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Project: SP3977C **June 15, 2004**

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, 2004
Lakeshore Boulevard East Reconstruction at Leslie Street
Toronto, Ontario Gardiner Expressway dismantling

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 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).

The groundwater sampling was carried out at the site on May 27, 2004. Monitoring wells BH602, BH603, BH604, BH605A, BH700, BH702, BH704A, BH705, BH706 and BH707 were located, purged and sampled on May 27, 2004. The location of the monitoring wells is shown on **Drawing 1** attached. Prior to obtaining samples at the wells, a minimum of three volume 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 noticeable odours or sheen were observed on any of the groundwater samples obtained from the monitoring wells, with exception of the monitoring well BH602 where a slight hydrocarbon odour was detected and monitoring well BH707 where sewage-like odour was detected.

Groundwater levels were measured on May 27, 2004 groundwater levels 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**).

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), Metal Scan, Polycyclic Aromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH) in gasoline, diesel and heavy oil ranges, and pH. Copies of the Laboratory Certificates of Analyses are attached in **Appendix A**.

The results of the groundwater laboratory analyses were evaluated using the 'Generic Approach' methodology of the "Guideline for Use at Contaminated Sites in Ontario", revised February 1997 (Guideline), published by the Ontario Ministry of Environment. The MOE Table B criteria for a non-potable groundwater condition for coarse textured soils were used to evaluate the environmental quality of the groundwater encountered at the site. The rationale for use of these criteria were previously described in S&P's report "Soil and Groundwater Quality Assessment" (SP3201C, dated August 22, 2001).

Table 2, 3, 4 and 5 present a summary of the results of the laboratory analyses.

The results as shown in **Table 2** indicate that the concentrations of most VOCs were below the analytical Method Detection Limits (MDL), which are well below MOE Table B criteria for coarse textured soils. Detectable concentrations of VOCs were present in all ten wells. Concentrations of the following VOCs parameters were slightly above MDL, but still well below the MOE Table B criteria for a non-potable groundwater condition for coarse textured soil: acetone, benzene, ethylbenzene, methyl ethyl ketone, tetrachloroethylene, toluene, trichloroethylene and xylenes.

Table 3 indicates that the concentrations of heavy metals in all groundwater samples met the MOE Table B criteria 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 all PAH parameters were not detected in groundwater samples from the ten monitoring wells. These results indicate that the concentration of PAHs in groundwater samples analyzed met the MOE Table B criteria for a non-potable groundwater condition for coarse textured soil.

A summary of the analysis of groundwater samples for TPH is provided in **Table 5**. These analyses indicate that no detectable concentrations of TPH in gasoline/diesel and heavy oil ranges were present in the samples analyzed. Presently, there are no Table B criteria for these parameters. However, all concentrations were less than the MOE Upper Concentration Limits (see Table 5) and indicate that Level 2 Risk Management measures for TPH in groundwater are not required at this time.

Groundwater pH was found to vary from 6.9 to 7.6, which is well within the acceptable range of 5 to 9 from the MOE Guideline.

S&P recommends that groundwater monitoring should be carried out on an annual basis. .

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:

Raeed 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 27, 2004
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 27, 2004		
	Elevation of Top of Riser * (m)	Depth Below Top of Riser (m)	Groundwater Elevation * (m)
BH602	77.87**	1.88	75.99
BH603	77.47**	1.42	76.05
BH604	77.47**	1.91	75.56
BH605A* **	77.79	2.29	75.50
BH700	77.02**	1.05	75.97
BH702	77.19**	1.24	75.95
BH704A* **	77.02**	2.27	74.75
BH705	77.39**	2.43	74.96
BH706	77.48	1.98	75.50
BH707	77.02**	2.02	75.00

NOTES:

1. * Geodetic elevations are referenced to the Benchmark No.BM157 (Elevation – 76.986 meters above sea level), located on the northeast exterior wall of existing building Brewers Retail Distribution Centre at the southwest corner Lakeshore Blvd. East and Leslie St.
2. ** Elevation of top of the riser has been changed to reflect the reconstruction of the well cover.
3. *** Monitoring wells BH605 and BH704 were damaged due to onsite construction activities and replaced by BH605A and BH704A, respectively.

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

Parameter	Table B Criteria	MDL (µg/L)	BH602	BH603	BH604	BH605A	BH700
Acetone	3,300	10.0	290	45	510	200	430
Benzene	1,900	0.1	0.4	<	<	0.5	<
Bromodichloromethane	50,000	0.2	<	<	<	<	<
Bromoform	840	0.2	<	<	<	<	<
Bromomethane	3.7	0.5	<	<	<	<	<
Carbon Tetrachloride	17	0.2	<	<	<	<	<
Chlorobenzene	500	0.2	<	<	<	<	<
Chloroform	430	0.2	<	<	<	<	<
Dibromochloromethane (see notes)	50,000	0.2	<	<	<	<	<
Dichlorobenzene, 1,2- (o-DCB)	7,600	0.2	<	<	<	<	<
Dichlorobenzene, 1,3- (m-DCB)	7,600	0.2	<	<	<	<	<
Dichlorobenzene, 1,4- (p-DCB)	7,600	0.2	<	<	<	<	<
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	0.2	<	<	<	<	<
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	0.2	<	<	<	<
Ethylene Dibromide	3.8	0.2	<	<	<	<	<
Methyl Ethyl Ketone (MEK)	50,000	5.0	75	47	110	70	130
Methyl Isobutyl Ketone (MIBK)	50,000	5.0	<	<	<	<	<
Methyl Tert Butyl Ether (MTBE)	50,000	0.2	<	<	<	<	<
Methylene Chloride	50,000	1.0	<	<	<	<	<
Styrene	940	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,1,2-	6.0	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,2,2-	22	0.2	<	<	<	<	<
Tetrachloroethylene	5.0	0.2	0.6	0.6	0.4	0.3	1.7
Toluene	5,900	0.2	2.1	0.9	1.2	0.9	5.3
Trichloroethane, 1,1,1-	200	0.2	<	<	<	<	<
Trichloroethane, 1,1,2-	16,000	0.2	<	<	<	<	<
Trichloroethylene	50	0.2	0.5	0.8	0.8	0.7	0.8
Vinyl Chloride	0.5	0.2	<	<	<	<	<
Xylenes	5,600	0.4	1.4	<	<	<	0.4

NOTES:

1. Units are µg/L (ppb)
2. Table B Criteria = Non-potable groundwater criteria for coarse textured soils contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
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 B Criteria

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

Parameter	Table B Criteria	MDL (µg/L)	BH702	BH704A	BH705	BH706	BH707
Acetone	3,300	10.0	53	28	48	170	65
Benzene	1,900	0.1	<	0.5	<	0.3	<
Bromodichloromethane	50,000	0.2	<	<	<	<	<
Bromoform	840	0.2	<	<	<	<	<
Bromomethane	3.7	0.5	<	<	<	<	<
Carbon Tetrachloride	17	0.2	<	<	<	<	<
Chlorobenzene	500	0.2	<	<	<	<	<
Chloroform	430	0.2	<	<	<	<	<
Dibromochloromethane (see notes)	50,000	0.2	<	<	<	<	<
Dichlorobenzene, 1,2- (o-DCB)	7,600	0.2	<	<	<	<	<
Dichlorobenzene, 1,3- (m-DCB)	7,600	0.2	<	<	<	<	<
Dichlorobenzene, 1,4- (p-DCB)	7,600	0.2	<	<	<	<	<
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	0.2	<	<	<	<	<
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	<	<	<	<	<
Ethylene Dibromide	3.8	0.2	<	<	<	<	<
Methyl Ethyl Ketone (MEK)	50,000	5.0	89	50	140	50	<
Methyl Isobutyl Ketone (MIBK)	50,000	5.0	<	<	<	<	<
Methyl Tert Butyl Ether (MTBE)	50,000	0.2	<	<	<	<	<
Methylene Chloride	50,000	1.0	<	<	<	<	<
Styrene	940	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,1,2-	6.0	0.2	<	<	<	<	<
Tetrachloroethane, 1,1,2,2-	22	0.2	<	<	<	<	<
Tetrachloroethylene	5.0	0.2	1.2	0.7	0.8	0.6	0.6
Toluene	5,900	0.2	4.2	2.8	1.5	1.7	1.1
Trichloroethane, 1,1,1-	200	0.2	<	<	<	<	<
Trichloroethane, 1,1,2-	16,000	0.2	<	<	<	<	<
Trichloroethylene	50	0.2	0.8	0.6	0.9	0.5	0.5
Vinyl Chloride	0.5	0.2	<	<	<	<	<
Xylenes	5,600	0.4	<	<	<	<	<

NOTES:

1. Units are µg/L (ppb)
2. Table B Criteria = Non-potable groundwater criteria for coarse textured soils contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
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 B Criteria

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

Parameter	Table B (µg/L)	BH602	BH603	BH604	BH605A	BH700
pH (pH units)	n.a.	7.3	7.1	6.9	7.0	7.5
Antimony	16,000	2	<1	<1	<1	<1
Arsenic	480	204	3	4	2	5
Barium	23,000	191	291	81	311	336
Beryllium	53	<1	<1	<1	<1	<1
Boron (available)	50,000	3100	532	1410	768	496
Cadmium	11	<2	<2	<2	<2	<2
Chromium (total)	2,000	61	<10	<10	<10	<10
Cobalt	100	<10	<10	<10	<10	<10
Copper	23	<2	<2	<2	<2	<2
Lead	32	<4	<4	<4	<4	<4
Mercury	0.12	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	7,300	<20	<20	<20	<20	<20
Nickel	1,600	<20	<20	<20	<20	<20
Selenium	50	<1	<1	<1	<1	<1
Silver	1.2	<1	<1	<1	<1	<1
Vanadium	200	<10	<10	<10	<10	<10
Zinc	1,100	<10	<10	<10	<10	<10

NOTES:

1. Units are in µg/L (ppb) unless otherwise indicated
2. Table B= Non-potable groundwater criteria for coarse textured soils contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
3. See Certificates of Analysis for the results of additional metals for which no values are presented in the Table B criteria
4. n.a. = Indicates no applicable Table B criteria

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

Parameter	Table B Criteria	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	0.2	<	<	<	<	<
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	0.2	<	<	<	<	<
Chrysene	3.0	0.4	<	<	<	<	<
Dibenzo (a,h) anthracene	0.25	0.1	<	<	<	<	<
Fluoranthene	130	0.2	<	<	<	<	<
Fluorene	290	0.4	<	<	<	<	<
Indeno (1,2,3-cd) pyrene	0.27	0.2	<	<	<	<	<
Naphthalene	5,900	0.2	<	<	<	<	<
Phenanthrene	63	0.1	<	<	<	<	<
Pyrene	40	0.2	<	<	<	<	<

NOTES:
1. Units are µg/L (ppb) unless otherwise indicated.
2. Table B Criteria= Non-potable groundwater criteria for coarse textured soil contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
3. < Indicates less than Method Detection Limit (MDL)

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

Parameter	Table B Criteria	MDL (µg/L)	BH702	BH704A	BH705	BH706	BH707
Acenaphthene	1,700	0.3	<	<	<	<	<
Acenaphthylene	2,000	0.3	<	<	<	<	<
Anthracene	12	0.01	<	<	<	<	<
Benzo (a) anthracene	5.0	0.2	<	<	<	<	<
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	0.2	<	<	<	<	<
Chrysene	3.0	0.4	<	<	<	<	<
Dibenzo (a,h) anthracene	0.25	0.1	<	<	<	<	<
Fluoranthene	130	0.2	<	<	<	<	<
Fluorene	290	0.4	<	<	<	<	<
Indeno (1,2,3-cd) pyrene	0.27	0.2	<	<	<	<	<
Naphthalene	5,900	0.2	<	<	<	<	<
Phenanthrene	63	0.1	<	<	<	<	<
Pyrene	40	0.2	<	<	<	<	<

NOTES:
1. Units are µg/L (ppb)
2. Table B Criteria= Non-potable groundwater criteria for coarse textured soil contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
3. < = Indicates less than Method Detection Limit (MDL)

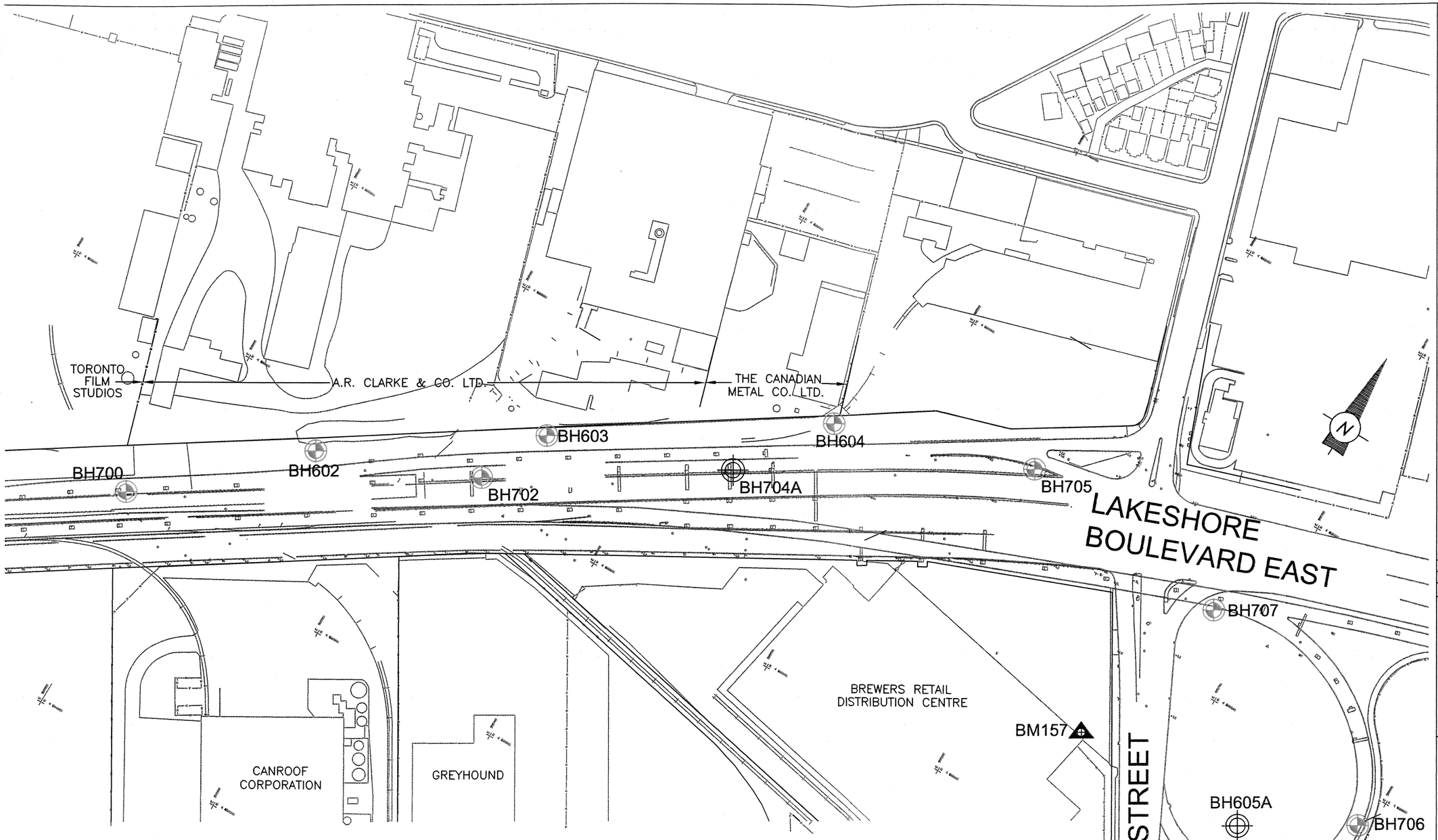
TABLE 5: SUMMARY OF TPH IN GROUNDWATER

Parameter	TPH Gasoline Range (C_5-C_{10})	TPH Diesel Range (C_{10}-C_{24})	TPH Heavy Oil Range (C_{24}-C_{50})
Table B Criteria	N/V	N/V	N/V
Upper Concentration Limit	100,000		100,000
BH602	<100	<200	<1,000
BH603	<100	<200	<1,000
BH604	<100	<200	<1,000
BH605A	<100	<200	<1,000
BH700	<100	<200	<1,000
BH702	<100	<200	<1,000
BH704A	<100	<200	<1,000
BH705	<100	<200	<1,000
BH706	<100	<200	<1,000
BH707	<100	<200	<1,000

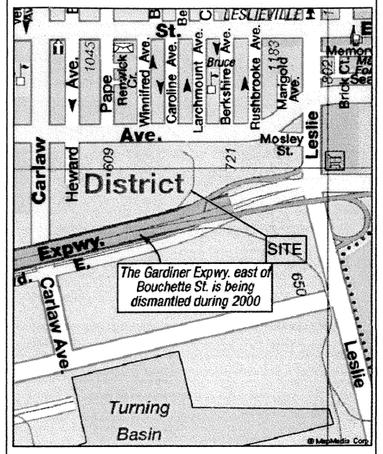
NOTES:

1. Units are in µg/L (ppb)
2. Table B Criteria = Non-potable groundwater criteria for coarse textured soils contained in Table B of the "Guideline for Use at Contaminated Sites in Ontario", published by the MOE, revised February 1997
3. < = Indicates less than Method Detection Limit (MDL)
4. N/V = No value in Table B
5. Upper Concentration Limit = Upper Concentration Limit for non-potable groundwater from "Guidance on Ste-Specific Risk Assessment for Use at Contaminated Sites in Ontario", published by the MOE, version 1.30, March 31, 1998. These values are absolute maxima which may not be exceeded without some form of Level 2 Risk Management.

DRAWINGS



KEY PLAN



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

0 50 100 200

Metres
(approximate)

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

NO.	DESCRIPTION	DATE
REVISION		

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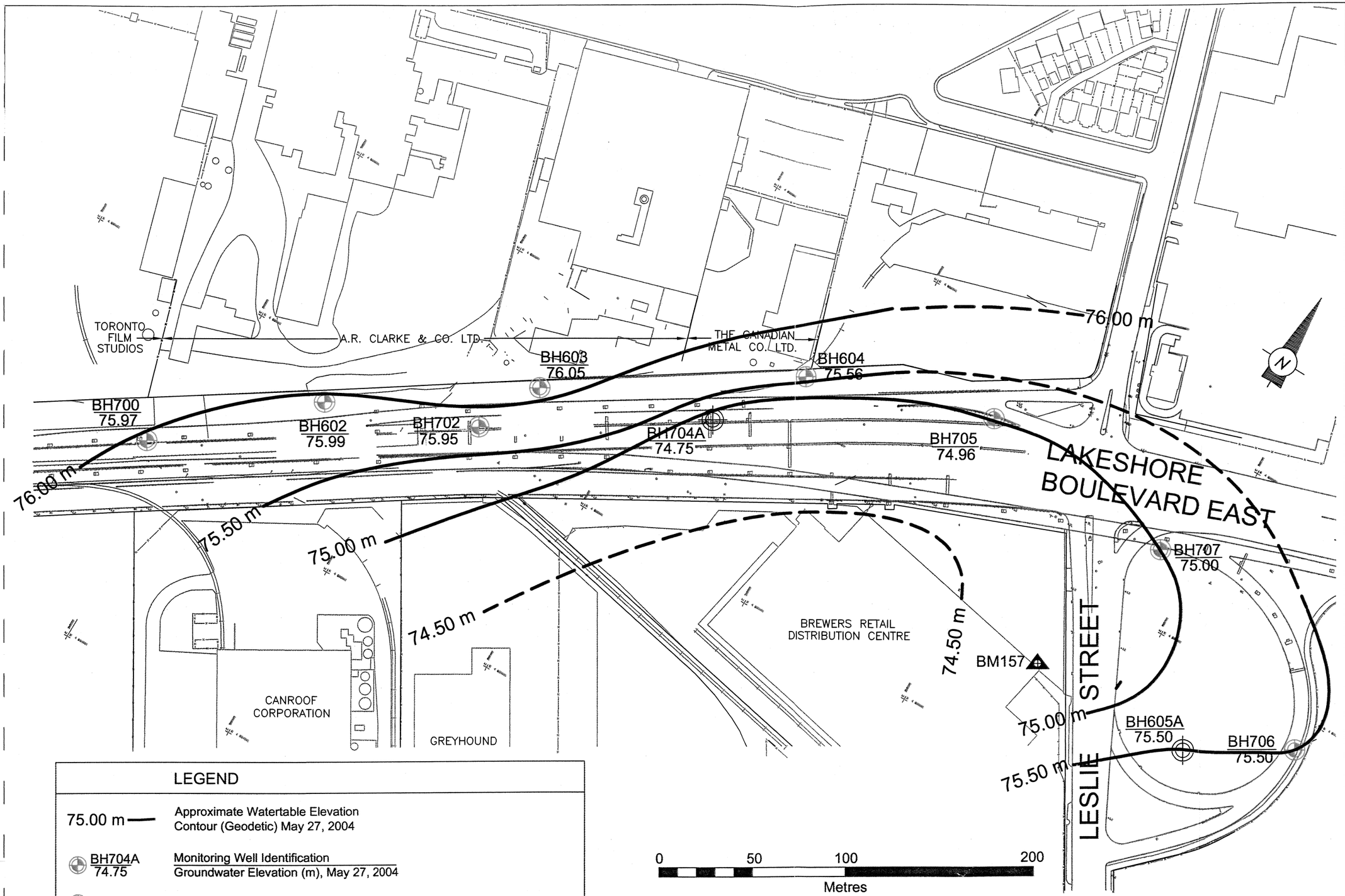
GROUNDWATER MONITORING - May 2004
LAKESHORE BOULEVARD EAST
AT LESLIE STREET
TORONTO, ONTARIO

TITLE: MONITORING WELL LOCATION PLAN

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



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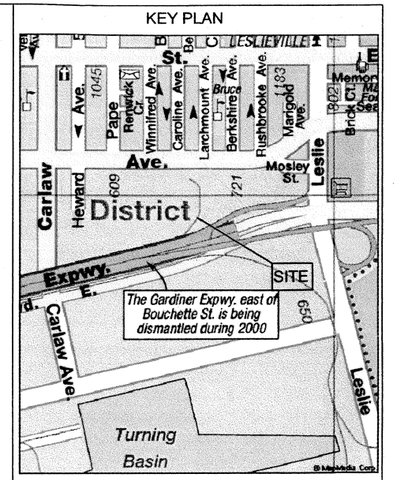

LEGEND

75.00 m	Approximate Watertable Elevation Contour (Geodetic) May 27, 2004
BH704A 74.75	Monitoring Well Identification / Groundwater Elevation (m), May 27, 2004
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		

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GROUNDWATER MONITORING - May 2004
LAKESHORE BOULEVARD EAST
AT LESLIE STREET
TORONTO, ONTARIO

TITLE: GROUNDWATER OBSERVATIONS MAY 27, 2004

SCALE: ~1:2000	DATE: June 2004
DRAWN BY: RBW	PROJECT NO.: SP3977C
APPROVED BY: DJB	DRAWING NO.: 2

APPENDIX A

CERTIFICATES OF ANALYSES

Client: Shaheen & Peaker Ltd.
Attention: Raeed/David
Client Reference: Proj: SP3977C
Date Received: May 28, 2004.
Date Analyzed: May 31, 2008.
Date Reported: Jun. 04, 2004.
Sample Type: Ground Water

ENTECH

A Division of Agri-Service Laboratory Inc.
Professional Analytical Services
6820 Kitimat Rd., Unit 4
Mississauga, Ontario
L5N 5M3
Tel: 905-821-1112
Fax: 905-821-2095

CERTIFICATE OF ANALYSIS

Volatile Organic Compounds	ENTECH # >> Sample I.D. >>	Lab Blank	**GUCSO (Rev.) 1997 Table B	33843 BH603	33844 BH604	33845 BH605A	33846 BH705	33847 BH706	33848 BH707	33849 BH602	33850 BH700	33851 BH702	33852 BH704A	33852dp BH704A	Lab Spike Amount	Lab Spike Recovery
Units: ug/L (ppb)	MDL														(ug/L)	(%)
Chloromethane	0.30	<	-	<	<	<	<	<	<	<	<	<	<	<	10	113
Vinyl chloride	0.20	<	0.5	<	<	<	<	<	<	<	<	<	<	<	10	116
Bromomethane	0.30	<	-	<	<	<	<	<	<	<	<	<	<	<	10	98
Chloroethane	0.20	<	-	<	<	<	<	<	<	<	<	<	<	<	10	98
Trichlorofluoromethane	0.40	<	-	<	<	<	<	<	<	<	<	<	<	<	10	124
1,1-Dichloroethene	0.20	<	0.66	<	<	<	<	<	<	<	<	<	<	<	5	109
Acetone	8.0	<	3,300	45	510*	200*	48	170*	65	290*	430*	53	28	30	20	96
Methylene Chloride	0.30	<	-	<	<	<	<	<	<	<	<	<	<	<	5	92
t-1,2-Dichloroethene	0.20	<	100	<	<	<	<	<	<	<	<	<	<	<	5	107
MTBE	1.5	<	50,000	<	<	<	<	<	<	<	<	<	<	<	18.5	104
1,1-Dichloroethane	0.20	<	9,000	<	<	<	<	<	<	<	<	<	<	<	5	108
cis-1,2-Dichloroethene	0.30	<	70	<	<	<	<	<	<	<	<	<	<	<	5	105
MEK	0.8	<	50,000	47	110*	70*	140	50	<	75	130*	89	50	46	20	101
Chloroform	0.30	<	430	<	<	<	<	<	<	<	<	<	<	<	5	106
1,1,1-Trichloroethane	0.30	<	200	<	<	<	<	<	<	<	<	<	<	<	5	104
Carbon Tetrachloride	0.20	<	17	<	<	<	<	<	<	<	<	<	<	<	5	99
Benzene	0.20	<	1,900	<	<	0.5	<	0.3	<	0.4	<	<	0.5	0.4	5	96
1,2-Dichloroethane	0.20	<	17	<	<	<	<	<	<	<	<	<	<	<	5	102
Trichloroethene	0.20	<	50	0.8	0.8	0.7	0.9	0.5	0.5	0.5	0.8	0.8	0.6	0.5	5	98
1,2-Dichloropropane	0.20	<	9.3	<	<	<	<	<	<	<	<	<	<	<	5	98
Bromodichloromethane	0.20	<	50,000	<	<	<	<	<	<	<	<	<	<	<	5	97
Cis-1,3-Dichloropropene	0.20	<	3.8	<	<	<	<	<	<	<	<	<	<	<	5	80
MIBK	7.2	<	50,000	<	<	<	<	<	<	<	<	<	<	<	20	92
Toluene	0.20	<	5,900	0.9	1.2	0.9	1.5	1.7	1.1	2.1	5.3	4.2	2.8	2.2	5	102
tr-1,3-Dichloropropene	0.20	<	3.8	<	<	<	<	<	<	<	<	<	<	<	5	90
1,1,2-Trichloroethane	0.20	<	16,000	<	<	<	<	<	<	<	<	<	<	<	5	109

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**
Project:	**SP3977C**
Sample Type:	**Ground Water**
Date Sampled:	**May 27 & May 28/04**
Date Received:	**May 28/04**
Date Analysed:	**May 28/04**
Date Reported:	**Jun 03/04**
Date Revised:	**Jun 04/04**

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

Certificate of Analysis

Data Pertain To Specific Sample(s) Tested

PARAMETER	Groundwater Criteria (µg/L) Table B Non-Potable	CONTROL SAMPLE			SAMPLE DATA							
		Expected units	Found units	Recovery %	33843 BH603	33844 BH604	33845 BH605A	33846 BH705	33847 BH706	33848 BH707	33849 BH602	33850 BH700
pH (units)	5.0 - 9.0	7.41	7.40	100	7.1	6.9	7.0	7.0	7.2	7.3	7.3	7.5

Sample Disposal: 30 Days from the Reporting Date.
Analyst: SJ

Method:
pH - Electrometric/pH-Meter (EPA 150.1)

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Manager, Inorganic Analysis.

Certificate of Analysis

Data Pertain To Specific Sample(s) Tested

PARAMETER	Groundwater Criteria (µg/L) Table B Non-Potable	CONTROL SAMPLE			SAMPLE DATA							
		Expected units	Found units	Recovery %	33851 BH702	33852 BH704A	33852 BH704A Duplicate	33847 BH706 Duplicate				
pH (units)	5.0 - 9.0	7.41	7.40	100	7.6	7.3	7.3	7.3				

Sample Disposal: 30 Days from the Reporting Date.
Analyst: SJ

Method:
pH - Electrometric/pH-Meter (EPA 150.1)

Client:	**Shaheen & Peaker Ltd.**
Attention:	**Raeed/David**
Project:	**SP3977C**
P.O.:	
Sample Type:	**Ground Water**
Date Sampled:	**May 27 & May 28/04**
Date Received:	**May 28/04**
Date Analysed:	**Jun 01 & Jun 02/04**
Date Reported:	**Jun 03/04**
Date Revised:	**June 04/04**

ENTECH

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Certificate of Analysis

for

METAL SCAN

Data Pertain To Specific Sample(s) Tested

PARAMETER	MDL µg/L	Groundwater Criteria (µg/L) Table B Non-Potable	CONTROL SAMPLE		SAMPLE DATA (µg/L)			
			Expected µg/L	Found µg/L	Blank	33851 BH702	33852 BH704A	33852 BH704A Duplicate
Aluminum	50	-	1115	1250	<50	212	<50	<50
Antimony	1	1600	28	26.6	<1	37	6	6
Arsenic	1	480	258	265	<1	18	3	2
Barium	10	23000	750	807	<10	246	319	321
Beryllium	1	53	296.5	308	<1	<1	<1	<1
Boron	10	50000	833	823	<10	155	355	357
Cadmium	2	11	33	34	<2	<2	<2	<2
Calcium	500	-	78700	84600	<500	135987	331987	332987
Chromium	10	2000	133	133	<10	<10	<10	<10
Cobalt	10	100	220.5	250	<10	<10	<10	<10
Copper	2	23	83	75	<2	<2	<2	<2
Iron	100	-	400	425	<100	344	869	870
Lead	4	32	165	153	<4	<4	<4	<4
Magnesium	100	-	4555	4840	<100	12200	57500	57500
Manganese	10	-	467	493	<10	699	1796	1806
Mercury	0.1	0.12	3.86	3.57	<0.1	<0.1	<0.1	<0.1
Molybdenum	20	7300	286.5	292	<20	<20	<20	<20
Nickel	20	1600	150	165	<20	<20	<20	<20
Potassium	500	-	3225	2950	<500	75900	25000	25000
Selenium	1	50	19	21	<1	<1	<1	<1
Silver	1	1.2	41.7	38	<1	<1	<1	<1
Sodium	100	-	21650	23500	<100	1710000	1970000	1970000
Vanadium	10	200	254.5	233	<10	<10	<10	<10
Zinc	10	1100	800	827	<10	<10	<10	<10

Sample Disposal: 30 Days from the Reporting Date.
Analyst(s): MR, MD, JW
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)

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

Client:	Shaheen & Peaker Ltd.
Attention:	Raeed/David
Project:	SP3977C
P.O.:	
Sample Type:	Ground Water
Date Sampled:	May 27 & May 28/04
Date Received:	May 28/04
Date Analysed:	Jun 01 & Jun 02/04
Date Reported:	Jun 03/04
Date Revised:	June 04/04

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FAX: (905) 821-2095

Certificate of Analysis

for

METAL SCAN

Data Pertain To Specific Sample(s) Tested

PARAMETER	MDL µg/L	Groundwater Criteria (µg/L) Table B Non-Potable	CONTROL SAMPLE		SAMPLE DATA (µg/L)			
			Expected µg/L	Found µg/L	33847 BH706	33848 BH707	33849 BH602	33850 BH700
Aluminum	50	-	1115	1250	<50	95	81	105
Antimony	1	1600	28	26.6	<1	<1	2	<1
Arsenic	1	480	258	265	<1	<1	204	5
Barium	10	23000	750	807	319	435	191	336
Beryllium	1	53	296.5	308	<1	<1	<1	<1
Boron	10	50000	833	823	2380	627	3100	496
Cadmium	2	11	33	34	<2	<2	<2	<2
Calcium	500	-	78700	84600	268987	203987	219987	186987
Chromium	10	2000	133	133	<10	<10	61	<10
Cobalt	10	100	220.5	250	<10	<10	<10	<10
Copper	2	23	83	75	<2	<2	<2	<2
Iron	100	-	400	425	143	<100	<100	<100
Lead	4	32	165	153	<4	<4	<4	<4
Magnesium	100	-	4555	4840	135000	88300	83500	39500
Manganese	10	-	467	493	216	540	213	596
Mercury	0.1	0.12	3.86	3.57	<0.1	<0.1	<0.1	<0.1
Molybdenum	20	7300	286.5	292	<20	<20	<20	<20
Nickel	20	1600	150	165	<20	<20	<20	<20
Potassium	500	-	3225	2950	69400	35100	19700	24200
Selenium	1	50	19	21	<1	<1	<1	<1
Silver	1	1.2	41.7	38	<1	<1	<1	<1
Sodium	100	-	21650	23500	257000	696000	603000	368000
Vanadium	10	200	254.5	233	<10	<10	<10	<10
Zinc	10	1100	800	827	<10	<10	<10	<10

Sample Disposal: 30 Days from the Reporting Date.
Analyst(s): MR, MD, JW
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)

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

Client: Shaheen & Peaker Ltd.
Attention: Raeed/David
Client Reference: Proj: SP3977C
Date Received: May 28, 2004.
Date Analyzed: Jun. 02, 2004.
Date Reported: Jun. 04, 2004.
Sample Type: Ground Water

ENTECH

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Certificate of Analysis

Polycyclic Aromatic Hydrocarbons (PAH's)

Units = ug/L (ppb)	ENTECH # >> Sample # >> MDL	Lab Blank	**GUCSO (Rev.) 1997 Table B (ug/L)	33843 BH603	33844 BH604	33845 BH605A	33846 BH705	33847 BH706	33848 BH707	33849 BH602	33850 BH700	33851 BH702	33852 BH704A	33852 BH704A duplicate
Naphthalene	0.2	<	5900	<	<	<	<	<	<	<	<	<	<	<
Acenaphthylene	0.3	<	2000	<	<	<	<	<	<	<	<	<	<	<
Acenaphthene	0.3	<	1700	<	<	<	<	<	<	<	<	<	<	<
Fluorene	0.4	<	290	<	<	<	<	<	<	<	<	<	<	<
Phenanthrene	0.1	<	63	<	<	<	<	<	<	<	<	<	<	<
Anthracene	0.01	<	12	<	<	<	<	<	<	<	<	<	<	<
Fluoranthene	0.1	<	130	<	<	<	<	<	<	<	<	<	<	<
Pyrene	0.1	<	0.2	<	<	<	<	<	<	<	<	<	<	<
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	<	0.27	<	<	<	<	<	<	<	<	<	<	<
Dibenzo (a,h) anthracene	0.1	<	0.25	<	<	<	<	<	<	<	<	<	<	<
Benzo (g,h,i) perylene	0.1	<	0.2	<	<	<	<	<	<	<	<	<	<	<
Surrogate Recoveries (%)														
Acenaphthene-d10		88	-	120	130	130	123	129	127	130	95	127	130	129
Phenanthrene-d10		90	-	116	129	130	118	127	124	130	102	116	124	122
Chrysene-d12		72	-	83	111	117	108	125	114	125	89	119	122	130

Comments:
MDL = Method Detection Limit; < = Not Detected (less than the MDL)
Ref. Method: Entech#OWA-1
Surrogate recovery control limits = 70% - 130%.
Reported results only for specified samples tested.
**Guidelines For Use At Contaminated Sites in Ontario.

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

Analysts: Saima Johri, B. Sc.
Olga Martynava, B.Sc.

Client: Shaheen & Peaker
Attention: Raeed/David
lient Reference: SP3977C
Date Received: May 28,2004
Date Analyzed: June 3,2004
Date Reported: June 4,2004
Sample Type: Groundwater

ENTECH

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CERTIFICATE OF ANALYSIS

Total Petroleum Hydrocarbons

ENTECH #	Concentration (ug/l)				Surrogate Recovery (%)	
Sample #	gasoline range (C5-C10)	diesel range (>C10-C24)	C5-C24	heavy oil range (>C24-C50)	SS1	SS2
MDL	100	200		400	–	–
Lab Blank	<	<		<	77	117
33843 BH603	<	<	<	<	75	88
33844 BH604	<	<	<	<	73	88
33845 BH605A	<	<	<	<	72	88
33846 BH705	<	<	<	<	78	88
33847 BH706	<	<	<	<	75	88
33848 BH707	<	<	<	<	83	94
33849 BH602	<	<	<	<	120	119
33850 BH700	<	<	<	<	78	93
33851 BH702	<	<	<	<	92	90
33852 BH704A	<	<	<	<	92	90
LCS Spiked ug/l)	2,096	2,070		4,176		
LCS recovered (%)	82	130		82		

MDL = Method Detection Limit; < = Not detected (less than MDL);
Method: Entech # OSA-5, OSA-7- Solvent Extraction GC/FID & HT-GC/FID
LCS = Laboratory Control Sample; Surrogate Spike recovery control limits: 70%-130%.
SS1 for gas/diesel; SS2 for heavy oils;
Reported results only for specified samples tested.

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