Golder Associates Ltd.

1796 Courtwood Crescent
Ottawa, Ontario, Canada K2C 2B5
Telephone (613) 224-5864
Fax (613) 224-9928

May 23, 2003

03-1120-715 6000

Corporation of the City of Clarence-Rockland
1560 Laurier Street
Rockland, Ontario
K4K 1P7

Attention: Mr. Richard Sarazin

**RE: PHASE II ENVIRONMENTAL SITE ASSESSMENT
PARTS 4, 5, 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
(FORMER SEWAGE LAGOON)
CITY OF CLARENCE-ROCKLAND, ONTARIO**

Dear Sir:

This letter presents the results of a Phase II Environmental Site Assessment (ESA) conducted by Golder Associates Ltd. (Golder Associates) at Parts 4, 5, 6, 7, 8, 9, 10, 11, and 12 of the proposed industrial park site (former sewage lagoon), City of Clarence-Rockland, Ontario (see Key Plan (Figure 1) and Site Plan (Figure 2)).

SUMMARY OF PREVIOUS INVESTIGATIONS

In January, 2003 a **Phase I ESA** was completed on Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 of the site based on the Canadian Standards Association document entitled *Phase I Environmental Site Assessment* (Canadian Standards Association, November 2001). The Phase I ESA (Golder Associates, 2003a) should be read in conjunction with this letter. The following issues of potential environmental concern were identified in the Phase I ESA:

- The westerly portion of the site had been operated as a sewage lagoon for a number of years and has only recently been decommissioned. In addition, an existing sewage reservoir is present on Parts 2, 3, and 6 of the site (see Site Plan, Figure 2). Potential issues of environmental concern could exist with respect to on-site impacts to soil and groundwater from activities associated with the former sewage lagoon and current sewage reservoir.

- A sewage treatment plant is located on the southern portion of Part 11 of the site (see Site Plan, Figure 2). Potential issues of environmental concern could exist with respect to on-site impacts to soil and groundwater from activities associated with this sewage treatment plant.
- The extreme easterly portion of the site was noted to be a former railway corridor (see Site Plan, Figure 2). Potential issues of environmental concern with respect to impacts to soil and groundwater may have occurred from point sources of contamination associated with the railway corridor such as creosote railway ties or herbicide spraying.
- Fill material has been imported onto the site and was observed in piles in the central portion of the site (see Key Plan, Figure 2). The fill material appeared to be granular in nature with cobbles, boulders, concrete, and asphalt. Apparently the fill material is associated with on-site construction activities.
- A number of compost piles were observed to be present in the central portion of the site (see Key Plan, Figure 2). The compost piles could present an issue of environmental concern with regard to elevated concentrations of tannins and lignins, as well as increased nutrient loading.
- Packall, a packing material manufacturer, is an industrial facility located just west of Part 1 of the site (see Site Plan, Figure 2). Industrial facilities are generally high-risk ventures due to the types of products handled, equipment used, and the general nature of the activities carried out. As such, based on an inferred groundwater flow direction to the northeast there is the potential for soil and groundwater on site to have been impacted by this facility.
- Former landfill operations were present southwest of the site. Based on an inferred groundwater flow direction to the northeast, there is potential for soil and groundwater on site to have been impacted by these operations.

In March, 2003 a **Phase II ESA** was carried out on Parts 2, and 3 of the site to assess the relevance of the potential issues of environmental concern listed above. The Phase II ESA (Golder Associates, 2003b) should be read in conjunction with this letter. The scope of work for the Phase II ESA included the following:

- Excavation of nine test pits (TP03-1 to TP02-9) at locations on and around Parts 1, 2, and 3 of the site (see Site Plan, Figure 1);
- Borehole drilling and installation of three monitoring wells (BH03-1 to BH03-3) at locations on and around Parts 1, 2, and 3 of the site;
- Collection of soil samples from test pit and borehole locations;
- Organic vapour testing of the collected soil samples;

- Collection of groundwater samples from monitoring wells;
- Collection of two sludge samples from within the existing sewage reservoir located on Parts 2 and 3 of the site;
- Chemical analysis of selected soil, groundwater, and sludge samples for heavy metals and/or volatile organic compounds (VOCs) and/or pH;
- Measurement of groundwater levels in the monitoring wells to evaluate the direction of groundwater flow; and
- Analysis and reporting of the field and laboratory results.

An assessment of the analytical results obtained for the soil, groundwater, and sludge was completed based on remediation criteria outlined in Table B of the *Guideline for Use at Contaminated Sites in Ontario* (Ontario Ministry of Environment and Energy, 1997). Based on the results of the field and laboratory investigations the following conclusions were made:

- Subsurface stratigraphy in the immediate vicinity of the investigation area consists of native silty clay overlain in some areas by fill material or topsoil.
- In the test pit completed in a stockpile of fill (TP03-8), fill material consisting of silty clay, sand, plastic, branches, and concrete was encountered at depths of between 2.1 to 2.6 meters. Black fill material was encountered at depths of between 2.1 and 2.6 meters.
- Local groundwater flow direction at the site (within the silty clay layer) was inferred to be in a northerly direction.
- In the soil samples submitted for chemical analyses, concentrations of all heavy metal parameters analyzed were reported to be below the applicable criteria and concentrations of the all VOC parameters analyzed were reported to be below their respective laboratory method detection limit.
- In the groundwater samples submitted for chemical analyses, concentrations of all heavy metal parameters analyzed were reported to be below the applicable criteria with the exception of copper in the sample collected from monitoring well BH03-1. This copper concentration only marginally exceeded the applicable criteria. The VOC parameters detected in the groundwater samples included trichloroethylene (monitor BH03-1), ethylbenzene (monitor BH03-3) and m/p-xylene (monitor BH03-3). Both of the wells in which VOC parameters were detected are either located in areas of the former sewage lagoon or hydraulically downgradient from the existing lagoon or former landfill operations. Concentrations of all VOC parameters analyzed were reported to be below the applicable criteria. The results suggest that even though the lagoons and former landfill are likely sources of VOC parameters, concentrations of such parameters on site are acceptable in terms of the applicable criteria.

- In the sludge samples collected from the existing sewage reservoir, concentrations of copper and zinc were reported to exceed the remediation criteria. The source of these heavy metals is assumed to be related to the former existence of the sewage lagoon on site. The results confirm that all sewage sludge should be removed from the site in order for the site to meet the guidelines.

Based on these results the following recommendations were included in the Phase II ESA:

- Analytical results for soil samples collected from the stockpile of fill (TP03-8) indicate that sand materials within these piles could be used on site. However, the piles of fill material are not considered to be appropriate backfill material when containing waste for on-site use. Waste materials within the stockpiles should be appropriately disposed of at an approved waste disposal facility.

- Based on the heavy metal exceedances of applicable criteria in the sludge, the remaining sludge at the existing sewage reservoir should be removed from the site should be disposed of at an approved waste disposal facility. Prior to disposal of the sludge material, a sample should be analyzed for Ontario Regulation 558 Toxicity Characteristic Leaching Procedure (TCLP) test. The results of this analysis would determine whether the impacted sludge is designated as hazardous or non-hazardous waste. It is recommended that a soil verification sampling program be conducted to ensure that the sludge is completely removed.

- Copper concentrations in monitoring well BH03-1 should be reanalyzed to confirm the presence of copper in groundwater at this location.

- If parts of the site other than Parts 1, 2, and 3 are considered for development, it is recommended that a separate Phase II ESA for those additional parts of the site be completed.

SCOPE OF WORK

Based on the final recommendation outlined above, Golder Associates was retained by the Corporation of the City of Clarence-Rockland (City) to conduct a Phase II ESA at Parts 4, 5, 6, 7, 8, 9, 10, 11, and 12 of the proposed industrial park site in Clarence-Rockland, Ontario (see Site Plan, Figure 2). It is understood that a second Phase II ESA is being carried out because the site is targeted for redevelopment as an industrial park. The scope of work for this project was described in the Golder Associates correspondence dated April 14, 2003. Written authorization to proceed was provided by the City (Richard Sarazin) on April 15, 2003. Field work associated with the Phase II ESA was completed between April 23 and 25, 2003. The scope of work for the investigation included the following:

- Excavation of six test pits (TP03-10 to TP03-12 and TP03-14 to TP03-16) at locations on Parts 6, 7, 10, 11, and 12 of the site (see Site Plan, Figure 2);
- Borehole drilling and installation of four monitoring wells (BH03-4 to BH03-7) at locations on Parts 9, 10, 11, and 12 of the site;
- Collection of soil samples from test pit and borehole locations;
- Collection of fill samples from the stockpile located in the southern portion of Part 12;
- Collection of three surface soil samples from the eastern portion of Part 12, along the former railway corridor;
- Organic vapour testing of the soil samples collected from test pits, boreholes, and the fill stockpile;
- Collection of groundwater samples from the four monitoring wells;
- Chemical analysis of selected soil samples collected from the test pits, boreholes, and fill stockpile for heavy metals and VOCs;
- Chemical analysis of surface soil samples for polynuclear aromatic hydrocarbons (PAHs);
- Chemical analysis of collected groundwater samples for heavy metals and VOCs. Chemical analysis of the groundwater sample collected from BH03-7, near the compost piles for tannin and lignin, nitrate, and phenols;
- Measurement of groundwater levels in all monitoring wells (BH03-1 to BH03-7) to evaluate the direction of groundwater flow; and
- Analysis and reporting of the field and laboratory results.

TEST PIT EXCAVATION

On April 23, 2003 six test pits (TP03-10 to TP03-12 and TP03-14 to TP03-16) were excavated at locations on Parts 6, 7, 10, 11, and 12 of the site (see Site Plan, Figure 2). Test pit TP03-13, originally proposed to be excavated at a location on Part 9 was not excavated due to the presence of standing water at the proposed location. The test pits were excavated for the following purposes: 1) to determine general subsurface conditions in terms of geology at the site; and 2) to collect soil samples for evaluating soil chemistry and impacts on soil associated with the potential issues of environmental concern (as outlined in the Phase I ESA).

Excavation of the test pits was accomplished using a rubber tired backhoe supplied and operated by the City. A member of Golder Associates technical staff supervised the test pit excavations and recorded soil type layers and properties, collected soil samples, documented indications of impact (visual or olfactory) and monitored quality assurance/quality control. Test pits were excavated to depths ranging from 2.0 to 2.8 metres below ground surface (mbgs). A record of the subsurface conditions encountered in each of the test pits excavated as part of the current and the previous Phase II ESA is provided in Attachment A.

In addition to the soil samples collected from the test pits, grab samples of fill were collected from the stockpile located on the southern portion of Part 12.

BOREHOLE DRILLING AND MONITORING WELL INSTALLATION

On April 23, 2003, four boreholes (BH03-4 to BH03-7) were drilled at locations on Parts 9, 10, 11, and 12 of the site (see Site Plan, Figure 2). The boreholes were drilled for the following purposes: 1) to determine general subsurface conditions in terms of geology at the site; 2) to collect soil samples for evaluating the soil chemistry and impacts on soil associated with the potential issues of environmental concern; and 3) to install monitoring wells for the sampling of groundwater for evaluating groundwater quality and impacts on groundwater associated with the potential issues of environmental concern (as outlined in the Phase I ESA).

Borehole drilling and monitoring well installation were completed by Marathon Drilling Co. Ltd. of Ottawa, Ontario. Boreholes were drilled using a CME55 track mounted drill rig supplied and operated by Marathon Drilling Co. Ltd. of Ottawa, Ontario. The boreholes were advanced in the overburden using 200 millimetre outside diameter hollow stem augers. Boreholes were logged during drilling by a member of Golder Associates' technical staff. Golder Associates' technical staff supervised the borehole drilling, noted the soil conditions encountered in each borehole, documented indications of impact (visual or olfactory) in the soil, collected soil samples, and monitored quality control/quality assurance. Boreholes BH03-4, BH03-5, BH03-6, and BH03-7 were advanced to depths of 4.72, 5.33, 4.57, and 5.18 metres below ground surface, respectively.

Each borehole was completed with one groundwater monitoring well to permit groundwater level measurements and groundwater sampling. Monitoring wells installed in the boreholes consist of a 51 millimetre diameter, schedule 40 PVC riser pipe and a screen installed to straddle the water table. All connections were flush threaded with rubber o-ring seals. Bentonite seals were placed at various locations in the boreholes to provide seals to prevent vertical migration of groundwater along the well bore and/or surface water intrusion into the wells. For each monitoring well ground surface and top of pipe elevations were measured relative to a local datum.

Borehole details and subsurface descriptions completed as part of the current and the previous Phase II ESA are provided in the Record of Borehole Sheets in Attachment B.

SURFACE SOIL SAMPLING

On April 23, 2003, surface soil was sampled at two locations (SS-1 and SS-2) along the former railway corridor along the eastern portion of Part 12 of the site (see Site Plan, Figure 2). The samples were collected to evaluate soil chemistry and impacts on soil associated with the former railway corridor.

SOIL AND GROUNDWATER SAMPLING

Soil samples collected from the test pits, boreholes, and the fill stockpile, as well as surface samples collected along the former railway corridor, were examined in the field for visual and/or olfactory indications of impact. Samples collected from the test pits, boreholes, and stockpile were split into two portions; one portion was placed in a zip-lock plastic bag for vapour analysis, and the other was placed into laboratory supplied, pre-cleaned, glass jars with septa lined caps for possible laboratory analysis. Selected soil samples collected from the test pits, boreholes, and stockpile were analyzed for heavy metals and VOCs. Surface soil samples were analyzed for PAHs. Two blind field duplicates were collected from the test pits, two from the boreholes and one from the surface soil.

Groundwater samples were collected from monitoring wells BH03-4, BH03-5, BH03-6, and BH03-7 on April 25, 2003. Samples were submitted to the laboratory for analysis of heavy metals and VOCs. The sample collected from monitoring well BH03-7 was also analyzed for nitrate, tannin and lignin, and phenols. Samples collected for heavy metals analyses (except for mercury) were field filtered to 0.45 microns, placed in a plastic bottle, and preserved to pH<2 with nitric acid. Samples collected for mercury analysis were field filtered to 0.45 microns, placed in a plastic bottle, and preserved to pH<2 with nitric acid and potassium chromate. Samples for VOC analyses were placed in an amber glass bottle containing zero headspace. Samples collected for nitrate, and tannin and lignin were placed in a plastic bottle. Samples collected for phenols were placed in an amber glass bottle, and preserved to pH<4 with sulphuric acid. One blind trip blank was submitted for analysis of VOCs. One blind field duplicate was collected and submitted for analysis of heavy metals and VOCs.

All soil and groundwater samples were stored in a cooler with ice packs until they were delivered to Accutest Laboratories Ltd. of Ottawa, Ontario, with an accompanying Chain of Custody Form.

SOIL VAPOUR MEASUREMENTS

On April 23 and 24 2003, organic vapour concentrations, in the headspace of the zip-lock plastic bags containing the soil samples, were measured using a Microtip photo ionization detector (PID) calibrated to isobutylene standards. The measured soil vapour concentrations are recorded in Table 1.

Vapour concentrations of soil samples collected from the test pits, boreholes, and fill stockpile were measured in order to aid in the selection of "worst case" samples for laboratory analytical testing. Relatively low organic vapour concentrations were detected in all of the soil samples collected.

Representative soil samples collected from each test pit and borehole location were selected for chemical analysis based on visual screening, vapour concentrations, sample soil horizon, depth below ground surface, and position of the groundwater table. The soil samples selected for chemical analyses and their corresponding depths from ground surface are indicated in ***bold-italics*** in Table 1.

SITE STRATIGRAPHY

Regional surficial geology and bedrock maps reviewed during the Phase I ESA completed by Golder Associates indicate that the general subsurface geological conditions in the vicinity of the site consist of a clay and silt deposit underlain by Ottawa Formation limestone bedrock (Golder Associates, 2003).

Based on logs from the nine test pits and three boreholes completed at the site, subsurface stratigraphy at the site generally consists of native silty clay overlain in some areas by topsoil or fill material.

Native silty clay materials were encountered in all test pits and boreholes completed at the site as part of the current and previous Phase II ESAs with the exception of boreholes BH03-4 and BH03-6. The upper portion of the native silty clay is generally weathered to a grey-brown and red-brown crust, while the silty clay below the depth of weathering is generally grey or red-brown in colour with small sand seams. Native fine to coarse sand deposits were encountered in boreholes BH03-4 and BH03-6 located in the northwest portion of the site. Such deposits were also encountered in test pit TP03-11, underlying the native silty clay materials at a depth of 1.25 meters.

In the previous Phase II ESA, fill material was encountered overlying the silty clay at boreholes BH03-1, BH03-2, and BH03-3 and test pits TP03-8 and TP03-9. The thickness of the fill material ranged from about 0.4 to 3.6 metres. Topsoil was encountered overlying the native silty clay at test pits TP03-6 and TP03-7, located on the southern portion of the site adjacent to Highway 17. The thickness of the topsoil at both test pit locations was about 0.1 metres. In the current Phase II ESA, fill material was encountered overlying the silty clay in borehole BH03-5, and test pits TP03-12, TP03-14, TP03-15, and TP03-16. Fill material was encountered overlying sand deposits in boreholes BH03-4 and BH03-7, and test pit TP03-11. The thickness of fill materials encountered in the current Phase II ESA ranged from 0.4 to 2.9 meters. Topsoil, 0.24 meters in thickness, was encountered overlying native silty clay at BH03-7.

Details of subsurface conditions at the test pits and boreholes are found in Attachments A and B, respectively. It must be noted that the boundaries between strata on the Record of Test Pit and Record of Borehole Sheets have been inferred from observations during excavation/drilling and non-continuous sampling and, as such, their positions should be considered as transitional in nature rather than an exact plane of geological change. Natural variations other than those encountered in the test pits and boreholes should also be expected to exist.

PHYSICAL HYDROGEOLOGY

The Phase I ESA completed by Golder Associates stated that the regional groundwater flow direction is expected to be to the northeast towards the Ottawa River and Clarence Creek (Golder Associates, 2003).

For the purpose of determining local groundwater flow direction, on April 25, 2003 the depth to groundwater was measured in the seven monitoring wells installed at the site as part of the current and previous Phase II ESAs, and the corresponding groundwater elevations relative to the local datum were calculated. These groundwater elevations are presented in the table below.

Monitoring Well	Ground Surface Elevation (metres)	Top of Casing Elevation (metres)	Groundwater Elevation (metres)
BH03-1	98.75	99.69	97.77
BH03-2	98.72	99.61	98.14
BH03-3	99.46	100.32	98.49
BH03-4	98.01	98.74	94.52
BH03-5	100.24	101.01	98.20
BH03-6	99.06	99.84	97.20
BH03-7	98.22	98.93	98.07

These groundwater elevations indicate that the local groundwater flow direction is to the northwest. It should be noted that groundwater levels are subject to seasonal variations, and may be affected locally by building foundations, subsurface services or conduits on this or adjacent sites.

APPLICABLE CRITERIA

In the Province of Ontario the *Guideline for Use at Contaminated Sites in Ontario* (Ontario Ministry of Environment and Energy, 1997) is used for the assessment of potentially contaminated sites. In order to establish assessment/remediation criteria for this site, protocols, as outlined in this Provincial Guideline were applied. This site would not be classified as a "potentially sensitive site" based on Conditions (i), (ii) or (iii) in Section 6.1 of the Provincial Guideline. Therefore, it is considered that the use of the generic criteria provided in Appendix 2 of the Provincial Guideline is appropriate for this site. The results of the pH analysis, completed as part of the previous Phase II

ESA, on three soil samples collected from the site, support this statement. The pH values of the soil samples were 7.7, 7.3 and 7.9. The laboratory analytical results for the soil samples submitted for chemical analyses were compared to the generic criteria provided in the Provincial Guideline. The site is proposed to be used as an industrial park, therefore the criteria which are considered applicable are as follows: Table B - surface soil and groundwater criteria for industrial/commercial land use for a nonpotable groundwater condition.

The non-potable groundwater criteria were considered appropriate even though no municipal water supply is currently available because the proposed industrial park would be serviced by a municipal drinking water supply. Thus, present or potential future groundwater sources of drinking water will not be adversely affected.

As a conservative measure, the criteria associated with a coarse textured soil were considered applicable to this site.

SOIL AND GROUNDWATER QUALITY

Selected soil samples collected from test pits, boreholes, and the fill stockpile were analyzed for heavy metals and VOCs. Analytical results for these soil samples, together with the applicable criteria, are presented in Tables 2 and 3 respectively. *Report of Analyses* certificates from Accutest Laboratories Ltd. are included in Attachment C. Concentrations of heavy metals in all soil samples collected from test pits, boreholes, and the fill stockpile were below the applicable criteria. With the exception of toluene and ethylbenzene in sample SA1 collected from test pit TP03-16, concentrations of all VOC parameters were below the laboratory method detection limit. The concentrations of toluene and ethylbenzene in sample SA1 collected from test pit TP03-16 however, were below the applicable criteria. No olfactory indications of potential contaminants were noted for any of the soil samples.

Surface samples collected along the former railway corridor were analyzed for PAHs. Analytical results for these soil samples along with the appropriate criteria are presented in Table 4. *Report of Analyses* certificates from Accutest Laboratories Ltd. are included in Attachment C. Concentrations of PAHs in both of these soil samples were below the laboratory method detection limit. No olfactory indications of potential contaminants were noted for either of these soil samples.

One groundwater sample was collected from each of the four monitoring wells and analyzed for heavy metals and VOCs. Groundwater collected from borehole BH03-7, located near the compost pile, was also analyzed for nitrate, phenols, and tannin and lignin. Analytical results for these soil samples along with the appropriate criteria are presented in Table 5. *Report of Analyses* certificates from Accutest Laboratories Ltd. are included in Attachment C. Concentrations of heavy metals in the groundwater samples were reported to be below the

applicable criteria. Concentrations of VOCs in the groundwater samples were reported to be below the laboratory method detection limits as well as the applicable criteria. Concentration of phenols in the sample collected from borehole BH03-7 was reported to be below the applicable criteria.. Criteria for nitrate, and tannin and lignin are not included in Table B. However, concentrations of these parameters are considered low. No visual or olfactory indications of impact were noted in groundwater samples collected.

CONCLUSIONS

Based on the results of the previously completed Phase II ESA for Parts 1, 2, and 3 and the current Phase II ESA for Parts 4, 5, 6, 7, 8, 9, 10, 11, and 12 of the proposed industrial park site in Clarence-Rockland, Ontario, the following conclusions are made:

- Subsurface stratigraphy in the area of the site consists of native silty clay overlain in some areas by fill material and/or topsoil. Regional bedrock maps indicate that the silty clay deposit is underlain by Ottawa Formation limestone bedrock, however bedrock was not encountered in any of the test pits or boreholes completed as part of this study.

- Local groundwater flow direction at the site is inferred to be northwest toward the Ottawa River.

- Concentrations of heavy metals and VOC parameters analyzed in soil samples collected from test pits, boreholes and the fill stockpile, and concentrations of PAH parameters analyzed in surface soil samples were reported to be below the applicable criteria.

- With the exception of copper in the sample collected from monitoring well BH03-1, concentrations of heavy metals, and VOC parameters in groundwater samples collected from the monitoring wells were reported to be below the applicable criteria. The concentration of copper in the groundwater sample collected from BH03-1 only marginally exceeded the applicable criteria. Concentrations of phenols in the groundwater sample collected from monitoring well BH03-7 were below the applicable criteria.

- Concentrations of parameters analyzed for in soil and groundwater samples collected from selected on-site locations, chosen to address the issues of potential environmental concern identified in the Phase I ESA (Golder, 2003a) show no exceedances of criteria outlined in Table B for industrial/commercial land use for a nonpotable groundwater condition as outlined in *the* Province of Ontario the Guideline for Use at Contaminated Sites in Ontario (Ontario Ministry of Environment and Energy, 1997). These results indicate that the site meets the Table B criteria.

- Fill material consisting of silty clay, sand, plastic, branches, and concrete was encountered at depths of between 2.1 and 2.6 metres in test pit TP03-8, completed in a stockpile of fill. Black fill material was encountered in this test pit at depths of between 2.1 and 2.6 metres.

Fill material consisting of silty sand, organic material, wood, and wires was encountered at depths of between 1.4 and 2.0 metres in test pit TP03-10. The aerial extent of the waste materials at either location is not defined. Waste materials should be excavated and disposed of at a licensed landfill prior to development of the property.

- In the sludge samples collected from the existing sewage reservoir, concentrations of copper and zinc were reported to exceed the remediation criteria. The source of these heavy metals is assumed to be related to the former existence of the sewage lagoon on site. The results confirm that all sewage sludge should be removed from the site in order for the site to meet the guidelines.

RECOMMENDATIONS

Based on the results of the previously completed Phase II ESA for Parts 1, 2, and 3 and the current Phase II ESA for Parts 4, 5, 6, 7, 8, 9, 10, 11, and 12 of the proposed industrial park site in Clarence-Rockland, Ontario, the following recommendations are made:

- Copper concentrations in monitoring well BH03-1 should be reanalyzed to confirm the presence of copper in groundwater at this location.

- If defining of the aerial extent/volume/depth of the waste is required the completion of additional test pits is be required.

- Based on the heavy metal exceedances of applicable criteria in the sludge, the remaining sludge at the existing sewage reservoir should be removed from the site should be disposed of at an approved waste disposal facility. Prior to disposal of the sludge material, a sample should be analyzed for Ontario Regulation 558 Toxicity Characteristic Leaching Procedure (TCLP) test. The results of this analysis would determine whether the impacted sludge is designated as hazardous or non-hazardous waste. It is recommended that a soil verification sampling program be conducted to ensure that the sludge is completely removed.

LIMITATIONS AND USE OF LETTER

This letter was prepared for the exclusive use of the City of Clarence-Rockland. The letter, which specifically includes all tables, figures and attachments, is based on data and information collected during the subsurface environmental investigation conducted by Golder Associates Ltd. and is based solely on the conditions of the property at the time of the field investigation, supplemented by historical information and data obtained by Golder Associates Ltd. as described in this letter.

Except where specifically stated to the contrary, the information contained in this letter was provided to Golder Associates Ltd. by others and has not been independently verified or otherwise examined by Golder Associates Ltd. to determine its accuracy or completeness. Golder Associates Ltd. has relied in good faith on this information and does not accept responsibility for any deficiency, misstatements, or inaccuracies contained in this letter as a result of omissions, misinterpretation, fraudulent acts or the persons interviewed or contacted or errors or omissions in the reviewed documentation.

The assessment of environmental conditions and possible hazards at this site has been made using the results of chemical analysis of discrete soil, groundwater and sludge samples from a limited number of sample locations. The site conditions between sampling locations have been inferred based on conditions observed at sample locations. Subsurface conditions may vary from these sample locations. Golder Associates Ltd. makes no other warranty, expressed or implied.

The services performed as described in this letter were conducted in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practising under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

Any use which a third party makes of this letter, or any reliance on, or decisions to be made based of it, are the responsibilities of such third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this letter.

The content of this letter is based on information collected during our investigation, our present understanding of the site conditions, and our professional judgement in light of such information at the time of this letter. This letter provides a professional opinion and therefore no warranty is either expressed, implied, or made as to the conclusions, advice and recommendations offered in this letter. This letter does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this letter are valid only as of the date of this letter. If new information is discovered in future work, including excavations, borings, or other studies, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this letter, and to provide amendments as required. The groundwater monitors installed during the course of this investigation have been left in place. These monitors are the property of the City of Clarence-Rockland, and not Golder Associates Ltd.

We trust this is sufficient for your present needs. If you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

GOLDER ASSOCIATES LTD.
Environmental Division

Heather Fenton, M.Sc.
Hydrogeology, Environmental Division

B.J. Velderman, M.Sc., P.Geo.
Senior Hydrogeologist, Associate

HF:BJV:AH:ab
N:\Active\2003\I 120\ENVIRONMENTAL\03-1120-715 City of Clarence-Rockland Phase II ESA Parts 1,2&3 (Former Lagoons)\Phase 6000 Report\Ltr-001 03May15 Phase II ESA Former Sewage Lagoon.doc

Attachments:

Table 1 – Soil Sample Organic Vapour Concentrations
Table 2 – Summary of Test Pit Soil and Fill Quality Results
Table 3 – Summary of Borehole Soil Quality Results
Table 4 – Summary of Surface Soil Quality Results
Table 5 – Summary of Groundwater Quality Results
Figure 1 – Key Plan
Figure 2 – Site Plan
Attachment A – Record of Test Pit Sheets
Attachment B – Record of Borehole Sheets
Attachment C – Report of Analysis, Accutest Laboratories Ltd.

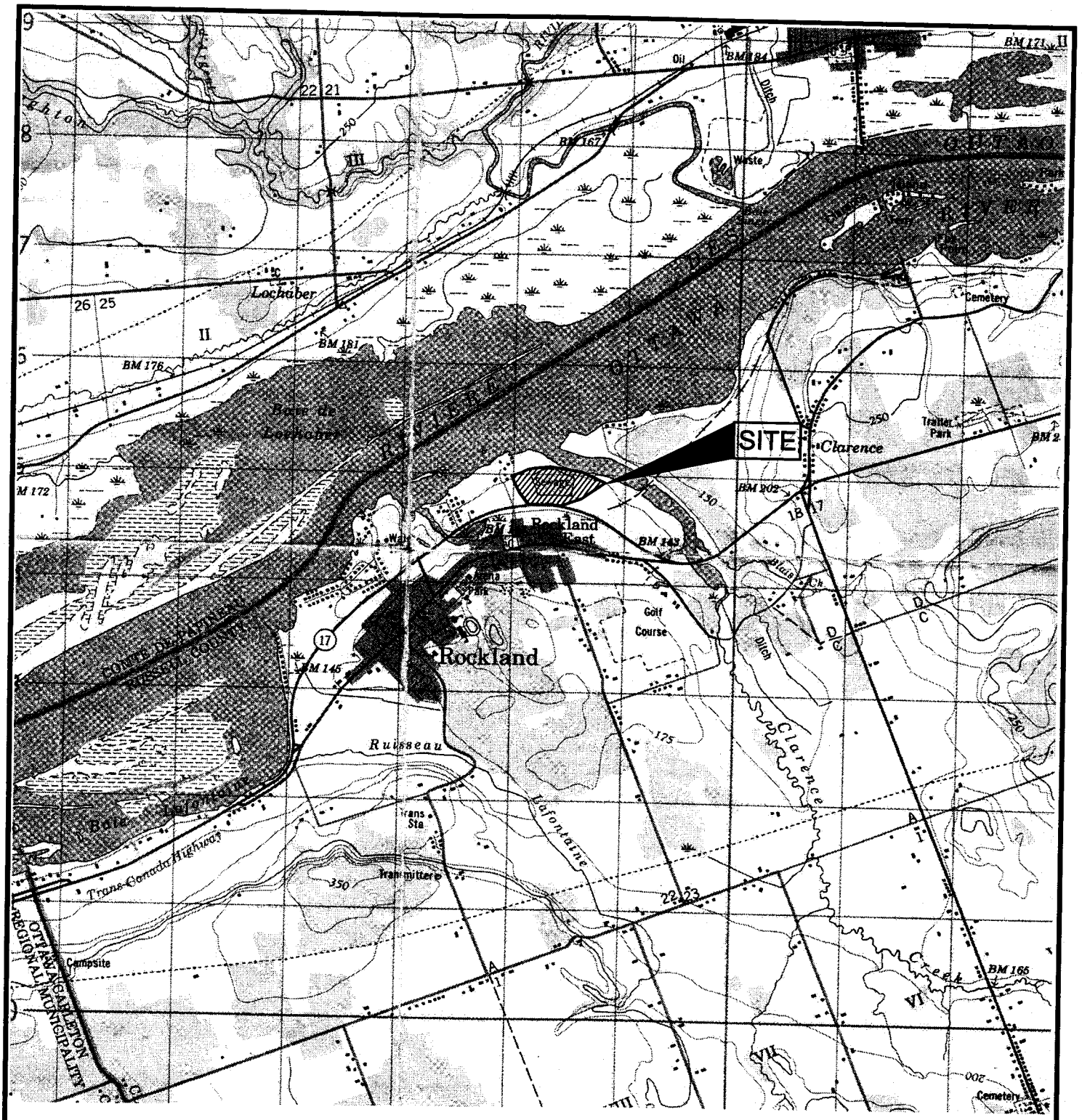
REFERENCES

Canadian Standards Association (CSA), November 2001, *Phase I Environmental Site Assessment,* Z768-0.

Golder Associates Ltd. 2003a. *Phase I Environmental Site Assessment, Former Lagoon Site, Rockland, Ontario.* January 2003. Report No. 021-2422.

Golder Associates Ltd. 2003b. *Phase II Environmental Site Assessment Parts 1, 2 and 3 of Proposed Industrial Park Site (Former Sewage Lagoon) City of Clarence-Rockland, Ontario.* April 2003. Report No. 03-1120-715.

Ministry of the Environment and Energy (MOEE), February 1997, *Guideline for Use at Contaminated Sites in Ontario.* Queen's Printer for Ontario.



SPECIAL NOTE
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING REPORT

Golder Associates
Ottawa, Ontario

SCALE	1: 50,000
DATE	FEB. 2003
DESIGN	
CADD	P.M.
CHECK	A.H.
REVIEW	

TITLE

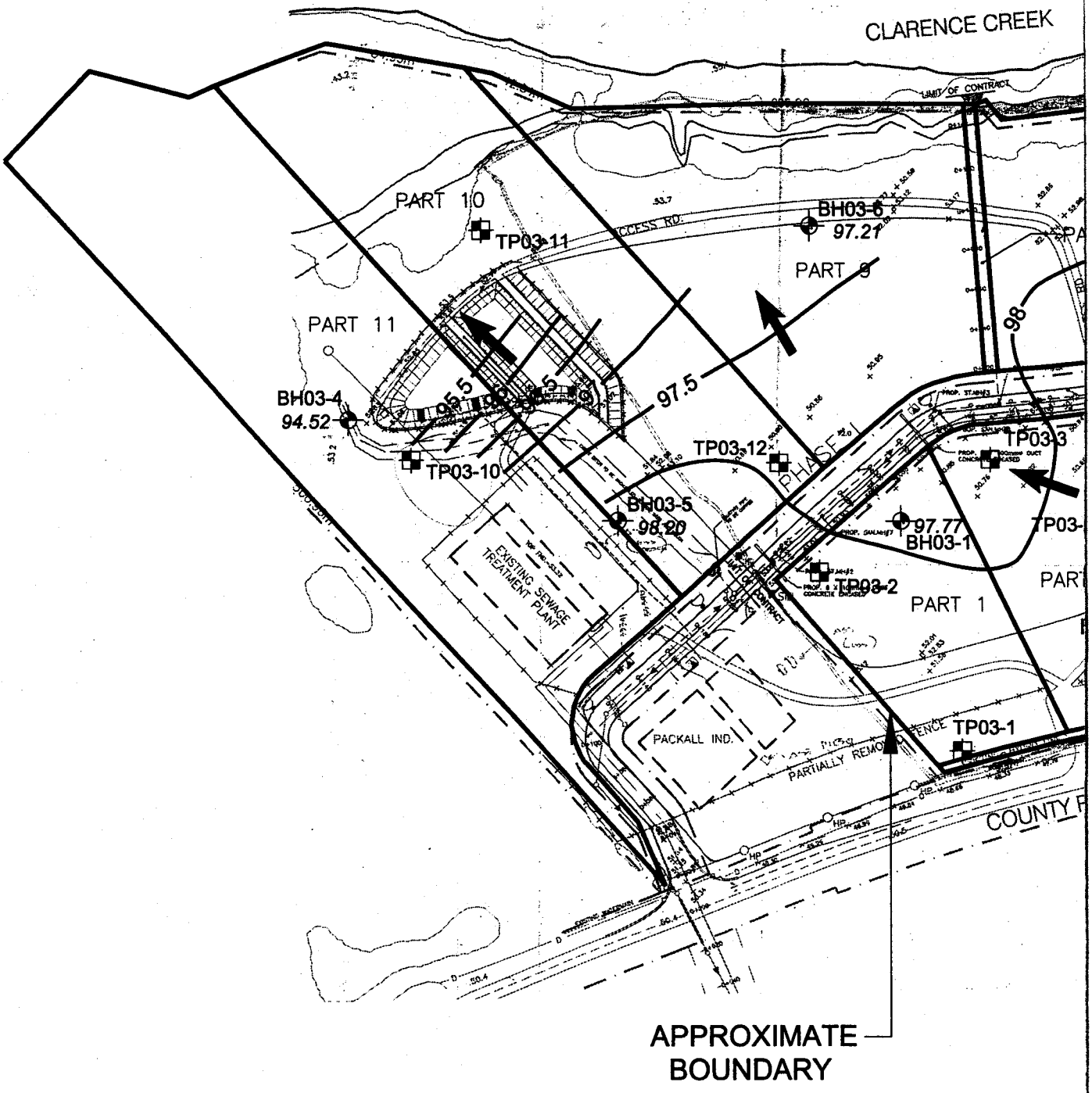
KEY PLAN

FILE No.	03-1120-715-6000-01.DWG		
PROJECT No.	03-1120-715-6000	REV.	

ROCKLAND FORMER LAGOON SITE

FIGURE 1

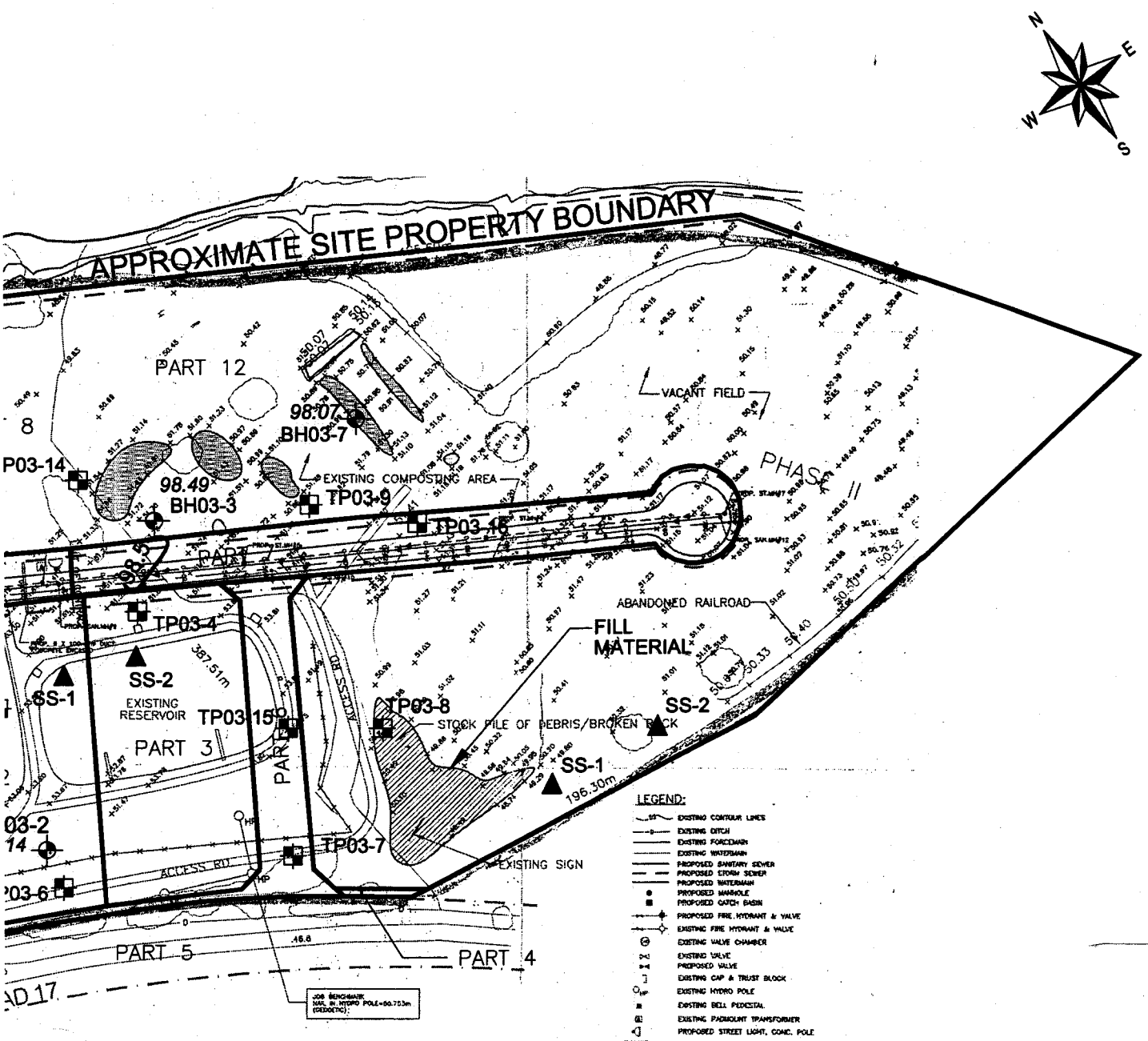
Drawing file: 03-1120-715-6000-01.dwg May 21, 2003 - 2:04pm



REFERENCE: BASE PLAN BY CITY OF CLARENCE-ROCKLAND

SPECIAL NOTE
THIS DRAWING IS TO BE READ IN CONJUNCTION
WITH ACCOMPANYING REPORT

N/ACTIVE/2003/1120/ENVIRONMENTAL/03-1120-715/PHASE 8000 (Phase II ESA.....) ACAD/03-1120-715-02.DWG



H03-3 APPROXIMATE BOREHOLE LOCATION

SS-2 APPROXIMATE SLUDGE SAMPLE LOCATION

P03-9 APPROXIMATE TEST PIT LOCATION

INTERPRETED GROUNDWATER FLOW DIRECTION

97.77 GROUNDWATER ELEVATION (GEODETIC DATUM) (MAY, 2003)

Golder Associates Ottawa, Ontario	SCALE 1:3000	TITLE	SITE PLAN
	DATE MARCH 2003		
	DESIGN		
	CADD P.M.		
FILE No. 03-1120-715-6000-02	CHECK A.H.		
PROJECT No. 03-1120-715-6000 REV.	REVIEW	ROCKLAND FORMER LAGOON SITE	FIGURE 2

TABLE 1

SOIL SAMPLE ORGANIC VAPOUR CONCENTRATIONS PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE CITY OF CLARENCE-ROCKLAND, ONTARIO

SAMPLE NUMBER	APPROXIMATE DEPTH BELOW GROUND SURFACE (metres)	ORGANIC VAPOUR CONCENTRATION (ppm)
Borehole BH03-4		
1	0.15 – 0.76	0.5
2	0.76 – 1.37	0.6
3	1.52 – 2.13	1.1
4	2.29 – 2.90	1.2
5	***3.05 – 3.66***	***1.4***
6	3.81 – 4.42	0.3
Borehole BH03-5		
1	0.15 – 0.76	0.3
2	0.76 – 1.37	0.3
3	1.52 – 2.13	0.5
4	***2.29 – 2.90***	***0.8***
5	3.05 – 3.66	0.7
6	3.81 – 4.42	0.6
7	4.57 – 5.18	0.7
Borehole BH03-6		
1	0.15 – 0.76	1.0
2	0.76 – 1.37	0.4
3	1.52 – 2.13	1.2
4	***2.29 – 2.90***	***5.0***
5	3.05 – 3.66	1.0
6	3.81 – 4.42	0.5
Borehole BH03-7		
1	0.15 – 0.76	0.6
2	0.76 – 1.37	0.7
3	1.52 – 2.13	0.7
4	2.29 – 2.90	0.8
5	3.05 – 3.66	0.8
6	***3.81 – 4.42***	***1.5***
7	4.57 – 5.18	1.2
Test Pit TP03-10		
1	0.5	0
2	1.0	0
3	***1.5***	***0***

Notes: Microtip photo ionization detector (PID) calibrated to isobutylene ppm – parts per million
Organic vapour concentrations from test pit samples measured on April 23, 2003
Organic vapour concentrations from borehole samples measured on April 24, 200
Samples submitted for chemical analysis are indicated in ***bold-italic***

SAMPLE NUMBER	APPROXIMATE DEPTH BELOW GROUND SURFACE (metres)	ORGANIC VAPOUR CONCENTRATION (ppm)
Test Pit TP03-11		
1	***0.7***	***3.8***
2	1.2	3.1
3	1.5	4.1
4	2.0	2.5
Test Pit TP03-12		
1	0.7	0
2	***1.2***	***0***
3	2.0	0
Test Pit TP03-14		
1	***0.5***	***1.6***
2	1.1	0.7
3	1.5	0.7
4	2.0	0.7
Test Pit TP03-15		
1	***0.5***	***3.6***
2	1.5	2.9
Test Pit TP03-16		
1	***0.35***	***3.9***
2	0.5	0.8
3	1.5	0.0
Fill Pile		
1	***Near TP03-15***	***0.1***

Notes: Microtip photo ionization detector (PID) calibrated to isobutylene
ppm – parts per million
Organic vapour concentrations from test pit samples measured on April 23, 2003
Organic vapour concentrations from borehole samples measured on April 24, 2003
Samples submitted for chemical analysis are indicated in ***bold-italic***

TABLE 2
SUMMARY OF TEST PIT SOIL AND FILL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Table B* Criteria	Soil Sampling Locations								
			TP03-10 SA3	TP03-11 SA1	TP03-12 SA2	TP03-14 SA1	TP03-15 SA1	TP03-15 SA10**	TP03-16 SA1	TP03-16 SA10***	TP03-16 Fill Sample
Heavy Metals											
Arsenic	0.4	40(50)	1.0	2.8	2.8	2.1	2.0	1.9	1.4	-	1.1
Barium	1	1500 (2000)	47	195	237	116	182	185	103	-	81
Boron	0.5	2	0.6	0.6	<0.5	<0.5	<0.5	<0.5	1.4	-	<0.5
Cadmium	0.5	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Chromium	1	750 (1000)	25	92	104	36	81	87	42	-	39
Copper	1	225 (300)	7	50	57	21	41	42	20	-	19
Lead	1	1000	10	8	9	10	10	9	12	-	4
Mercury	0.1	10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
Selenium	1	10	<1	<1	<1	<1	<1	<1	<1	-	<1
Antimony	1	40 (44)	<1	2	3	1	2	2	1	-	1
Beryllium	1	1.2	<1	<1	<1	<1	<1	<1	<1	-	<1
Cobalt	1	80 (100)	6	22	28	11	22	24	12	-	10
Cr (VI)	1	8.0 (10)	<1	<1	<1	<1	<1	<1	<1	-	<1
Molybdenum	1	40	<1	<1	<1	<1	<1	<1	1	-	<1
Nickel	1	150 (200)	12	53	62	21	42	44	21	-	22
Silver	1	40 (50)	<1	<1	<1	<1	<1	<1	<1	-	<1
Thallium	1	32	<1	<1	<1	<1	<1	<1	<1	-	<1
Vanadium	1	200 (250)	31	78	90	39	72	76	43	-	36
Zinc	1	600 (800)	50	92	101	45	82	85	66	-	38
Volatile Organic Compounds											
Benzene	0.002	5.3 (25)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Ethylbenzene	0.002	290 (1000)	<0.002	<0.002	<0.002	-	-	-	0.002	<0.002	-
Toluene	0.002	34 (150)	<0.002	<0.002	<0.002	-	-	-	0.003	<0.002	-
m/p-xylene	0.002	34 (210)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
o-xylene	0.002		<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Bromodichloromethane	0.002	25	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Bromoform	0.002	2.3 (14)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Carbon Tetrachloride	0.002	0.10 (0.64)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Monochlorobenzene	0.002	8 (30)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Chloroform	0.002	0.79 (4.9)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Chloromethane	0.003	N/V	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
Dibromochloromethane	0.003	18	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
1,2-dibromoethane	0.002	N/V	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,1-dichloroethane	0.002	22 (140)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,2-dichloroethane	0.002	0.022 (0.14)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,1-dichloroethylene	0.002	0.0024 (0.015)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
c-1,2-Dichloroethylene	0.003	2.3	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
t-1,2-Dichloroethylene	0.003	4.1	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-

TABLE 2
SUMMARY OF TEST PIT SOIL AND FILL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

VOC Parameter	MDL (ug/g)	Table B Criteria* (ug/g)	Soil Sample Locations								
			TP03-1 SA3	TP03-1 SA1	TP03-2 SA2	TP03-2 SA1	TP03-3 SA2	TP03-3 SA1	TP03-4 SA1	TP03-16 SA1***	TP03-16 Sample**
1,2-dichloropropane	0.002	0.019 (0.12)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
c-1,3-Dichloropropylene	0.003	0.0066 (0.041)	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
t-1,3-Dichloropropylene	0.003		<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
Dichloromethane	0.05	140 (200)	<0.05	<0.05	<0.05	-	-	-	<0.05	<0.05	-
Styrene	0.002	1.2 (7.7)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,1,1,2-tetrachloroethane	0.002	0.019 (0.12)	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,1,2,2-tetrachloroethane	0.004	0.037 (0.23)	<0.004	<0.004	<0.004	-	-	-	<0.004	<0.004	-
Tetrachloroethylene	0.002	0.45	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,1,1-trichloroethane	0.005	26 (34)	<0.005	<0.005	<0.005	-	-	-	<0.005	<0.005	-
1,1,2-trichloroethane	0.002	3.1	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Trichloroethylene	0.004	1.1 (3.9)	<0.004	<0.004	<0.004	-	-	-	<0.004	<0.004	-
Trichlorofluoromethane	0.012	N/V	<0.012	<0.012	<0.012	-	-	-	<0.012	<0.012	-
1,3,5-trimethylbenzene	0.002	N/V	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
Vinyl Chloride	0.003	0.003 (0.0075)	<0.003	<0.003	<0.003	-	-	-	<0.003	<0.003	-
1,2-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,3-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-
1,4-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	-	-	-	<0.002	<0.002	-

Notes:

* MOE Guidelines for use at Contaminated Sites in Ontario (February 1997) – Table B non-potable groundwater criteria for industrial/commercial land use

Criterion value in brackets applies to medium and fine textured soils

See section of this letter entitled *Applicable Criteria* for discussion of applicable criteria

** Duplicate of TP03-15 SA1

*** Duplicate of TP03-16 SA1

Table B criteria exceedances are indicated in bold and shaded (no criteria were exceeded in this case)

— Not analyzed

N/V – No Table B value derived at this time

MDL – Laboratory method detection limit

All units expressed in micrograms per gram (ug/g)

TABLE 3
SUMMARY OF BOREHOLE SOIL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Table B1 Criteria	Soil Sampling Locations					
			BH03-4 SA5	BH03-5 SA4	BH03-6 SA1	BH03-7 SA6	BH03-7 SA10***	BH03-11 SA10***
Heavy Metals								
Arsenic	0.4	40(50)	<0.4	2.7	0.6	2.2	2.0	-
Barium	1	1500 (2000)	20	202	34	188	182	-
Boron	0.5	2	<0.5	<0.5	<0.5	0.9	0.9	-
Cadmium	0.5	12	<0.5	<0.5	<0.5	<0.5	<0.5	-
Chromium	1	750 (1000)	14	96	21	86	85	-
Copper	1	225 (300)	5	57	10	48	47	-
Lead	1	1000	3	28	3	13	9	-
Mercury	0.1	10	<0.1	<0.1	<0.1	<0.1	<0.1	-
Selenium	1	10	<1	<1	<1	<1	<1	-
Antimony	1	40 (44)	<1	2	<1	2	2	-
Beryllium	1	1.2	<1	<1	<1	<1	<1	-
Cobalt	1	80 (100)	4	24	7	21	20	-
Cr (VI)	1	8.0 (10)	<1	<1	<1	<1	<1	-
Molybdenum	1	40	<1	<1	<1	<1	<1	-
Nickel	1	150 (200)	9	58	12	50	48	-
Silver	1	40 (50)	<1	<1	<1	<1	<1	-
Thallium	1	32	<1	<1	<1	<1	<1	-
Vanadium	1	200 (250)	17	83	27	75	72	-
Zinc	1	600 (800)	25	99	26	86	82	-
Volatile Organic Compounds								
Benzene	0.002	5.3 (25)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Ethylbenzene	0.002	290 (1000)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Toluene	0.002	34 (150)	<0.002	<0.002	<0.002	<0.002	-	<0.002
m/p-xylene	0.002	34 (210)	<0.002	<0.002	<0.002	<0.002	-	<0.002
o-xylene	0.002		<0.002	<0.002	<0.002	<0.002	-	<0.002
Bromodichloromethane	0.002	25	<0.002	<0.002	<0.002	<0.002	-	<0.002

TABLE 3
SUMMARY OF BOREHOLE SOIL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Table B1 Criteria	Soil Sampling Locations					
			BH03-4 SA5	BH03-5 SA4	BH03-6 SA4	BH03-7 SA6	BH03-7 SA10**	BH03-4 SA10**
Bromoform	0.002	2.3 (14)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Carbon Tetrachloride	0.002	0.10 (0.64)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Monochlorobenzene	0.002	8 (30)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Chloroform	0.002	0.79 (4.9)	<0.002	<0.002	<0.002	<0.002	-	<0.002
Chloromethane	0.003	N/V	<0.003	<0.003	<0.003	<0.003	-	<0.003
Dibromochloromethane	0.003	18	<0.003	<0.003	<0.003	<0.003	-	<0.003
1,2-dibromoethane	0.002	N/V	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,1-dichloroethane	0.002	22 (140)	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,2-dichloroethane	0.002	0.022 (0.14)	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,1-dichloroethylene	0.002	0.0024 (0.015)	<0.002	<0.002	<0.002	<0.002	-	<0.002
c-1,2-Dichloroethylene	0.003	2.3	<0.003	<0.003	<0.003	<0.003	-	<0.003
t-1,2-Dichloroethylene	0.003	4.1	<0.003	<0.003	<0.003	<0.003	-	<0.003
1,2-dichloropropane	0.002	0.019 (0.12)	<0.002	<0.002	<0.002	<0.002	-	<0.002
c-1,3-Dichloropropylene	0.003	0.0066 (0.041)	<0.003	<0.003	<0.003	<0.003	-	<0.003
t-1,3-Dichloropropylene	0.003		<0.003	<0.003	<0.003	<0.003	-	<0.003
Dichloromethane	0.05	140 (200)	<0.05	<0.05	<0.05	<0.05	-	<0.05
Styrene	0.002	1.2 (7.7)	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,1,1,2-tetrachloroethane	0.002	0.019 (0.12)	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,1,2,2-tetrachloroethane	0.004	0.037 (0.23)	<0.004	<0.004	<0.004	<0.004	-	<0.004
Tetrachloroethylene	0.002	0.45	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,1,1-trichloroethane	0.005	26 (34)	<0.005	<0.005	<0.005	<0.005	-	<0.005
1,1,2-trichloroethane	0.002	3.1	<0.002	<0.002	<0.002	<0.002	-	<0.002
Trichloroethylene	0.004	1.1 (3.9)	<0.004	<0.004	<0.004	<0.004	-	<0.004
Trichlorofluoromethane	0.012	N/V	<0.012	<0.012	<0.012	<0.012	-	<0.012
1,3,5-trimethylbenzene	0.002	N/V	<0.002	<0.002	<0.002	<0.002	-	<0.002
Vinyl Chloride	0.003	0.003 (0.0075)	<0.003	<0.003	<0.003	<0.003	-	<0.003
1,2-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	<0.002	-	<0.002

TABLE 3
SUMMARY OF BOREHOLE SOIL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameters	MDL	Table B* Criteria	Soil Sampling Locations					
			BH03-4 SA5	BH03-5 SA4	BH03-6 SA12	BH03-7 SA6**	BH03-7 SA10	BH03-4 SA10***
1,3-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	<0.002	-	<0.002
1,4-dichlorobenzene	0.002	30	<0.002	<0.002	<0.002	<0.002	-	<0.002

Notes:

* MOE Guidelines for use at Contaminated Sites in Ontario (February 1997) – Table B non-potable groundwater criteria for industrial/commercial land use

Criterion value in brackets applies to medium and fine textured soils

See section of this letter entitled *Applicable Criteria* for discussion of applicable criteria

** Duplicate of BH03-7 SA6

*** Duplicate of BH03-4 SA5

Table B criteria exceedances are indicated in bold and shaded (no criteria were exceeded in this case)

— Not analyzed

N/V – No Table B value derived at this time

MDL – Laboratory method detection limit

All units expressed in micrograms per gram (ug/g)

TABLE 4
SUMMARY OF SURFACE SOIL QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameters	MDL	Table B* Criteria	Soil Sampling Locations		
			SS-1	SS-2	SS-3
Heavy Metals					
Acenaphthylene	0.1	840	<0.1	<0.1	<0.1
Acenaphthene	0.1	1300	<0.1	<0.1	<0.1
Anthracene	0.1	28	<0.1	<0.1	<0.1
Benzo(a)anthracene	0.1	40	<0.1	<0.1	<0.1
Benzo(a)pyrene	0.1	1.9	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	0.1	40	<0.1	<0.1	<0.1
Chrysene	0.1	19	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	0.1	1.9	<0.1	<0.1	<0.1
Fluoranthene	0.1	40	<0.1	<0.1	<0.1
Fluorene	0.1	350	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	0.1	19	<0.1	<0.1	<0.1
Naphthalene	0.1	40	<0.1	<0.1	<0.1
Phenanthrene	0.1	40	<0.1	<0.1	<0.1
Pyrene	0.1	250	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	0.1	19	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	0.1	19	<0.1	<0.1	<0.1

Notes:

* MOE Guidelines for use at Contaminated Sites in Ontario (February 1997) – Table B non-potable groundwater criteria for industrial/commercial land use

Criterion value in brackets applies to medium and fine textured soils

See section of this letter entitled *Applicable Criteria* for discussion of applicable criteria

** Duplicate of SS-2

Table B criteria exceedances are indicated in bold and shaded (no criteria were exceeded in this case)

— Not analyzed

N/V – No Table B value derived at this time

MDL – Laboratory method detection limit

All units expressed in micrograms per gram (ug/g)

TABLE 5
SUMMARY OF GROUNDWATER QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Units	Table 8 Criteria	Soil Sampling Locations					
				BH03-4	BH03-6	BH03-6	BH03-7	BH03-10	Blank
Heavy Metals									
Arsenic	0.001	mg/L	0.48	0.001	0.002	0.001	0.002	0.0	-
Barium	0.01	mg/L	23.000	0.05	0.05	0.06	0.04	0.06	-
Boron	0.05	mg/L	50.000	<0.05	0.13	<0.05	0.14	<0.05	-
Cadmium	0.0001	mg/L	0.011	<0.0001	0.0002	<0.0001	0.0001	<0.0001	-
Chromium	0.001	mg/L	2.000	0.004	0.09	<0.001	0.006	<0.001	-
Copper	0.001	mg/L	0.023	<0.001	0.002	0.002	0.002	0.002	-
Lead	0.001	mg/L	0.032	<0.001	<0.001	<0.001	<0.001	<0.001	-
Mercury	0.0001	mg/L	0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-
Selenium	0.001	mg/L	0.050	<0.001	0.002	<0.001	0.002	<0.001	-
Antimony	0.001	mg/L	16.000	<0.001	<0.001	<0.001	0.001	<0.001	-
Beryllium	0.001	mg/L	0.053	<0.001	<0.001	<0.001	<0.001	<0.001	-
Cobalt	0.0002	mg/L	0.100	0.0016	0.0372	0.0011	0.0303	0.0012	-
Cr (VI)	0.05	mg/L	0.110	<0.05	<0.05	<0.05	<0.05	<0.05	-
Molybdenum	0.005	mg/L	7.300	<0.005	0.023	<0.005	0.026	<0.005	-
Nickel	0.005	mg/L	1.600	<0.005	0.046	<0.005	0.037	<0.005	-
Silver	0.0001	mg/L	0.0012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-
Thallium	0.001	mg/L	0.400	<0.001	<0.001	<0.001	<0.001	<0.001	-
Vanadium	0.001	mg/L	0.200	0.003	0.003	<0.001	0.004	<0.001	-
Zinc	0.005	mg/L	1.10	<0.005	0.047	<0.005	0.038	<0.005	-
Various Paramters									
Nitrate	0.10	mg/L	N/A	-	-	-	0.42	-	-
Phenols	0.001	mg/L	26.000	-	-	-	0.004	-	-
Tannin & Lignin	0.1	mg/L	N/A	-	-	-	0.3	-	-
Sodium	1	mg/L	N/A	64	174	71	132	70	-
Volatile Organic Compounds									
Benzene	0.5	ug/L	1900 (12 000)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 5
SUMMARY OF GROUNDWATER QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Units	Table B* Criteria	Soil Sampling Locations					
				BH03-4	BH03-5	BH03-6	BH03-7	BH03-10	Blank
Ethylbenzene	0.5	ug/L	28 000 (50 000)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	0.5	ug/L	5900 (37 000)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	1.0	ug/L	5600 (35 000)	<1	<1	<1	<1	<1	<1
o-xylene	0.5	ug/L	5600 (35 000)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.3	ug/L	50 000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromoform	0.4	ug/L	840 (5200)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon Tetrachloride	0.9	ug/L	17 (100)	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
Monochlorobenzene	0.2	ug/L	500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chloroform	0.5	ug/L	430 (2700)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	1.0	ug/L	N/V	<1	<1	<1	<1	<1	<1
Dibromochloromethane	0.3	ug/L	50 000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
1,2-dibromoethane	1.0	ug/L	N/V	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	0.4	ug/L	9000 (50 000)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-dichloroethane	0.7	ug/L	17 (110)	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
1,1-dichloroethylene	0.5	ug/L	0.66 (4.1)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
c-1,2-Dichloroethylene	0.4	ug/L	70	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
t-1,2-Dichloroethylene	0.4	ug/L	100	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-dichloropropane	0.7	ug/L	9.3 (58)	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
c-1,3-Dichloropropylene	0.2	ug/L	3.8 (24)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
t-1,3-Dichloropropylene	0.2	ug/L		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichloromethane	4	ug/L	50 000	<4	<4	<4	<4	<4	<4
Styrene	0.5	ug/L	940 (5900)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	0.6	ug/L	6.0 (38)	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,1,2,2-tetrachloroethane	0.6	ug/L	22 (140)	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Tetrachloroethylene	0.3	ug/L	5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
1,1,1-trichloroethane	0.4	ug/L	200	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-trichloroethane	0.4	ug/L	16 000 (50 000)	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

TABLE 5
SUMMARY OF GROUNDWATER QUALITY RESULTS
PARTS 6, 7, 8, 9, 10, 11, AND 12 OF PROPOSED INDUSTRIAL PARK SITE
CITY OF CLARENCE-ROCKLAND, ONTARIO

Parameter	MDL	Units	Table B* Criteria	Soil Sampling Locations					
				BH03-4	BH03-5	BH03-6	BH03-7	BH03-10	Blank
Trichloroethylene	0.3	ug/L	50	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Trichlorofluoromethane	0.5	ug/L	N/V	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	0.3	ug/L	N/V	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Vinyl Chloride	0.5	ug/L	0.5 (1.3)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichlorobenzene	0.4	ug/L	7600	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-dichlorobenzene	0.4	ug/L	7600	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-dichlorobenzene	0.4	ug/L	7600	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

Notes:

* MOE Guidelines for use at Contaminated Sites in Ontario (February 1997) – Table B non-potable groundwater criteria for industrial/commercial land use

Criterion value in brackets applies to medium and fine textured soils

See section of this letter entitled *Applicable Criteria* for discussion of applicable criteria

** Duplicate of BH03-6

Table B criteria exceedances are indicated in bold and shaded (no criteria were exceeded in this case)

— Not analyzed

N/V – No Table B value derived at this time

MDL – Laboratory method detection limit

ATTACHMENT A

RECORD OF TEST PIT SHEETS

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-1

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (⊕) 10 20 30 40	ppm (□) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp — W — Wl 10 20 30 40	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE											
0	BACKHOE	Red brown to grey brown SILTY CLAY (Weathered Crust)		0.00	1			⊕					
1					2			⊕					
2					3			⊕					
					4			⊕					
		Grey brown SILTY CLAY with small sand seams		2.20	5			⊕					
3					6			⊕					
		End of hole		3.10									
4													
5													
6													

DEPTH SCALE
1 : 30

Golder Associates

LOGGED: P.H.

CHECKED:

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

PROJECT: 03-1120-715

LOCATION: SEE SITE PLAN

RECORD OF TEST PIT: TP03-2

TEST PIT DATE: 02/20/03

SHEET 1 OF 1

DATUM: Not Surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Red brown to grey brown SILTY CLAY (Weathered Crust)		0.00	1			⊕			
1					2			⊕			
2		Grey brown SILTY CLAY with sandy layers		1.80	3			⊕			
					4			⊕			
3					5			⊕			
					6			⊕			
		End of hole		3.40							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: CL

CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-3

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

TEST PIT DATE: 02/20/03

DATUM: Not Surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE									
0	BACKHOE	Red brown to grey brown SILTY CLAY with sand seams		0.00	1			⊕			
1					2			⊕			
2					3			⊕			
2					4			⊕			
3					5			⊕			
3					6			⊕			
3		End of hole		3.30							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: AL
CHECKED: DH

BOREHOLE 03120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-4

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

TEST PIT DATE: 02/20/03

DATUM: Not Surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Grey brown silty clay with topsoil and rootlets (FILL)		0.00	1			⊕			
1		Red brown SILTY CLAY (Weathered Crust)		1.10	2			⊕			
2					3			⊕			
					4			⊕			
					5			⊕			
3					6			⊕			
		End of hole		3.10							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: RL

CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-5

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

TEST PIT DATE: 02/20/03

DATUM: Not Surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Grey brown SILTY CLAY with sand layers		0.00	1			⊕			
1					2			⊕			
2					3						
					4			⊕			
					5			⊕			
3					6			⊕			
		End of hole		3.10							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: RL
CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

LOCATION: SEE SITE PLAN

RECORD OF TEST PIT: TP03-6

TEST PIT DATE: 02/20/03

SHEET 1 OF 1

DATUM: Not Surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Dark brown TOPSOIL		0.00							
		Red brown SILTY CLAY with sand seams		0.10	1			⊕			
1					2			⊕			
					3			⊕			
2					4			⊕			
					5			⊕			
3		End of hole		3.00	6			⊕			
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: RL

CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-7

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

DATUM: Not Surveyed

TEST PIT DATE: 02/20/03

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Dark brown TOPSOIL		0.00							
		Red brown SILTY CLAY (Weathered Crust)		0.10	1			⊕			
1					2			⊕			
					3			⊕			
2					4			⊕			
					5			⊕			
					6			⊕			
3		End of hole		3.00							
4											
5											
6											
7											
8											
9											
10											

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: RL

CHECKED: AH

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-8

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

DATUM: Not Surveyed

TEST PIT DATE: 02/20/03

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-4} 10^{-4} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Brown to grey brown silty clay, sand, plastic, branches, asphalt and concrete (FILL)		0.00	1			⊕			
1					2			⊕			
					3			⊕			
2					4			⊕			
					5			⊕			
3					6			⊕			
					7			⊕			
		Red brown SILTY CLAY (Weathered Crust)		3.60	8			⊕			
4		*End of hole*		3.90							
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: KL
CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715

RECORD OF TEST PIT: TP03-9

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

DATUM: Not Surveyed

TEST PIT DATE: 02/20/03

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	BACKHOE	Dark brown clay, topsoil, gravel (FILL)		0.00							
1		Grey brown silty clay (FILL)		0.80	1			⊕			
2		Red brown SILTY CLAY (Weathered Crust)		1.20	2			⊕			
					3			⊕			
					4			⊕			
3					5			⊕			
					6			⊕			
		End of hole		3.40							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: KL

CHECKED: AH

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 3/19/03

PROJECT: 03-1120-715 6000

RECORD OF TEST PIT: TP03-10

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (⊕) 10 20 30 40 / ppm (□) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp — W — Wl 10 20 30 40	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE									
	EXCAVATOR	Brown silty clay (FILL)		0.00	1	GRAB					
1					2	GRAB					
		Dark brown silty sand with organic material, wood, and wires (FILL)		1.40	3	GRAB					
2		End of testpit		2.05							
3											
4											
5											
6											

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: WF

PROJECT: 03-1120-715 6000

RECORD OF TEST PIT: TP03-11

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (10 20 30 40)	ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE											
	EXCAVATOR	Red brown and grey mottled SILTY CLAY		0.00	1	GRAB		⊕					
1					2	GRAB		⊕					
		Brown to yellow brown medium to coarse SAND		1.35	3	GRAB		⊕					
		Grey brown SAND		1.80	4	GRAB		⊕					
2		End of testpit		2.50									
3													
4													
5													
6													

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: HF

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

PROJECT: 03-1120-715 6000

LOCATION: See Site Plan

RECORD OF TEST PIT: TP03-12

BORING DATE: 04/23/03

SHEET 1 OF 1

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (10 20 30 40)	ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE											
	EXCAVATOR	Brown to red brown, silty clay, some organic material (FILL)		0.00									
		Brown SILTY CLAY with red mottling		0.40	1	GRAB							
1													
					2	GRAB							
2					3	GRAB							
		End of testpit		2.80									
3													
4													
5													
6													

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: WF

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

PROJECT: 03-1120-715 6000

RECORD OF TEST PIT: TP03-14

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (10 20 30 40)	ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE											
	EXCAVATOR	Brown silty clay with gravel and boulders (FILL)		0.00	1			⊕					
1					2			⊕					
		Brown SANDY SILT, trace clay		1.30	3			⊕					
2		Red brown SILTY CLAY		1.90	4			⊕					
		End of testpit		2.20									
3													
4													
5													
6													

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: HF

PROJECT: 03-1120-715 6000

RECORD OF TEST PIT: TP03-15

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (10 20 30 40)	ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp — W — Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE											
	EXCAVATOR	TOPSOIL		0.00									
		Pavement granulars		0.20									
1		Brown SILTY CLAY with red mottling		0.45	1	GRAB		⊕					
					2	GRAB		⊕					
2													
		End of testpit		2.20									
3													
4													
5													
6													

DEPTH SCALE
1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: HF

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

PROJECT: 03-1120-715 6000

RECORD OF TEST PIT: TP03-16

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	ppm (10 20 30 40)	ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE											
0	EXCAVATOR	Black asphalt, cobbles, gravel, plastic, fabric, sand (FILL)		0.00	1			⊕					
		Grey brown SILTY CLAY, trace organics		0.45	2			⊕					
1		Brown to red brown SILTY CLAY		0.70	3			⊕					
2		End of testpit		2.10									
3													
4													
5													
6													

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: [illegible]

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

ATTACHMENT B

RECORD OF BOREHOLE SHEETS

PROJECT: 03-1120-715

RECORD OF BOREHOLE: BH03-1

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

BORING DATE: 02/26/03

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	Photovac ppm	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT PERCENT	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		98.75							
	POWER AUGER 200 mm Diam. (Hollow Stem)	Grey brown silty clay (FILL)		0.00							
				97.93							
1		Grey brown and red brown SILTY CLAY (Weathered Crust)		0.82	1	50 DO	7	⊕			Bentonite Seal
2					2	50 DO	5	⊕			Silica Sand
				96.16	3	50 DO	1	⊕			
		Grey SILTY CLAY, occasional red brown layer		2.59							
3					4	50 DO	PM	⊕			
4					5	50 DO	PM	⊕			51 mm Diam. Well Screen
					6	50 DO	PM	⊕			▽
5				93.57							
		End of borehole		5.18							
6											
7											Groundwater elevation = 93.92m (March 1, 2003)
8											
9											
10											

Photovac ppm: 10 20 30 40 ⊕ / ppm: 100 200 300 400 □

HYDRAULIC CONDUCTIVITY, k, cm/s: 10^{-4} 10^{-5} 10^{-6} 10^{-7}

WATER CONTENT PERCENT: Wp — W — Wl; 10 20 30 40

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: D.J.S.

CHECKED: A.H.

BOREHOLE 03112071S.GPJ GLDR_CAN.GDT 4/1/03

PROJECT: 03-1120-715

RECORD OF BOREHOLE: BH03-2

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

BORING DATE: 02/27/03

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	Photovac ppm (10 20 30 40) / ppm (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		96.72							
0	POWER AUGER 200 mm Diam. (Hollow Stem)	Grey brown silty clay to gravel (FILL)		0.00 / 96.35							
		Grey brown and red brown SILTY CLAY, occasional fine sand seam (Weathered Crust)		0.37	1	50 DO	15				Bentonite Seal
1											Native Clay Backfill
					2	50 DO	11				Bentonite Seal
2											Silica Sand
					3	50 DO	2				
3											
				95.37	4	50 DO	WH				
		Grey SILTY CLAY, occasional red brown layer		3.35							51 mm Diam. Screen
4					5	50 DO	PM				
5					6	50 DO	PM				
				93.54							
		End of borehole		5.18							Groundwater elevation = 96.87m (March 1, 2003)
6											
7											
8											
9											
10											

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 4/1/03

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: D.J.S.

CHECKED: A.H.

PROJECT: 03-1120-715

RECORD OF BOREHOLE: BH03-3

SHEET 1 OF 1

LOCATION: SEE SITE PLAN

BORING DATE: 02/26/03

DATUM: Local

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	Photovac ppm	HYDRAULIC CONDUCTIVITY, k, cm/s	WATER CONTENT PERCENT	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		99.46								
	POWER AUGER 200 mm Diam. (Hollow Stem)	Grey brown silty clay, trace granular sand and roots (FILL)		0.00								
1				98.30	1	50 DO	4	⊕				Bentonite Seal
		Grey brown SILTY CLAY, occasional red brown layer and very thin silt seam (Weathered Crust)		1.16								
2					2	50 DO	10	⊕				Native Backfill
					3	50 DO	9	⊕				Bentonite Seal
3												Silica Sand
					4	50 DO	4	⊕				
4					5	50 DO	1	⊕				
				95.19								
		Grey SILTY CLAY, occasional red brown layer		4.27								
5					6	50 DO	PM	⊕				51 mm Diam. Well Screen
					7	50 DO	PM	⊕				
6				93.36								
		End of borehole		6.10								
7												Groundwater elevation = 93.92m (March 1, 2003)
8												
9												
10												

Photovac ppm: 10 20 30 40

ppm: 100 200 300 400

HYDRAULIC CONDUCTIVITY, k, cm/s: 10^{-6} 10^{-5} 10^{-4} 10^{-3}

WATER CONTENT PERCENT: Wp — W — Wl; 10 20 30 40

DEPTH SCALE

1 : 50

Golder Associates

LOGGED: D.J.S.

CHECKED: A.H.

BOREHOLE 031120715.GPJ GLDR_CAN.GDT 4/1/03

PROJECT: 03-1120-715 6000

RECORD OF BOREHOLE: BH03-4

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Local

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	ppm (⊕)	ppm (□)	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT PERCENT	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		98.01								
0	POWER AUGER 200 mm Diam. (Hollow Stem)	Dark brown clayey silt with silty sand pockets, some organics (FILL)		0.00	1	AS						Native Backfill
				97.25								Bentonite Seal
1		Loose grey brown to dark grey clayey silt and silty sand with pockets of medium sand and organic matter (FILL)		0.76	2	50 DO	7					
2					3	50 DO	4					Native Backfill
					4	50 DO	3					
				95.11								Bentonite Seal
3		Very loose red brown to brown fine to medium SAND		2.90	5	50 DO	2					Silica Sand
4					6	50 DO	4					50mm Diam. Well Screen
				93.29								
		End of borehole		4.72								
5												Water level in piezometer @ Elev. 94.52m April 25, 2003
6												

ppm (⊕): 10 20 30 40

ppm (□): 100 200 300 400

HYDRAULIC CONDUCTIVITY, k, cm/s: 10^{-6} 10^{-5} 10^{-4} 10^{-3}

WATER CONTENT PERCENT: Wp — W — Wl; 10 20 30 40

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: MF

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

PROJECT: 03-1120-715 6000

LOCATION: See Site Plan

RECORD OF BOREHOLE: BH03-5

BORING DATE: 04/23/03

SHEET 1 OF 1

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ppm	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT PERCENT	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		100.24							
0	POWER AUGER 200 mm Diam. (Hollow Stem)	Brown and grey silty clay, trace organics (FILL)		0.00	1	AS	-				Native Backfill
					2	50 DO	3				Bentonite Seal
1											
					3	50 DO	4				Native Backfill
2				98.11							
		Very stiff red brown and grey brown SILTY CLAY (Weathered Crust)		2.13	4	50 DO	10				Bentonite Seal
3											Silica Sand
					5	50 DO	9				
4					6	50 DO	4				50mm Diam. Well Screen
				95.67							
		Firm grey SILTY CLAY		4.57	7	50 DO	WH				
5											
				94.91							
		End of borehole		5.33							Water level in piezometer @ Elev. 98.20m April 25, 2003
6											

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: HF

PROJECT: 03-1120-715 6000

RECORD OF BOREHOLE: BH03-6

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Local

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ppm (⊕) 10 20 30 40	ppm (□) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 10 20 30 40	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		99.06									
0	POWER AUGER 200 mm Diam. (Hollow Stem)	Grey brown silty clay, some silt and sand pockets, trace organics (FILL)		0.00	1	AS	-	⊕					Native Backfill
													Bentonite Seal
1					2	50 DO	11	⊕					Native Backfill
				97.69									Bentonite Seal
		Loose to compact, grey brown to grey, medium fine SAND, trace silt		1.37									Silica Sand
2					3	50 DO	12	⊕					
					4	50 DO	7	⊕					
3													
					5	50 DO	4	⊕					50mm Diam. Well Screen
				95.25									
4		Compact grey, medium to coarse SAND, trace gravel		3.81	6	50 DO	12	⊕					
				94.49									
		End of borehole		4.57									
5													Water level in piezometer @ Elev. 97.21m April 25, 2003
6													

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: NF

PROJECT: 03-1120-715 6000

RECORD OF BOREHOLE: BH03-7

SHEET 1 OF 1

LOCATION: See Site Plan

BORING DATE: 04/23/03

DATUM: Not surveyed

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	ppm (⊕)	HYDRAULIC CONDUCTIVITY, k, cm/s / WATER CONTENT PERCENT (Wp, W, Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		98.22							
0	POWER AUGER 200 mm Diam. (Hollow Stem)	TOPSOIL		0.00 / 97.98							Native Backfill
		Very stiff, grey brown and red brown SILTY CLAY (Weathered Crust)		0.24	1	AS	-				Bentonite Seal
1					2	50 DO	15				
											Native Backfill
2					3	50 DO	12				
					4	50 DO	9				Bentonite Seal
											Silica Sand
3					5	50 DO	6				
				94.56							
		Stiff to firm, red to grey SILTY CLAY		3.66							
4					6	50 DO	2				50mm Diam. Well Screen
					7	50 DO	PH				
5				93.04							
		End of borehole		5.18							Water level in piezometer @ Elev. 98.07m April 25, 2003
6											

DEPTH SCALE

1 : 30

Golder Associates

LOGGED: P.H.

CHECKED: MF

BOREHOLE 03-1120-715.GPJ GLDR_CAN.GDT 5/23/03

ATTACHMENT C

REPORT OF ANALYSIS
ACCUTEST LABORATORIES LTD.

Client: Golder Associates Ltd.
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: Mr. Andrew Harwood

Report Number: 2305726
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244492	244493	244494	244497	244500	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	TP03-10 SA3	TP03-11 SA1	TP03-12 SA2	TP03-16 SA1	TP03-16 SA10			
PARAMETER	UNITS	MDL					TYPE	LIMIT	UNITS
VOLATILE ORGANIC COMPOUNDS - VOCs									
1,1,1,2-tetrachloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1,1-trichloroethane	ug/g	0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
1,1,2,2-tetrachloroethane	ug/g	0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
1,1,2-trichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1-dichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1-dichloroethylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dibromoethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichloropropane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,3,5-trimethylbenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,3-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,4-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Benzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Bromodichloromethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Bromoform	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
c-1,2-Dichloroethylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
c-1,3-Dichloropropylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Carbon Tetrachloride	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Chloroform	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Chloromethane	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Dibromochloromethane	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Dichloromethane	ug/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Ethylbenzene	ug/g	0.002	<0.002	<0.002	0.002	<0.002	<0.002		
m/p-xylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Monochlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
o-xylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Styrene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
t-1,2-Dichloroethylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305726
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244492	244493	244494	244497	244500	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	TP03-10 SA3	TP03-11 SA1	TP03-12 SA2	TP03-16 SA1	TP03-16 SA10			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
t-1,3-Dichloropropylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003			
Tetrachloroethylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002			
Toluene	ug/g	0.002	<0.002	<0.002	<0.002	0.003	<0.002			
Trichloroethylene	ug/g	0.004	<0.004	<0.004	<0.004	<0.004	<0.004			
Trichlorofluoromethane	ug/g	0.012	<0.012	<0.012	<0.012	<0.012	<0.012			
Vinyl Chloride	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003			
VOC SURROGATES									
1,2-dichloroethane-d4	%		118	102	97	112	96			
4-bromofluorobenzene	%		104	101	98	103	101			
Toluene-d8	%		101	99	98	105	102			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305726
Date: 2003-05-08
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244492	244493	244494	244495	244496	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	TP03-10 SA3	TP03-11 SA1	TP03-12 SA2	TP03-14 SA1	TP03-15 SA1			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
Arsenic	ug/g	0.4	1.0	2.8	2.8	2.1	2.0			
Barium	ug/g	1	47	195	237	116	182			
Boron	ug/g	0.5	0.6	0.6	<0.5	<0.5	<0.5			
Cadmium	ug/g	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1	25	92	104	36	81			
Copper	ug/g	1	7	50	57	21	41			
Lead	ug/g	1	10	8	9	10	10			
Mercury	ug/g	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
Selenium	ug/g	1	<1	<1	<1	<1	<1			
Antimony	ug/g	1	<1	2	3	1	2			
Beryllium	ug/g	1	<1	<1	<1	<1	<1			
Cobalt	ug/g	1	6	22	28	11	22			
Cr(VI)	ug/g	1	<1	<1	<1	<1	<1			
Molybdenum	ug/g	1	<1	<1	<1	<1	<1			
Nickel	ug/g	1	12	53	62	21	42			
Silver	ug/g	1	<1	<1	<1	<1	<1			
Thallium	ug/g	1	<1	<1	<1	<1	<1			
Vanadium	ug/g	1	31	78	90	39	72			
Zinc	ug/g	1	50	92	101	45	82			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Lorna Wilson
Agriculture Lab Supervisor

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305726
Date: 2003-05-08
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

			LAB ID:	244497	244498	244499			GUIDELINE		
			Sample Date:	2003-04-23	2003-04-23	2003-04-23					
			Sample ID:	TP03-16 SA1	TP03-15 SA10	Fill Sample					
PARAMETER	**UNITS**	**MDL**							**TYPE**	**LIMIT**	**UNITS**
Arsenic	ug/g	0.4		1.4	1.9	1.1					
Barium	ug/g	1		103	185	81					
Boron	ug/g	0.5		1.4	<0.5	<0.5					
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5					
Chromium	ug/g	1		42	87	39					
Copper	ug/g	1		20	42	19					
Lead	ug/g	1		12	9	4					
Mercury	ug/g	0.1		<0.1	<0.1	<0.1					
Selenium	ug/g	1		<1	<1	<1					
Antimony	ug/g	1		1	2	1					
Beryllium	ug/g	1		<1	<1	<1					
Cobalt	ug/g	1		12	24	10					
Cr(VI)	ug/g	1		<1	<1	<1					
Molybdenum	ug/g	1		1	<1	<1					
Nickel	ug/g	1		21	44	22					
Silver	ug/g	1		<1	<1	<1					
Thallium	ug/g	1		<1	<1	<1					
Vanadium	ug/g	1		43	76	36					
Zinc	ug/g	1		66	85	38					

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Lorna Wilson
Agriculture Lab Supervisor

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305725
Date: 2003-05-02
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244486	244487	244488	244489	244490	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	BH03-4 SA5	BH03-5 SA4	BH03-6 SA4	BH03-7 SA6	BH03-4 SA10			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
Arsenic	ug/g	0.4	<0.4	2.7	0.6	2.2			
Barium	ug/g	1	20	202	34	188			
Boron	ug/g	0.5	<0.5	<0.5	<0.5	0.9			
Cadmium	ug/g	0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1	14	96	21	86			
Copper	ug/g	1	5	57	10	48			
Lead	ug/g	1	3	28	3	13			
Mercury	ug/g	0.1	<0.1	<0.1	<0.1	<0.1			
Selenium	ug/g	1	<1	<1	<1	<1			
Antimony	ug/g	1	<1	2	<1	2			
Beryllium	ug/g	1	<1	<1	<1	<1			
Cobalt	ug/g	1	4	24	7	21			
Cr(VI)	ug/g	1	<1	<1	<1	<1			
Molybdenum	ug/g	1	<1	<1	<1	<1			
Nickel	ug/g	1	9	58	12	50			
Silver	ug/g	1	<1	<1	<1	<1			
Thallium	ug/g	1	<1	<1	<1	<1			
Vanadium	ug/g	1	17	83	27	75			
Zinc	ug/g	1	25	99	26	86			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration
Comment:

APPROVAL:
Lorna Wilson
Agriculture Lab Supervisor

Client: Golder Associates Ltd.
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: Mr. Andrew Harwood

Report Number: 2305725
Date: 2003-05-02
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

			LAB ID:					GUIDELINE		
			Sample Date:							
			Sample ID:							
PARAMETER	UNITS	MDL						TYPE	LIMIT	UNITS
Arsenic	ug/g	0.4	2.0							
Barium	ug/g	1	182							
Boron	ug/g	0.5	0.9							
Cadmium	ug/g	0.5	<0.5							
Chromium	ug/g	1	85							
Copper	ug/g	1	47							
Lead	ug/g	1	9							
Mercury	ug/g	0.1	<0.1							
Selenium	ug/g	1	<1							
Antimony	ug/g	1	2							
Beryllium	ug/g	1	<1							
Cobalt	ug/g	1	20							
Cr(VI)	ug/g	1	<1							
Molybdenum	ug/g	1	<1							
Nickel	ug/g	1	48							
Silver	ug/g	1	<1							
Thallium	ug/g	1	<1							
Vanadium	ug/g	1	72							
Zinc	ug/g	1	82							

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration
Comment:

APPROVAL:
Lorna Wilson
Agriculture Lab Supervisor

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305725
Date: 2003-05-02
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244486	244487	244488	244489	244490	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	BH03-4 SA5	BH03-5 SA4	BH03-6 SA4	BH03-7 SA6	BH03-4 SA10			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs									
1,1,1,2-tetrachloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1,1-trichloroethane	ug/g	0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
1,1,2,2-tetrachloroethane	ug/g	0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
1,1,2-trichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1-dichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,1-dichloroethylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dibromoethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichloroethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,2-dichloropropane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,3,5-trimethylbenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,3-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
1,4-dichlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Benzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Bromodichloromethane	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Bromoform	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
c-1,2-Dichloroethylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
c-1,3-Dichloropropylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Carbon Tetrachloride	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Chloroform	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Chloromethane	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Dibromochloromethane	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		
Dichloromethane	ug/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Ethylbenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
m/p-xylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Monochlorobenzene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
o-xylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
Styrene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
t-1,2-Dichloroethylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003		

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305725
Date: 2003-05-02
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

	LAB ID:	244486	244487	244488	244489	244490	GUIDELINE		
	Sample Date:	2003-04-23	2003-04-23	2003-04-23	2003-04-23	2003-04-23			
	Sample ID:	BH03-4 SA5	BH03-5 SA4	BH03-6 SA4	BH03-7 SA6	BH03-4 SA10			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
t-1,3-Dichloropropylene	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003			
Tetrachloroethylene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002			
Toluene	ug/g	0.002	<0.002	<0.002	<0.002	<0.002	<0.002			
Trichloroethylene	ug/g	0.004	<0.004	<0.004	<0.004	<0.004	<0.004			
Trichlorofluoromethane	ug/g	0.012	<0.012	<0.012	<0.012	<0.012	<0.012			
Vinyl Chloride	ug/g	0.003	<0.003	<0.003	<0.003	<0.003	<0.003			
VOC SURROGATES									
1,2-dichloroethane-d4	%		104	100	108	104	103			
4-bromofluorobenzene	%		102	85	103	102	103			
Toluene-d8	%		99	101	100	99	99			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305727
Date: 2003-05-06
Date Submitted: 2003-04-25

Project: 031-120715-6000

P.O. Number: 230236
Matrix: Soil

								GUIDELINE		
		LAB ID:	244501	244502	244503					
		Sample Date:	2003-04-23	2003-04-23	2003-04-23					
		Sample ID:	SS-1	SS-2	SS-3					
PARAMETER	**UNITS**	**MDL**						**TYPE**	**LIMIT**	**UNITS**
POLYNUCLEAR AROMATIC HYDROCARBONS - PAHs										
Acenaphthene	ug/g	0.1	<0.1	<0.1	<0.1					
Acenaphthylene	ug/g	0.1	<0.1	<0.1	<0.1					
Anthracene	ug/g	0.1	<0.1	<0.1	<0.1					
Benzo(a)anthracene	ug/g	0.1	<0.1	<0.1	<0.1					
Benzo(a)pyrene	ug/g	0.1	<0.1	<0.1	<0.1					
Benzo(b)fluoranthene	ug/g	0.1	<0.1	<0.1	<0.1					
Benzo(g,h,i)perylene	ug/g	0.1	<0.1	<0.1	<0.1					
Benzo(k)fluoranthene	ug/g	0.1	<0.1	<0.1	<0.1					
Chrysene	ug/g	0.1	<0.1	<0.1	<0.1					
Dibenzo(a,h)anthracene	ug/g	0.1	<0.1	<0.1	<0.1					
Fluoranthene	ug/g	0.1	<0.1	<0.1	<0.1					
Fluorene	ug/g	0.1	<0.1	<0.1	<0.1					
Indeno(1,2,3-c,d)pyrene	ug/g	0.1	<0.1	<0.1	<0.1					
Naphthalene	ug/g	0.1	<0.1	<0.1	<0.1					
Phenanthrene	ug/g	0.1	<0.1	<0.1	<0.1					
Pyrene	ug/g	0.1	<0.1	<0.1	<0.1					

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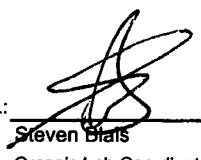
Comment:

APPROVAL: 
Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305724
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 03-1120-715 – 6000

P.O. Number: 230237
Matrix: Water

			LAB ID:	244480	244481	244482	244483	244484	GUIDELINE		
			Sample Date:	2003-04-25	2003-04-25	2003-04-25	2003-04-25	2003-04-25			
			Sample ID:	BH03-4	BH03-5	BH03-6	BH03-7	BH03-10			
PARAMETER	**UNITS**	**MDL**							**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs											
1,1,1,2-tetrachloroethane	ug/L	0.6	<0.6	<0.6	<0.6	<0.6	<0.6				
1,1,1-trichloroethane	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
1,1,2,2-tetrachloroethane	ug/L	0.6	<0.6	<0.6	<0.6	<0.6	<0.6				
1,1,2-trichloroethane	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
1,1-dichloroethane	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
1,1-dichloroethylene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
1,2-dibromoethane	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
1,2-dichlorobenzene	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
1,2-dichloroethane	ug/L	0.7	<0.7	<0.7	<0.7	<0.7	<0.7				
1,2-dichloropropane	ug/L	0.7	<0.7	<0.7	<0.7	<0.7	<0.7				
1,3,5-trimethylbenzene	ug/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3				
1,3-dichlorobenzene	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
1,4-dichlorobenzene	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
Benzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Bromodichloromethane	ug/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3				
Bromoform	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
Bromomethane	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
c-1,2-Dichloroethylene	ug/L	0.4	<0.4	<0.4	<0.4	<0.4	<0.4				
c-1,3-Dichloropropylene	ug/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2				
Carbon Tetrachloride	ug/L	0.9	<0.9	<0.9	<0.9	<0.9	<0.9				
Chloroethane	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
Chloroform	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
Chloromethane	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
Dibromochloromethane	ug/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3				
Dichloromethane	ug/L	4.0	<4.0	<4.0	<4.0	<4.0	<4.0				
Ethylbenzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				
m/p-xylene	ug/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
Monochlorobenzene	ug/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2				
o-xylene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5				

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305724
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 03-1120-715

P.O. Number: 230237
Matrix: Water

			LAB ID:	244480	244481	244482	244483	244484	GUIDELINE		
			Sample Date:	2003-04-25	2003-04-25	2003-04-25	2003-04-25	2003-04-25			
			Sample ID:	BH03-4	BH03-5	BH03-6	BH03-7	BH03-10			
PARAMETER	**UNITS**	**MDL**							**TYPE**	**LIMIT**	**UNITS**
Styrene	ug/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
t-1,2-Dichloroethylene	ug/L	0.4		<0.4	<0.4	<0.4	<0.4	<0.4			
t-1,3-Dichloropropylene	ug/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2			
Tetrachloroethylene	ug/L	0.3		<0.3	<0.3	<0.3	<0.3	<0.3			
Toluene	ug/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Trichloroethylene	ug/L	0.3		<0.3	<0.3	<0.3	<0.3	<0.3			
Trichlorofluoromethane	ug/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Vinyl Chloride	ug/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
VOC SURROGATES											
1,2-dichloroethane-d4	%			100	99	100	97	100			
4-bromofluorobenzene	%			83	86	86	86	87			
Toluene-d8	%			101	99	101	100	103			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305724
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 03-1120-715

P.O. Number: 230237
Matrix: Water

	LAB ID:	244485					GUIDELINE		
	Sample Date:	2003-04-25							
	Sample ID:	BLANK							
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs									
1,1,1,2-tetrachloroethane	ug/L	0.6	<0.6						
1,1,1-trichloroethane	ug/L	0.4	<0.4						
1,1,2,2-tetrachloroethane	ug/L	0.6	<0.6						
1,1,2-trichloroethane	ug/L	0.4	<0.4						
1,1-dichloroethane	ug/L	0.4	<0.4						
1,1-dichloroethylene	ug/L	0.5	<0.5						
1,2-dibromoethane	ug/L	1.0	<1.0						
1,2-dichlorobenzene	ug/L	0.4	<0.4						
1,2-dichloroethane	ug/L	0.7	<0.7						
1,2-dichloropropane	ug/L	0.7	<0.7						
1,3,5-trimethylbenzene	ug/L	0.3	<0.3						
1,3-dichlorobenzene	ug/L	0.4	<0.4						
1,4-dichlorobenzene	ug/L	0.4	<0.4						
Benzene	ug/L	0.5	<0.5						
Bromodichloromethane	ug/L	0.3	<0.3						
Bromoform	ug/L	0.4	<0.4						
Bromomethane	ug/L	0.5	<0.5						
c-1,2-Dichloroethylene	ug/L	0.4	<0.4						
c-1,3-Dichloropropylene	ug/L	0.2	<0.2						
Carbon Tetrachloride	ug/L	0.9	<0.9						
Chloroethane	ug/L	1.0	<1.0						
Chloroform	ug/L	0.5	<0.5						
Chloromethane	ug/L	1.0	<1.0						
Dibromochloromethane	ug/L	0.3	<0.3						
Dichloromethane	ug/L	4.0	<4.0						
Ethylbenzene	ug/L	0.5	<0.5						
m/p-xylene	ug/L	1.0	<1.0						
Monochlorobenzene	ug/L	0.2	<0.2						
o-xylene	ug/L	0.5	<0.5						

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305724
Date: 2003-05-05
Date Submitted: 2003-04-25

Project: 03-1120-715

P.O. Number: 230237
Matrix: Water

								GUIDELINE		
		LAB ID:	244485							
		Sample Date:	2003-04-25							
		Sample ID:	BLANK							
PARAMETER	**UNITS**	**MDL**						**TYPE**	**LIMIT**	**UNITS**
Styrene	ug/L	0.5	<0.5							
t-1,2-Dichloroethylene	ug/L	0.4	<0.4							
t-1,3-Dichloropropylene	ug/L	0.2	<0.2							
Tetrachloroethylene	ug/L	0.3	<0.3							
Toluene	ug/L	0.5	<0.5							
Trichloroethylene	ug/L	0.3	<0.3							
Trichlorofluoromethane	ug/L	0.5	<0.5							
Vinyl Chloride	ug/L	0.5	<0.5							
VOC SURROGATES										
1,2-dichloroethane-d4	%		98							
4-bromofluorobenzene	%		84							
Toluene-d8	%		100							

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration
Comment:

APPROVAL: _____
Steven Blais
Organic Lab Coordinator

Client: **Golder Associates Ltd.**
1796 Courtwood Cr.
Ottawa, ON
K2C 2B5
Attention: **Mr. Andrew Harwood**

Report Number: 2305724
Date: 2003-05-06
Date Submitted: 2003-04-25

Project: 03-1120-715

P.O. Number: 230237
Matrix: Water

	LAB ID:	244480	244481	244482	244483	244484	GUIDELINE		
	Sample Date:	2003-04-25	2003-04-25	2003-04-25	2003-04-25	2003-04-25			
	Sample ID:	BH03-4	BH03-5	BH03-6	BH03-7	BH03-10			
PARAMETER	**UNITS**	**MDL**					**TYPE**	**LIMIT**	**UNITS**
N-NO3 (Nitrate)	mg/L	0.10				0.42			
Phenols	mg/L	0.001				0.004			
Tannin & Lignin	mg/L	0.1				0.3			
Sodium	mg/L	1	64	174	71	132	70		
Arsenic	mg/L	0.001	0.001	0.002	0.001	0.002	0.001		
Barium	mg/L	0.01	0.05	0.05	0.06	0.04	0.06		
Boron	mg/L	0.05	<0.05	0.13	<0.05	0.14	<0.05		
Cadmium	mg/L	0.0001	<0.0001	0.0002	<0.0001	0.0001	<0.0001		
Chromium	mg/L	0.001	0.004	0.090	<0.001	0.006	<0.001		
Copper	mg/L	0.001	<0.001	0.002	0.002	0.002	0.002		
Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Selenium	mg/L	0.001	<0.001	0.002	<0.001	0.002	<0.001		
Antimony	mg/L	0.001	<0.001	<0.001	<0.001	0.001	<0.001		
Beryllium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Cobalt	mg/L	0.0002	0.0016	0.0372	0.0011	0.0303	0.0012		
Cr(VI)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Molybdenum	mg/L	0.005	<0.005	0.023	<0.005	0.026	<0.005		
Nickel	mg/L	0.005	<0.005	0.046	<0.005	0.037	<0.005		
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Thallium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Vanadium	mg/L	0.001	0.003	0.003	<0.001	0.004	<0.001		
Zinc	mg/L	0.005	<0.005	0.047	<0.005	0.038	<0.005		

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Ewan McRobbie
Inorganic Lab Supervisor

D21 / NU

FAXED 15/04/03

CORPORATION
de la Cité de / of the City of
CLARENCE-ROCKLAND

Clarence-Rockland

VIA FAX: 224-9928

April 15th, 2003

Andrew Harwood
Golder Associates Consulting Eng.
1796 Courtwood Crescent
Ottawa ON K2C 2B5

Sir:

RE: Phase II ESA Proposed Industrial Park
City of Clarence-Rockland

Please find enclosed the "conditions of engagement for consulting services" signed as your authorisation to proceed with the scope of work outlined in your proposal. I would like to receive from you a schedule of work and a completion date.

If you need more information, please contact the undersigned.

Sincerely,

RS/ls

Richard Sarazin,
Director Physical Services

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Sample Location	Sample Type	Samples	Laboratory Testing
Boreholes (4 Total)	Soil	• 4 • 1 • 4 • 1	• Heavy Metals • (1 QA/QC Duplicate) • Volatile Organic Compounds (VOCs) • (1 QA/QC Duplicate)
	Groundwater	• 4 • 1 • 4 • 2 • 1	• Heavy Metals • (1 QA/QC Duplicate) • VOCs • (1 QA/QC Trip Blank & 1 Duplicate) • Tannin & Lignin, Nitrate, Phenols
Test Pits (7 Total)	Soil (surface/subgrade)	• 7 • 1 • 4 • 1	• Heavy Metals • (1 QA/QC Duplicate) • VOCs • (1 QA/QC Duplicate)
Surface (2 Total)	Soil	• 2 • 1	• Polynuclear Aromatic Hydrocarbons (PAHs) • (1 QA/QC Duplicate)

Reporting

The Phase II ESA investigative activities and findings would be included in a Phase II ESA report for the property which would provide all necessary details of the methods and procedures of the investigation. It would provide the results of the physical testing and chemical analyses, and would relate the soil and groundwater test results to the current *Ontario Ministry of the Environment Guidelines for Use at Contaminated Sites in Ontario, February 1997.* Recommendations for supplemental Phase II ESA activities to delineate subsurface impacts would be provided (if necessary).

ESTIMATED PROJECT COSTS

The services and disbursements that would be required to carry out the Phase II ESA assignment are as follows:

• Project Management & Coordination, Health & Safety	$ 500.00
• Drilling, Test Pitting* & Surface Sampling Program	$ 2,600.00
• Drilling Contractor Disbursements	$ 3,200.00
• Groundwater Monitoring Disbursements	$ 800.00
• Instrumentation Disbursements	$ 300.00
• Groundwater Sampling Program	$ 700.00
• Laboratory Disbursements	$ 4,200.00
• Phase II ESA Report	$ 3,000.00
• Communication Fee	$ 200.00
Total	$15,500.00

* Assumes backhoe supplied by City of Clarence-Rockland
Service locates would be completed by the City of Clarence-Rockland

Golder Associates would complete the Phase II ESA described herein for an estimated cost of ***$15,500 (excluding applicable taxes)***. All the estimated costs in this proposal are based on our general understanding of the site to date. If the actual conditions during site investigations differ significantly from those assumed, the cost estimate may need to be revised, at which time we would contact the client prior to proceeding with any unforeseen work.

Golder Associates will attempt to minimize the amount of soil cuttings to be dealt with after drilling by re-using them in the monitoring well as construction process backfill. However, any remaining soil cuttings are the client's property, and disposal costs are not included in this estimate.

SCHEDULE

The proposed scope of work would take 3-4 weeks to complete. With expedited laboratory turn around times (at extra cost) the schedule could be reduced to 2-3 weeks. Golder Associates can commence work immediately upon receiving your authorization to proceed.

CLOSURE

We trust this is sufficient for your present needs. If you have any questions, please do not hesitate to contact our office.

RKB:AMH:BJV

N:\Active\Proposal\2003\Environmental\numbered\P31-2716 Pre-001 4Feb03 Phase II ESA Clarence-Rockland Parts 1 to 3\Pro-002 10apr03 Ph II ESA Clarence-Rockland.doc

Hard copy to follow by mail ☐ Yes, ☑ No

CONDITIONS OF ENGAGEMENT FOR CONSULTING SERVICES

THIS AGREEMENT is entered into this April 14, 2003 by and between

CITY OF CLARENCE-ROCKLAND, hereinafter referred to as "CLIENT",

AND

GOLDER ASSOCIATES LIMITED, hereinafter referred to as "CONSULTANT".

WHEREAS CLIENT desires CONSULTANT to perform certain technical services on behalf of CLIENT and CONSULTANT desires to perform the same for compensation in accordance with the terms and conditions set forth herein.

THE PARTIES HERETO AGREE AS FOLLOWS:

CONSULTANT shall perform the work outlined in Proposal No. P31-2716 for a PHASE II ENVIRONMENTAL SITE ASSESSMENT, PROPOSED INDUSTRIAL PARK SITE, (FORMER SEWAGE LAGOON), PARTS 6, 7, 8, 9, 10, 11 & 12, CLARENCE-ROCKLAND, ONTARIO dated this April 14, 2003 which proposal is agreed to by CLIENT and incorporated herein by reference (hereinafter referred to as "Services"), and both parties agree to the attached STANDARD TERMS AND CONDITIONS FOR CONSULTING SERVICES. All Services, regardless of commencement date, will be covered by this Agreement. Unless modified in writing by the parties, the duties of CONSULTANT shall not be construed to exceed those Services specifically set forth in the proposal.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed, as of the date and year first set forth below.

CITY OF CLARENCE-ROCKLAND
(CLIENT)

By: (Print) Daniel Gatien Date: April 15, 2003

Signature: _____

Title: C.A.O.

GOLDER ASSOCIATES LTD.
(CONSULTANT)

By: (Print) _____ Date: _____

Signature: _____

Title: _____

CONDITIONS OF ENGAGEMENT FOR CONSULTING SERVICES

1. STANDARD OF CARE

Services performed by CONSULTANT will be conducted in a manner consistent with that level of care and skill ordinarily exercised by other members of the engineering and science professions currently practicing under similar conditions subject to the time limits and financial and physical constraints applicable to the Services. No warranty, express or implied is made.

2. INVOICES AND PAYMENT TERMS

CONSULTANT will submit monthly invoices to CLIENT and a final bill upon completion of Services. CLIENT shall notify CONSULTANT within ten days of receipt of invoice of any dispute with the invoice, and both parties will promptly resolve any disputed items. Payment on undisputed invoice amounts is due upon receipt of invoice by CLIENT and is past due thirty days from the date of the invoice. CLIENT agrees to pay a finance charge of eighteen percent per annum on past due accounts. If payment remains past due sixty days from the date of the invoice, then CONSULTANT shall have the right to suspend all work under this Agreement, without prejudice, and all reasonable suspension costs will be paid by CLIENT. CLIENT agrees to pay lawyers' fees, legal costs and all other collection costs incurred by CONSULTANT in pursuit of past due payments.

3. DATA AND INFORMATION

CONSULTANT shall be entitled to rely upon the reports, data, drawings, documents and other information provided by CLIENT or others in performing the Services, and assumes no responsibility or liability for the accuracy or completeness of such. CONSULTANT shall be responsible only for the accuracy of the data, interpretations and recommendations it generates or makes. CONSULTANT will not be responsible for any interpretations or recommendations made by others, based in whole or in part on CONSULTANT's data, interpretations or recommendations.

4. PROFESSIONAL WORK PRODUCT

All documents and data, including reports, drawings, logs, field data, laboratory data and calculations prepared by CONSULTANT are its professional work product, to which CONSULTANT retains all rights.

The Service provided by CONSULTANT is intended for one time use only. CLIENT understands that the professional work product is not intended or represented by CONSULTANT to be suitable for reuse by CLIENT or others on any extension of a project not covered by this Agreement or on any other project, without CONSULTANT's written permission.

5. INSURANCE AND INDEMNITY

CONSULTANT shall maintain its standard insurance coverage during the performance of this Agreement as follows:

- Workers' Compensation insurance in compliance with statutory limits
- Employers' liability with the following limits:
  Each Accident $1,000,000
- Business Automobile Liability with the following limits:
  Combined Single Limit $1,000,000
- Commercial General Liability with the following limits:
  Each Occurrence $1,000,000
  General Aggregate $2,000,000
- Professional Liability Insurance with the following limits:
  Any One Claim $1,000,000
  Policy Aggregate $3,000,000

CONSULTANT shall, at all times, indemnify and save harmless CLIENT and its officers, directors, agents and employees from and against all claims, damages, losses and expenses, including attorneys' fees, court and arbitration costs, to the extent directly attributable to the negligent acts, errors or omissions of CONSULTANT while performing Services under this Agreement.

CLIENT shall, at all times, defend, indemnify and save harmless CONSULTANT and its subcontractors, consultants, agents, officers, directors and employees from and against all claims, damages, losses and expenses, including attorneys' fees, court and arbitration costs, resulting from the Services of CONSULTANT, except to the extent such claims, damages, losses or expenses are finally determined to result from CONSULTANT's negligence. To the fullest extent permitted by law, such indemnification shall apply regardless of strict liability of CONSULTANT.

CLIENT acknowledges and agrees that it shall not make, assign or pursue any claim, whether in contract, in tort or otherwise, against individuals employed, engaged or retained by CONSULTANT in respect of the performance of the Services under this Agreement.

6. LIMITATION OF LIABILITY

CLIENT shall immediately notify CONSULTANT of suspected defects arising directly or indirectly from CONSULTANT's negligent acts, errors or omissions. Failure by CLIENT to notify CONSULTANT shall relieve CONSULTANT of any further responsibility and liability for such defects.

CLIENT and CONSULTANT agree that all claims and legal actions arising directly or indirectly from this Agreement or the Services of CONSULTANT shall be filed no later than one year after substantial completion of the Services, or prior to the last date allowed in the applicable statute of limitation, whichever occurs first.

CLIENT agrees to limit the liability of CONSULTANT, its employees, officers, directors, agents, consultants and subcontractors to CLIENT, its employees, officers, directors, agents, consultants and subcontractors, whether in contract or tort, arising directly or indirectly from CONSULTANT's acts, errors or omissions, such that the total aggregate liability of CONSULTANT to all those named shall not exceed $50,000 or CONSULTANT's total fee for the Services rendered under this Agreement, whichever is greater.

Neither party shall be responsible to the other for lost revenues, lost profits, cost of capital, claims of customers, or other special, indirect, consequential or punitive damages.

7. SUBSURFACE RISKS

If the scope of work includes borings, test pits or engineering interpretation of such information, attention is drawn to the fact that special risks occur whenever engineering and related disciplines are applied to identify subsurface conditions. Even a comprehensive sampling and testing program implemented in accordance with a professional Standard of Care may fail to detect certain conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that CONSULTANT interprets to exist between sampling points may differ from those that actually exist. Passage of time, natural occurrences, and activities near the site may substantially alter discovered conditions.

In the prosecution of the Services, CONSULTANT will take reasonable precautions to avoid damage to subterranean structures or utilities, but will not be responsible for damage and for any impact this damage may cause where such structures and utilities are not called to CONSULTANT's attention and correctly shown on the plans furnished.

If required, subsurface investigation may result in unavoidable contamination of subsurface areas not known to be previously contaminated, such as aquifers or other geological or fill formations. CLIENT acknowledges that this is an unavoidable consequence of the work, and accepts liability for such contamination.

8. SURFACE RESTORATION

While CONSULTANT will take all reasonable precautions to minimize any damage to the property, it is understood by CLIENT that in the normal course of work some surface damage may occur, the restoration of which is not part of this Agreement.

9. DISPOSAL OF SAMPLES

CONDITIONS OF ENGAGEMENT FOR CONSULTING SERVICES

All samples obtained pursuant to this Agreement remain the property of CLIENT, and shall be returned to CLIENT. Arrangements to turn such samples directly over to an appropriate waste disposal facility may be made on behalf of CLIENT at CLIENT's direction and expense.

10. CONTROL OF WORK AND SITE SAFETY

CONSULTANT shall be responsible only for its activities and those of its employees and subcontractors. CONSULTANT will not direct, supervise or control the work of other consultants and contractors, and shall have no responsibility for other contractors, suppliers or other entities furnishing materials or performing any work on the project.

CONSULTANT is responsible only for the health and safety of its employees and subcontractors.

11. DISCOVERY OF HAZARDOUS MATERIALS

CLIENT recognizes that anticipated or unanticipated Hazardous Substances may be discovered on or near the project site. CLIENT agrees that discovery of unanticipated Hazardous Substances shall constitute a changed condition for which CONSULTANT shall be fairly compensated. CLIENT recognizes that it is CLIENT's responsibility to inform the owner of any affected property of such discovery. CLIENT also recognizes that any such discovery may result in a significant reduction of the property's value. CLIENT agrees to defend, indemnify and hold harmless CONSULTANT from any claim or liability for injury or loss of any type arising from the discovery of anticipated or unanticipated Hazardous Substances, and to compensate CONSULTANT for any time and expenses incurred by CONSULTANT in defense of any such claim.

CLIENT hereby warrants that if it has any reason to suspect that hazardous materials may exist at the project site, it has so informed CONSULTANT. CLIENT shall furnish to CONSULTANT all known information relating to the identity, location, quantity, nature or characteristics of any hazardous materials at the site.

12. INDEPENDENT JUDGMENTS OF CLIENT

CONSULTANT will not be responsible for the independent conclusions, interpretations, interpolations or decisions of CLIENT, or others, which are the result of these Services. CONSULTANT does not undertake any Services which would result in any recommendation, advice or direction by CONSULTANT as to whether CLIENT should or should not proceed to purchase or sell the site in question, but it is understood that CLIENT intends to utilize the data provided by CONSULTANT to make its own independent judgement in this respect.

13. TERMINATION

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with terms hereof. Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice, such period being not less than seven (7) calendar days.

14. DISPUTES

It is the intention of the parties that in the event of a dispute arising out of the performance of the contract, every endeavour shall be made to resolve the dispute on its merits by negotiation. The parties shall attend at least one meeting to discuss the dispute before commencing other proceedings in respect of the dispute. If the dispute cannot be resolved by negotiation, the parties shall ascertain whether they agree that the dispute shall first be subject to the process of conciliation, mediation or other resolution process.

If the dispute cannot be resolved as set out above within a period of thirty days, or if at any time either party reasonably considers that the other party is not making reasonable efforts to resolve the dispute, a notice may be issued to the other party requiring that the dispute be referred to arbitration.

Arbitration shall be effected by a single Arbitrator in accordance with Arbitration and Mediation Institute "Rules For the Conduct of Arbitrations".

15. CONFIDENTIALITY

CONSULTANT shall use reasonable efforts to keep confidential all data and information which is marked confidential and furnished to CONSULTANT by CLIENT under this Agreement. CONSULTANT's confidentiality obligations shall not apply if such data or information is within the public domain, previously known to CONSULTANT, obtained from third parties without violating any confidentiality agreement, required to be produced by CONSULTANT pursuant to any law, subpoena, or court order or required by CONSULTANT in the defense of any claim. CONSULTANT may use and publish the CLIENT's name and give a general description of the Services rendered by CONSULTANT for the purpose of informing other clients and potential clients of CONSULTANT's experience and qualifications.

16. MISCELLANEOUS

a) This Agreement supersedes all other agreements, oral or written, and contains the entire agreement of the parties. No cancellation, modification, amendment, deletion, addition, waiver or other change in this Agreement shall have effect unless specifically set forth in writing signed by the party to be bound thereby. Titles in this Agreement are for convenience only.

b) This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns provided that it may not be assigned by either party without consent of the other. It is expressly intended and agreed that no third party beneficiaries are created by this Agreement, and that the rights and remedies provided herein shall inure only to the benefit of the parties to this Agreement.

c) No waiver of any right or remedy in respect of any occurrence on one occasion shall be deemed a waiver of such right or remedy in respect of such occurrence on any other occasion.

d) All representations and obligations shall survive indefinitely the termination of the Agreement.

e) Any provision, to the extent it is found to be unlawful or unenforceable, shall be ineffective without affecting any other provision of the Agreement, so that the Agreement will be deemed to be a valid and binding agreement enforceable in accordance with its terms.

f) All questions concerning the validity and operation of this Agreement and the performance of the obligations imposed upon the parties hereunder shall be governed by the laws of Ontario, unless the law of another jurisdiction must apply for this Agreement to be enforceable.

Clarence-Rockland

CORPORATION
de la Cité de / of the City of
CLARENCE-ROCKLAND
1560 rue Laurier St., Rockland, Ontario, K4K 1P7
TEL.: (613) 446-6022 FAX: (613) 446-1497

FAX BÉLINOGRAMME

DATE April 15, 2003

À / TO A. Idarwood / Golder Associates

FAX 224-9928

OBJET/OBJECT Phase II - ESA Proposed Ind. Park

MESSAGE:

Conditions of engagement for consulting Services.

Nombre de pages (incluant la page couverture) 7 Number of Pages (cover sheet included)

Réponse requise / Reply required: ..... Oui / Yes ☐ Non/No ☐
Document original à suivre / Original to Follow ..... Oui / Yes ☐ Non/No ☐

Du bureau de / From the desk of...
Richard Sarazin (poste/extension 239), Services physiques/Physical Services

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TX RESULT REPORT

Clarence-Rockland

CORPORATION
de la Cité de / of the City of
CLARENCE-ROCKLAND
1560 rue Laurier St., Rockland, Ontario, K4K 1P7
TEL.: (613) 446-6022 FAX: (613) 446-1497

FAX BÉLINOGRAMME

DATE April 15, 2003

À / TO A. Idarwood / Golder Associates

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Du bureau de / From the desk of...
Richard Sarazin (poste/extension 239), Services physiques/Physical Services

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