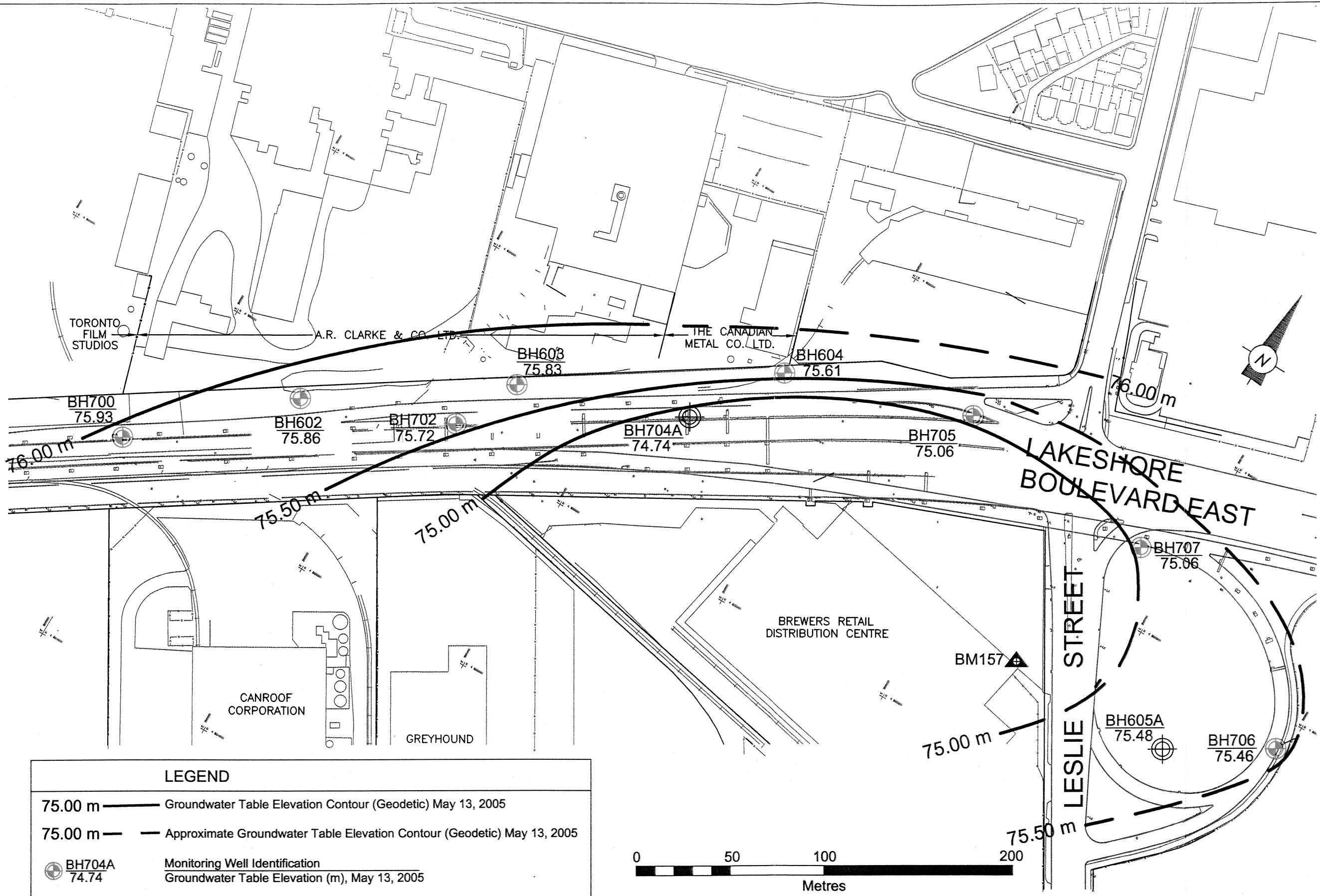
Parameter	Benzene	Toluene	Ethyl-benzene	Total Xylenes	F1 (C ₆ -C ₁₀)	F2 (>C ₁₀ -C ₁₆)	F3 (>C ₁₆ -C ₃₄)	F4 (>C ₃₄)
Table 3	1900	5900	28000	5600	N/V	N/V	N/V	N/V
MDL	0.2	0.2	0.2	0.4	100	200	200	400
BH602	1	1.1	2.8	6.2	121	<	<	<
BH603	<	1.6	<	<	<	<	<	<
BH604	<	1	<	<	<	<	<	<
BH605A	5	1	<	0.41	100	<	<	<
BH700	<	2.2	0.3	1.1	<	<	<	<
BH702	<	1.1	<	0.45	<	<	<	<
BH704A	<	2	0.92	0.3	<	<	<	<
BH705	<	0.73	<	<	<	<	<	<
BH706	2.6	1.1	0.5	1.65	100	<	<	<
BH707	<	2	<	0.7	<	<	<	<

NOTES:

1. Units are µg/L (ppb)
2. Table 3 = Full depth generic site condition Standards in a non potable groundwater condition, contained in Table 3 of the Ministry of the Environment (MOE) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", 2004.
3. < Indicates less than Method Detection Limits (MDL)
4. N/V= No Value derived.
5. See Certificate of Analysis for results of additional parameters for which no values are presented in the Table 3 Standards

DRAWINGS

DRAWINGS



Note : 1. All dimensions are metric unless specified otherwise.

NO.	DESCRIPTION	DATE
REVISION		

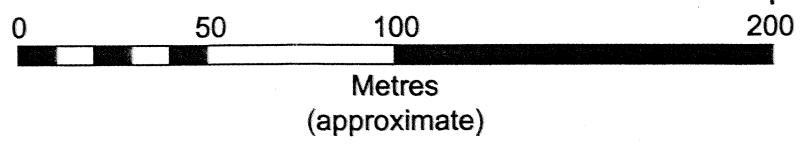
shaheen & peaker limited
 consulting geotechnical, environmental, transportation & building science engineers
 20 Meteor Drive, Toronto, Ontario, M9W 1A4
 416.213.1255 F: 416.213.1260
 www.shaheenpeaker.ca

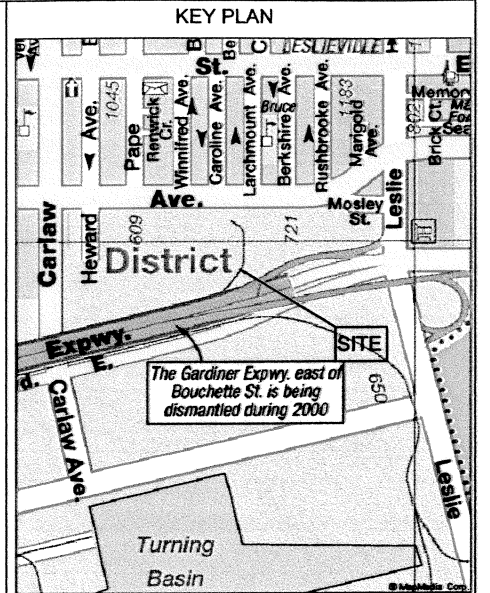
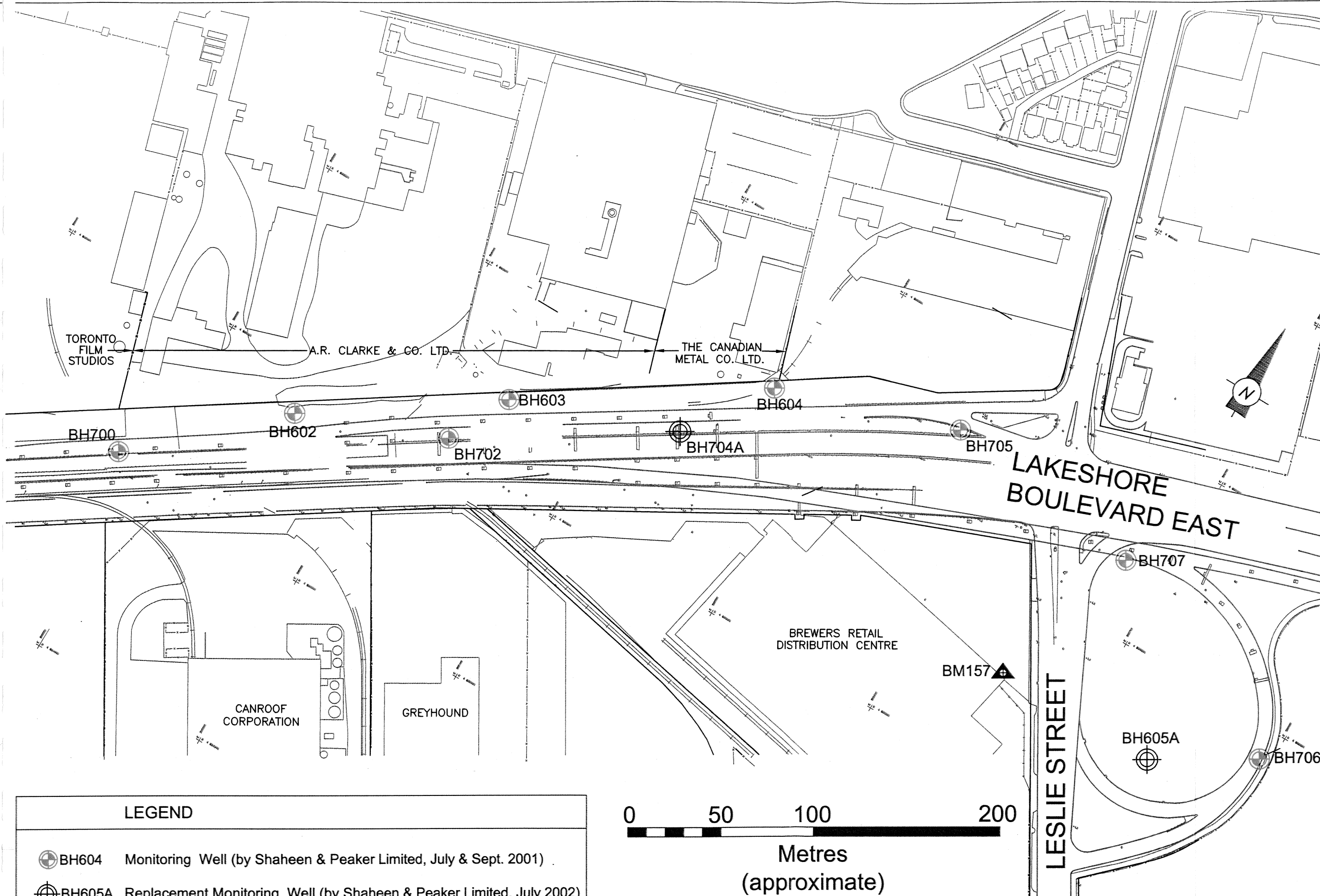
GROUNDWATER MONITORING - May 2005
 LAKESHORE BOULEVARD EAST
 AT LESLIE STREET
 TORONTO, ONTARIO

TITLE: GROUNDWATER OBSERVATIONS
 MAY 13, 2005

SCALE: ~1:2000	DATE: JUNE 2005
DRAWN BY: MV	PROJECT NO.: SP3977C
APPROVED BY: DJB	DRAWING NO.: 2

LEGEND	
75.00 m ———	Groundwater Table Elevation Contour (Geodetic) May 13, 2005
75.00 m - - -	Approximate Groundwater Table Elevation Contour (Geodetic) May 13, 2005
⊕ BH704A 74.74	Monitoring Well Identification Groundwater Table Elevation (m), May 13, 2005
⊕ BH604	Monitoring Well (by Shaheen & Peaker Limited, July & Sept. 2001)
⊕ BH605A	Replacement Monitoring Well (by Shaheen & Peaker Limited, July 2002)
▲	Benchmark





Note : 1. All dimensions are metric unless specified otherwise.

NO.	DESCRIPTION	DATE
REVISION		

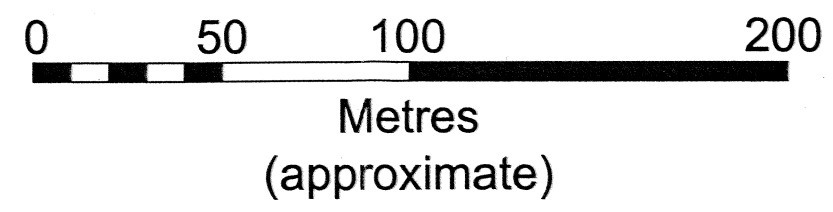
consulting geotechnical, environmental, transportation & building science engineers
 20 Meteor Drive, Toronto, Ontario, M9W 1A4
 416.213.1255 F: 416.213.1260
 www.shaheenpeaker.ca

GROUNDWATER MONITORING - May 2005
 LAKESHORE BOULEVARD EAST
 AT LESLIE STREET
 TORONTO, ONTARIO

TITLE:
 MONITORING WELL LOCATION PLAN

SCALE:	~1:2000	DATE:	JUNE 2004
DRAWN BY:	RBW	PROJECT NO.:	SP3977C
APPROVED BY:	DJB	DRAWING NO.:	1

LEGEND	
	BH604 Monitoring Well (by Shaheen & Peaker Limited, July & Sept. 2001)
	BH605A Replacement Monitoring Well (by Shaheen & Peaker Limited, July 2002)
	BM157 Benchmark



APPENDIX A
CERTIFICATES OF ANALYSES

Client: Shaheen & Peaker Ltd.

Attention: Raed Wohayeb/Dave Baigent

Client Reference: Proj/P.O.# : SP3977C

Date Received: May 16,2005

Date Analyzed: May 19/20/27,2005

Date Reported: May 27,2005

Sample Type: Groundwater

ENITECH

A Division of Agri-Service Lab Inc.

6820 Kitimat Rd., Unit #4

Mississauga, ON L5N 5M3

TEL: (905) 821-1112

FAX: (905) 821-2095

CERTIFICATE OF ANALYSIS

Volatile Organic Compounds	ENTECH # >>>	Lab	**Table	51113	51114	51115	51116	51117	51118	Lab Spike Amount (ug/L)	Lab Spike Recovery (%)
Units: ug/L (ppb)	Sample I.D. >>>	Blank	3	BH603	BH604	BH605A	BH705	BH706	BH707		
	MDL										
Chloromethane	0.30	<	-	<	<	<	<	<	<	10	113
Vinyl chloride	0.20	<	0.5	<	<	<	<	<	<	10	101
Bromomethane	0.30	<	3.7	<	<	<	<	<	<	10	130
Chloroethane	0.20	<	-	<	<	<	<	<	<	10	113
Trichlorofluoromethane	0.40	<	-	<	<	<	<	<	<	10	93
1,1-Dichloroethene	0.20	<	0.66	<	<	<	<	<	<	5	105
Acetone	8.0	<	3,300	<	<	<	<	<	<	20	71
Methylene Chloride	0.30	<	50,000	<	<	<	<	<	<	5	130
t-1,2-Dichloroethene	0.20	<	100	<	<	<	<	<	<	5	130
MTBE	1.5	<	50,000	<	<	<	<	<	<	18.5	70
1,1-Dichloroethane	0.20	<	9,000	<	<	<	<	<	<	5	107
cis-1,2-Dichloroethene	0.30	<	70	<	<	<	<	<	<	5	96
MEK	0.8	<	50,000	<	<	<	<	<	<	20	75
Chloroform	0.30	<	430	<	<	<	<	<	<	5	114
1,1,1-Trichloroethane	0.30	<	200	<	<	<	<	<	<	5	103
Carbon Tetrachloride	0.20	<	17	<	<	<	<	<	<	5	97
Benzene	0.20	<	1,900	<	<	2.6	<	1.4	<	5	115
1,2-Dichloroethane	0.20	<	17	<	<	<	<	<	<	5	109
Trichloroethene	0.20	<	50	0.24	<	<	<	<	<	5	114
1,2-Dichloropropane	0.20	<	9.3	<	<	<	<	<	<	5	106
Bromodichloromethane	0.20	<	50,000	<	<	<	<	<	<	5	103
Cis-1,3-Dichloropropene	0.20	<	3.8	<	<	<	<	<	<	5	85
MIBK	7.2	<	50,000	<	<	<	<	<	<	20	116
Toluene	0.20	<	5,900	1.3	0.8	0.72	0.36	0.87	1.5	5	110
tr-1,3-Dichloropropene	0.20	<	3.8	<	<	<	<	<	<	5	83
1,1,2-Trichloroethane	0.20	<	16,000	<	<	<	<	<	<	5	109
											104

Client: Shaheen & Peaker Ltd.
 Attention: Rameed Wohayeb/Dave Baigent
 Client Reference: Proj/P.O.# : SP3977C
 Date Received: May 16,2005
 Date Analyzed: May 19/20/27,2005
 Date Reported: May 27,2005
 Sample Type: Groundwater

ENTECH
 A Division of Agri-Service Lab Inc.
 6820 Kitimat Rd., Unit #4
 Mississauga, ON L5N 5M3
 TEL: (905) 821-1112
 FAX: (905) 821-2095

CERTIFICATE OF ANALYSIS

Volatiles	ENTECH # >>	Lab	**Table	51113	51114	51115	51116	51117	51118	Lab	Lab	Lab
Organic	Sample I.D. >>	Blank	3	BH603	BH604	BH605A	BH705	BH706	BH707	Spike	Spike	Spike
Compounds										Amount	Amount	Recovery
Units: ug/L (ppb)	MDL									(ug/L)	(ug/L)	(%)
Tetrachloroethene	0.20	<	5	0.86	0.5	0.5	<	0.6	0.83	5	5	102
Chlorodibromomethane	0.30	<	50,000	<	<	<	<	<	<	5	5	100
Ethylene Dibromide	0.20	<	3.3	<	<	<	<	<	<	5	5	106
Chlorobenzene	0.20	<	500	<	<	2.4	<	0.73	<	5	5	106
1,1,1,2-Tetrachloroethane	0.20	<	6	<	<	<	<	<	<	5	5	101
Ethylbenzene	0.20	<	28,000	<	<	<	0.26	0.5	0.2	5	5	98
m/p/o-Xylenes (Total)	0.40	<	5,600	0.42	<	<	<	1.13	0.61	15	15	95
Styrene	0.20	<	940	<	<	<	<	<	<	5	5	102
Bromoform	0.20	<	840	<	<	<	<	<	<	5	5	76
1,1,2,2-Tetrachloroethane	0.30	<	22	<	<	<	<	<	<	5	5	95
1,3-Dichlorobenzene	0.20	<	7,600	<	<	0.2	<	0.38	<	5	5	98
1,4-Dichlorobenzene	0.20	<	7,600	<	<	0.44	<	0.55	<	5	5	100
1,2-Dichlorobenzene	0.10	<	7,600	<	<	0.23	<	<	<	5	5	108
Surrogate Recovery:												
Toluene-d8 (%)		91	-	86	87	85	86	86	85	100	100	98
1,3-Dichlorobutane (%)		84	-	88	89	88	96	87	89	100	100	88
4-Bromofluorobenzene (%)		96	-	87	90	90	92	91	85	100	100	93

Comments:
 Ref. Method: Entech#OWA-2.
 Surrogate and spike recovery control limits = 70% to 130%; < = Not Detected (less than Method Detection Limit (MDL)).
 **Standards For Use Under Part XV.1 of the Environmental Protection Act.
 Reported results only for specified samples tested.



Dr. Asit Rakshit, Ph.D., C. Chem.
 Manager, Organics

Analysts: Kevin Ji, M.Sc.;

Client: Shaheen & Peaker Ltd.

Attention: Raeed Wohayeb/Dave Baigent

Client Reference: Proj/P.O.# : SP3977C

Date Received: May 16,2005

Date Analyzed: May 19/20/27,2005

Date Reported: May 27,2005

Sample Type: Groundwater

ENTECH

A Division of Agri-Service Lab Inc.

6820 Kitimat Rd., Unit #4

Mississauga, ON L5N 5M3

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FAX: (905) 821-2095

CERTIFICATE OF ANALYSIS

Volatile Organic Compounds	Units: ug/L (ppb)	MDL	ENTECH # >>>	Lab Blank	**Table 3	51119 BH602	51120 BH700	51121 BH702	51121dp BH702	51122 BH704A	Lab Spike Amount (ug/L)	Lab Spike Recovery (%)
Chloromethane	0.30		<	<	-	<	<	<	<	<	10	113
Vinyl chloride	0.20		<	<	0.5	<	<	<	<	<	10	101
Bromomethane	0.30		<	<	3.7	<	<	<	<	<	10	130
Chloroethane	0.20		<	<	-	<	<	<	<	<	10	113
Trichlorofluoromethane	0.40		<	<	-	<	<	<	<	<	10	93
1,1-Dichloroethene	0.20		<	<	0.66	<	<	<	<	<	5	105
Acetone	8.0		<	<	3,300	<	33	<	<	<	20	71
Methylene Chloride	0.30		<	<	50,000	<	<	<	<	<	5	130
t-1,2-Dichloroethene	0.20		<	<	100	<	<	<	<	<	5	130
MTBE	1.5		<	<	50,000	<	<	<	<	<	18.5	70
1,1-Dichloroethane	0.20		<	<	9,000	<	<	<	<	<	5	107
cis-1,2-Dichloroethene	0.30		<	<	70	<	<	<	<	<	5	96
MEK	0.8		<	<	50,000	<	<	<	<	<	20	75
Chloroform	0.30		<	<	430	<	<	<	<	<	5	114
1,1,1-Trichloroethane	0.30		<	<	200	<	<	<	<	<	5	103
Carbon Tetrachloride	0.20		<	<	17	<	<	<	<	<	5	97
Benzene	0.20		<	<	1,900	0.51	<	<	<	<	5	115
1,2-Dichloroethane	0.20		<	<	17	<	<	<	<	<	5	109
Trichloroethene	0.20		<	<	50	<	0.26	0.72	0.72	0.56	5	114
1,2-Dichloropropane	0.20		<	<	9.3	<	<	<	<	<	5	106
Bromodichloromethane	0.20		<	<	50,000	<	<	<	<	<	5	103
Cis-1,3-Dichloropropene	0.20		<	<	3.8	<	<	<	<	<	5	85
MIBK	7.2		<	<	50,000	<	<	<	<	<	20	116
Toluene	0.20		<	<	5,900	1	1.7	<	<	0.44	5	110
tr-1,3-Dichloropropene	0.20		<	<	3.8	<	<	<	<	<	5	83
1,1,2-Trichloroethane	0.20		<	<	16,000	<	<	<	<	<	5	109
												104

Client: Shaheen & Peaker Ltd.

Attention: Raseed Wohayeb/Dave Baigent

Client Reference: Proj/P.O.# : SP3977C

Date Received: May 16,2005

Date Analyzed: May 19/20/27,2005

Date Reported: May 27,2005

Sample Type: Groundwater

ENTECH

A Division of Agri-Service Lab Inc.

6820 Kitimat Rd., Unit #4

Mississauga, ON L5N 5M3

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CERTIFICATE OF ANALYSIS

Volatiles	ENTECH # >>>	Lab	**Table	51119	51120	51121	51121dp	51122	Lab	Lab
Organic	Sample I.D. >>>	Blank	3	BH602	BH700	BH702	BH702	BH704A	Spike	Spike
Compounds									Amount	Recovery
Units: ug/L (ppb)	MDL								(ug/L)	(%)
Tetrachloroethene	0.20	<	5	0.57	0.92	<	<	<	5	102
Chlorodibromomethane	0.30	<	50,000	<	<	<	<	<	5	100
Ethylene Dibromide	0.20	<	3.3	<	<	<	<	<	5	106
Chlorobenzene	0.20	<	500	<	<	<	<	<	5	106
1,1,1,2-Tetrachloroethane	0.20	<	6	<	<	<	<	<	5	101
Ethylbenzene	0.20	<	28,000	0.3	0.2	<	<	<	5	98
m/p/o-Xylenes (Total)	0.40	<	5,600	5.8	0.75	<	<	<	15	95
Styrene	0.20	<	940	<	<	<	<	<	5	102
Bromoform	0.20	<	840	<	<	<	<	<	5	76
1,1,2,2-Tetrachloroethane	0.30	<	22	<	<	<	<	<	5	95
1,3-Dichlorobenzene	0.20	<	7,600	<	<	<	<	<	5	98
1,4-Dichlorobenzene	0.20	<	7,600	<	<	<	<	<	5	100
1,2-Dichlorobenzene	0.10	<	7,600	<	<	<	<	<	5	108
Surrogate Recovery:										
	Toluene-d8 (%)	91	-	89	87	86	89	84	100	98
	1,3-Dichlorobutane (%)	84	-	90	88	101	103	104	100	88
	4-Bromofluorobenzene (%)	96	-	95	88	89	93	88	100	93

Comments:

Ref. Method: Entech#OWA-2.

Surrogate and spike recovery control limits = 70% to 130%; < = Not Detected (less than Method Detection Limit (MDL)).

**Standards For Use Under Part XV.1 of the Environmental Protection Act.

Reported results only for specified samples tested; dp=duplicate

Dr. Asit Rakshit, Ph.D., C. Chem.
Manager, Organics

Analysts: Kevin Ji, M.Sc.;

Client: **Shaheen & Peaker Ltd.**
 Attention: **Raeed / David B.**
 Project: **SP3977C**
 Sample Type: **Ground Water**
 Date Sampled: **May 13/05**
 Date Received: **May 16/05**
 Date Analysed: **May 17-18/05**
 Date Reported: **May 19/05**
 Date Revised:** **May 30/05**

ENTECH

A Division of Agri-Service Lab Inc.
 6820 Kitimat Rd., Unit #4,
 Mississauga, ON L5N 5M3
 TEL: (905) 821-1112
 FAX: (905) 821-2095

Certificate of Analysis for METAL SCAN

Data Pertain To Specific Sample(s) Tested

PARAMETER	MDL µg/L	TABLE 3 Non-Potable Ground Water (µg/L)	CONTROL SAMPLE		SAMPLE DATA (µg/L)			
			Expected µg/L	Found µg/L	51113 BH603	51114 BH604	51115 BH605A	51116 BH705
Aluminum	30	-	1130	1049	<30	<30	<30	<30
Antimony	1	16000	28	24	2	<1	<1	<1
Arsenic	1	480	258	263	5	12	<1	7
Barium	1	23000	829	844	280.1	<1	327	220
Beryllium	0.2	53	623	590	<0.2	<0.2	0.62	<0.2
Boron	1	50000	273	299	472	1387	1384	217
Cadmium	0.2	11	145	138	<0.2	<0.2	<0.2	<0.2
Calcium	20	-	78700	72100	249993	109693	228093	247493
Chromium	10	2000	205	202	<10	<10	<10	<10
Cobalt	2	100	685	691	2	<2	3	<2
Copper	2	23	342	339	2	3	2	2
Iron	5	-	701	662	<5	107	67	55
Lead	4	32	187	193	<4	<4	<4	<4
Magnesium	10	-	4830	5005	109000	30320	74480	40370
Manganese	1	-	340	376	1212	1237	483	1500
Mercury	0.02	0.12	26.8	27	0.09	<0.02	<0.02	<0.02
Molybdenum	7	7300	520	525	<7	<7	<7	<7
Nickel	5	1600	830	867	<5	<5	<5	<5
Potassium	100	-	12800	14060	13677	30497	34407	12107
Selenium	1	50	19	16	<1	<1	<1	<1
Silver	1	1.2	430	382	<1	<1	<1	1.0
Sodium	25	-	21600	22450	580998	145398	325698	1061998
Vanadium	5	200	990	1074	<5	<5	<5	<5
Zinc	2	1100	5010	5054	<2	<2	<2	<2

Table 3 : Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
 Sample Disposal: 30 Days from the Reporting Date.

Analyst(s): **PI, MR, AP**

Metals: **ICP-AES(EPA 3005/200.7/200.15)**

Arsenic, Selenium & Antimony: **HG-AAS/Digestion(EPA 3005A/7062/7742)**

Mercury: **CV-AAS(EPA 245.1)**

** Report revised due to calculation error in Hg values.

Page 1 of 4



Sam Sanyal, M. Sc., C.Chem.
 Manager, Inorganic Analysis.

Client: **Shaheen & Peaker Ltd.**
 Attention: **Raeed / David B.**
 Project: **SP3977C**
 Sample Type: **Ground Water**
 Date Sampled: **May 13/05**
 Date Received: **May 16/05**
 Date Analysed: **May 17-18/05**
 Date Reported: **May 19/05**
 Date Revised:** **May 30/05**

ENTECH

A Division of Agri-Service Lab Inc.
 6820 Kitimat Rd., Unit #4,
 Mississauga, ON L5N 5M3
 TEL: (905) 821-1112
 FAX: (905) 821-2095

Certificate of Analysis for METAL SCAN

Data Pertain To Specific Sample(s) Tested

PARAMETER	MDL µg/L	TABLE 3 Non-Potable Ground Water (µg/L)	CONTROL SAMPLE		SAMPLE DATA (µg/L)			
			Expected µg/L	Found µg/L	51117 BH706	51118 BH707	51119 BH602	51120 BH700
Aluminum	30	-	1130	1049	<30	<30	<30	<30
Antimony	1	16000	28	24	<1	<1	10	<1
Arsenic	1	480	258	263	<1	1	44	3
Barium	1	23000	829	844	423.3	488	156	239
Beryllium	0.2	53	623	590	<0.2	<0.2	<0.2	<0.2
Boron	1	50000	273	299	2772	633	3338	339
Cadmium	0.2	11	145	138	<0.2	<0.2	0.5	<0.2
Calcium	20	-	78700	72100	251193	182193	235393	176193
Chromium	10	2000	205	202	<10	<10	45	<10
Cobalt	2	100	685	691	8.1	<2	<2	<2
Copper	2	23	342	339	3	3	2	2
Iron	5	-	701	662	249	16	57	34
Lead	4	32	187	193	<4	<4	<4	<4
Magnesium	10	-	4830	5005	147600	89250	84200	29630
Manganese	1	-	340	376	270	428	270	319
Mercury	0.02	0.12	26.8	27	<0.02	<0.02	<0.02	<0.02
Molybdenum	7	7300	520	525	<7	<7	8	<7
Nickel	5	1600	830	867	<5	<5	<5	<5
Potassium	100	-	12800	14060	72317	34107	16977	24167
Selenium	1	50	19	16	<1	<1	<1	<1
Silver	1	1.2	430	382	<1	<1	<1	<1
Sodium	25	-	21600	22450	252798	720098	625298	307398
Vanadium	5	200	990	1074	<5	<5	<5	<5
Zinc	2	1100	5010	5054	<2	<2	<2	2

Table 3 : Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Sample Disposal: 30 Days from the Reporting Date.

Analyst(s): **PI, MR, AP**

Metals: **ICP-AES(EPA 3005/200.7/200.15)**

Arsenic, Selenium & Antimony: **HG-AAS/Digestion(EPA 3005A/7062/7742)**

Mercury: **CV-AAS(EPA 245.1)**

** Report revised due to calculation error in Hg values.

Page 2 of 4



Sam Sanyal, M. Sc., C.Chem.
 Manager, Inorganic Analysis.

Client: **Shaheen & Peaker Ltd.**
 Attention: **Raeed / David B.**
 Project: **SP3977C**
 Sample Type: **Ground Water**
 Date Sampled: **May 13/05**
 Date Received: **May 16/05**
 Date Analysed: **May 17-18/05**
 Date Reported: **May 19/05**
 Date Revised:** **May 30/05**

ENTECH

A Division of Agri-Service Lab Inc.
 6820 Kitimat Rd., Unit #4,
 Mississauga, ON L5N 5M3
 TEL: (905) 821-1112
 FAX: (905) 821-2095

Certificate of Analysis for **METAL SCAN**

Data Pertain To Specific Sample(s) Tested

PARAMETER	MDL µg/L	TABLE 3 Non-Potable Ground Water (µg/L)	CONTROL SAMPLE		SAMPLE DATA (µg/L)			
			Expected µg/L	Found µg/L	51122 BH704A Duplicate			
Aluminum	30	-	1130	1049	<30			
Antimony	1	16000	28	24	2			
Arsenic	1	480	258	263	2			
Barium	1	23000	829	844	565			
Beryllium	0.2	53	623	590	<0.2			
Boron	1	50000	273	299	189			
Cadmium	0.2	11	145	138	<0.2			
Calcium	20	-	78700	72100	402793			
Chromium	10	2000	205	202	<10			
Cobalt	2	100	685	691	<2			
Copper	2	23	342	339	3			
Iron	5	-	701	662	262.9			
Lead	4	32	187	193	<4			
Magnesium	10	-	4830	5005	28210			
Manganese	1	-	340	376	1065			
Mercury	0.02	0.12	26.8	27	<0.02			
Molybdenum	7	7300	520	525	<7			
Nickel	5	1600	830	867	<5			
Potassium	100	-	12800	14060	36937			
Selenium	1	50	19	16	<1			
Silver	1	1.2	430	382	<1			
Sodium	25	-	21600	22450	2471998			
Vanadium	5	200	990	1074	<5			
Zinc	2	1100	5010	5054	<2			

Table 3 : Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
 Sample Disposal: 30 Days from the Reporting Date.

Analyst(s): **PI, MR, AP**

Metals: **ICP-AES(EPA 3005/200.7/200.15)**

Arsenic, Selenium & Antimony: **HG-AAS/Digestion(EPA 3005A/7062/7742)**

Mercury: **CV-AAS(EPA 245.1)**

** Report revised due to calculation error in Hg values.

Page 4 of 4



Sam Sanyal, M. Sc., C.Chem.
 Manager, Inorganic Analysis.

ENTECH

A Division of Agri-Service Lab Inc.
 6820 Kitimat Rd., Unit #4
 Mississauga, ONT L5N 5M3
 TEL: (905) 821-1112
 FAX: (905) 821-2095

Client: Shaheen & Peaker Ltd.
 Attention: Raeed / David Baigent
 Project: SP3977C
 P.O.:
 Sample Type: Ground Water
 Date Received: May 16/05
 Date Analysed: May 17/05
 Date Reported: May 19/05



Sam Sanyal, M.Sc., C. Chem
 Manager, Inorganic Analysis.

Certificate of Analysis

Data Pertain To Specific Sample(s) Tested

PARAMETER	CONTROL SAMPLE			SAMPLE DATA							
	Expected	Found	Recovery	51113	51114	51115	51116	51117	51118	51119	51120
pH (Units)	7.4	7.40	99	BH603	BH604	BH605A	BH705	BH706	BH707	BH602	BH700
				7.0	7.0	6.8	6.9	7.0	7.2	7.4	7.4

Sample Disposal: 30 Days from the Reporting Date.
 Method: pH - pH-Meter (EPA 9045)

Analyst(s): SJ

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 Manager, Inorganic Analysis.

Certificate of Analysis

Data Pertain To Specific Sample(s) Tested

PARAMETER	CONTROL SAMPLE		SAMPLE DATA				
	Expected	Found	Recovery	51121	51122	51117	51122
			%	BH702	BH704A	BH706 Duplicate	BH704 Duplicate
pH (Units)	7.4	7.40	99	7.4	7.4	6.9	7.4

Sample Disposal: 30 Days from the Reporting Date.

Method:

pH - pH-Meter (EPA 9045)

Analyst(s): SJ

Client: Shaheen & Peaker Ltd.
 Attention: Raees/David
 Client Reference: Proj:SF3977C
 Date Received: May 16, 2005
 Date Analyzed: May 18, 2005
 Date Reported: May 20, 2005
 Sample Type: Ground Water

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Polycyclic Aromatic Hydrocarbons (PAH's) Parameters	ENTECH # : Table 3*		Lab Blank	51113		51114		51115		51116		51117	
	Sample # >>>	MDL		BH 603	BH 604	BH 605 A	BH 705	BH 706					
All units are in ug/L (ppb)													
Naphthalene	0.2	5900	<	<	<	<	<	<	<	<	<	<	1.63
Acenaphthylene	0.3	2000	<	<	<	<	<	<	<	<	<	<	<
Acenaphthene	0.3	1700	<	<	<	<	<	<	<	<	<	<	<
Fluorene	0.4	290	<	<	<	<	<	<	<	<	<	<	<
Phenanthrene	0.1	63	<	<	<	<	<	<	<	<	<	<	<
Anthracene	0.01	12	<	<	<	<	<	<	<	<	<	<	0.02
Fluoranthene	0.1	130	<	<	<	<	<	<	<	<	<	<	<
Pyrene	0.1	40	<	<	<	<	<	<	<	<	<	<	<
Benzo (a) anthracene	0.05	5	<	<	<	<	<	<	<	<	<	<	<
Chrysene	0.05	3	<	<	<	<	<	<	<	<	<	<	<
Benzo (b) fluoranthene	0.1	7	<	<	<	<	<	<	<	<	<	<	<
Benzo (k) fluoranthene	0.1	0.4	<	<	<	<	<	<	<	<	<	<	<
Benzo (a) pyrene	0.01	1.9	<	<	<	<	<	<	<	<	<	<	<
Indeno (1,2,3-cd) pyrene	0.2	0.3	<	<	<	<	<	<	<	<	<	<	<
Dibenzo (a,h) anthracene	0.1	0.3	<	<	<	<	<	<	<	<	<	<	<
Benzo (g,h,i) perylene	0.1	0.2	<	<	<	<	<	<	<	<	<	<	<
TOTAL PAH (sum of above)	2.22		-	-	-	-	-	-	-	-	-	-	1.65
Surrogate recoveries (%)													
Phenanthrene-d10			81	75	88	108	73	105					
Chrysene-d12			72	70	75	95	70	87					
Perylene-d12			83	70	79	103	74	88					

Comments:
 MDL = Method Detection Limit; < = Not Detected (less than the MDL).
 Ref. Method: Entech # OWA-1: solvent extraction/GC/MSD.
 Surrogate recovery control limits = 70% - 130%.
 *Standards for use under Part XV.1 of Environmental Protection Act, March 2004.
 Reported results only for specified samples tested.

Dr. Asit Rakshit, Ph.D., C. Chem.
 Manager-Organics

Analyst : Voltha Martynava


Client: Shaheen & Peaker Ltd.
 Attention: Raced/David
 Client Reference: Proj:SP3977C
 Date Received: May 16, 2005
 Date Analyzed: May 18, 2005
 Date Reported: May 20, 2005
 Sample Type: Ground Water

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Certificate of Analysis

Polycyclic Aromatic Hydrocarbons (PAH's)		Table 3*	51118	51119	51120	51121	51122
Parameters	ENTECH # >>	Sample # >>	BH 707	BH 602	BH 700	BH 702	BH 704 A
All units are in ug/L (ppb)							
	MDL						
Naphthalene	0.2	5900	<	0.22	<	<	1.34
Acenaphthylene	0.3	2000	<	<	<	<	<
Acenaphthene	0.3	1700	<	<	<	<	0.54
Fluorene	0.4	290	<	<	<	<	<
Phenanthrene	0.1	63	<	<	<	<	<
Anthracene	0.01	12	<	<	<	<	<
Fluoranthene	0.1	130.0	<	<	<	<	<
Pyrene	0.1	40	<	<	<	<	<
Benzo (a) anthracene	0.05	5.00	<	<	<	<	<
Chrysene	0.05	3	<	<	<	<	<
Benzo (b) fluoranthene	0.1	7	<	<	<	<	<
Benzo (k) fluoranthene	0.1	0.4	<	<	<	<	<
Benzo (a) pyrene	0.01	1.90	<	<	<	<	<
Indeno (1,2,3-cd) pyrene	0.2	0.3	<	<	<	<	<
Dibenzo (a,h) anthracene	0.1	0.3	<	<	<	<	<
Benzo (g,h,i) perylene	0.1	0.2	<	<	<	<	<
TOTAL PAH (sum of above)	2.22		-	0.22	-	-	1.88
Surrogate Recoveries (%)							
Phenanthrene-d10			88	106	96	102	80
Chrysene-d12			90	100	92	98	71
Perylene-d12			96	104	96	105	73

Comments:
 MDL = Method Detection Limit; <= Not Detected (less than the MDL).
 Ref. Method: Entech # OWA-1: solvent extraction/GC/MSD.
 Surrogate recovery control limits = 70% - 130%.
 * Standards for use under Part XV.1 of Environmental Protection Act, March 2004.
 Reported results only for specified samples tested.


 Dr. Asit Rakshit, Ph.D., C. Chem.
 Manager-Organics

Analysts: Volha Martynava, B.Sc.

Client: Shaheen & Peaker Ltd.
Attention: Dave baigent/Raeed
Client Reference SP3977C
Date Received: May 16, 2005.
Date Analyzed: May 17/18, 2005.
Date Reported: May 20, 2005.
Sample Type: Groundwater

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CERTIFICATE OF ANALYSIS

BTEX/F1-F4 Total Petroleum Hydrocarbons (CCME-Tier-1) All units are in ug/L(ppb)	MDL	**Table3	Lab Blank	51113 BH603	51114 BH604	51115 BH605A	51116 BH705	51117 BH706	51118 BH707	LCS Spike Amount ug/L	LCS Spike Recovery (%)
Benzene	0.2	1900	<	<	<	5	<	2.6	<	10	110
Toluene	0.2	5900	<	1.6	1	1	0.73	1.1	2	10	108
Ethylbenzene	0.2	28000	<	<	<	<	<	0.5	<	10	101
m&p -Xylenes	0.2		<	<	<	0.41	<	1.1	0.7	20	111
o-Xylene	0.2		<	<	<	<	<	0.45	<	10	103
Total Xylenes	0.4	5600	<	<	<	0.41	<	1.65	0.7		
F1 (C6-C10)	100	N/V	<	<	<	100	<	100	<	266	95
F2 (C10-C16)	200	N/V	<	<	<	<	<	<	<		
F3(>C16-C34)	200	N/V	<	<	<	<	<	<	<		
F4(>C34-C50)	400	N/V	<	<	<	<	<	<	<	7600	120

Comments:

MDL = Method Detection Limit; < = Not Detected (less than MDL). * Sample dilution = 200x.
 Ref. Method: CCME-Tier-1, 2000; Purge&Trap GC-MSD / GC-FID(F1); HT-GC/FID(F2-F4).
 LCS (Laboratory Control Sample) Spike recovery control limits = 70% - 130%. LCS Spiked, F1=gasoline, F2-F4=Diesel/Motor Oil.
 **Standards For Use Under Part XV.1 of the Environmental Protection Act. NV = No Value Derived.
 Reported results only for specified samples tested.

Note: BTEX and PAH not subtracted, and C50 recovery=118%.

Bold letter exceeded guideline.



Dr. Asit Rakshit, Ph. D., C. Chem.
 Manager, Organics

Analysts: Katie Ma, B.Sc.
 Kevin Ji, B.Sc.

Client: Shaheen & Peaker Ltd.
Attention: Dave baigent/Raeed
Client Reference: SP3977C
Date Received: May 16, 2005.
Date Analyzed: May 17/18, 2005.
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CERTIFICATE OF ANALYSIS

BTEX/F1-F4 Total Petroleum Hydrocarbons (CCME-Tier-1) All units are in ug/L (ppb)	MDL	**Table3	Lab Blank	51119 BH602	51120 BH700	51121 BH702	51121 BH702 Duplicate	51122 BH704A	LCS Spike Amount ug/L	LCS Spike Recovery (%)
Benzene	0.2	1900	<	1	<	<	<	<	10	110
Toluene	0.2	5900	<	1.1	2.2	1.1	1.2	2	10	108
Ethylbenzene	0.2	28000	<	2.8	0.3	<	<	0.92	10	101
m&p -Xylenes	0.2		<	6.2	0.8	0.45	0.45	<	20	111
o-Xylene	0.2		<	<	0.3	<	<	0.3	10	103
Total Xylenes	0.4	5600	<	6.2	1.1	0.45	0.45	<		
F1 (C6-C10)	100	NV	<	121	<	<	<	<	266	95
F2 (C10-C16)	200	NV	<	<	<	<	<	<		
F3(>C16-C34)	200	NV	<	<	<	<	<	<	7600	120
F4(>C34-C50)	400	NV	<	<	<	<	<	<		

Comments:

MDL = Method Detection Limit; < = Mean not Detected (less than MDL).
 Ref. Method: CCME-Tier-1, 2000; Purge&Trap GC-MSD / GC-FID(F1); HT-GC/FID(F2-F4).
 LCS (Laboratory Control Sample) Spike recovery control limits = 70% - 130%. LCS Spiked, F1=gasoline, F2-F4=Diesel/Motor Oil.
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 Note: BTEX and PAH not subtracted, and C50 recovery=118%.
 Bold letter exceeded guideline.



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