KC ENVIRONMENTAL GROUP LTD.
Solutions for Business and Environment

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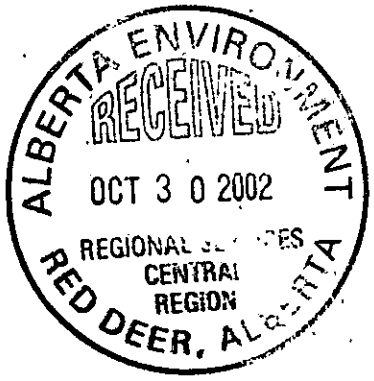

October 25, 2002

Karen Jervais
Alberta Environment
304, 4920 – 51 Street
Red Deer, AB
T4N 6K8

Re: Alberta Environment Risk Assessment for Remediation of Alberta Remediation Program Site 5720 at Alsike, AB

Dear Ms. Jervais:

As per our telephone conversation, I am enclosing copies of our Remedial Plan, Phase II and Phase III Delineation reports for a site in Alsike, Alberta. Please provide a Risk Assessment review as per the Safety Codes Council requirements.

Thank you in advance and if you have any questions, or require further information, please do not hesitate to contact me.

Yours truly,

Bryan Armstrong M. Eng. P. Eng.
Civil and Environmental Engineer

encl.

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October 25, 2002

Harold Blize
P.O. Box 233
Swan Hills, Alberta
T0G 2C0

Phone: (780) 775-2187
Fax: (780) 333-4792

Dear Mr. Blize:

Re: Proposed Remedial Plan for Site # 5720 located on Highway 20 and Highway 39 (Junction), Alsike, Alberta

KC Environmental Group Ltd. (KC) is pleased to submit this proposed remedial action plan for remediation of the Site # 5720 located on Highway 20 and Highway 39 (Junction), Alsike, Alberta. The proposed remedial plan is based on the results of the Phase III work conducted to further delineate site contamination. The cost estimated for the proposed remedial work is based on current information and existing hydrocarbon contamination levels found to date. Thus, it should be noted that this cost estimate may fluctuate should evidence of increased contamination be encountered during remediation.

Three remediation options were selected and evaluated in context with the findings at the Alsike site. These options address all contaminant situations that do not comply with remediation criteria. Technically feasible options were then evaluated as to effectiveness and cost. A detailed discussion of the three remediation options is provided in attached Appendix A.

A detailed breakdown of professional fees and all related costs such as equipment and personnel requirements and laboratory costs are included in the proposed remedial plan. This provides a total cost estimate for decision-making and budgetary purposes. However, as these are very preliminary estimates, it is advised that costs be further defined during the project-planning phase.

KC would be pleased to provide the environmental project management services for this project. KC is a fully qualified and insured environmental engineering firm that can undertake this work.

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The total cost estimate for the remediation project is approximately $111,000. However, because of the uncertainties involved in option 2, **a contingency of 10% is added onto the cost. The contingency cost is provided for additional soil and groundwater monitoring, until the site is completely remediated. The total eligible cost estimated for the proposed remedial plan is therefore approximately $122,100 + GST.**

As funding provided for each site by the Underground Tank Remediation Program is $100,000 and $15,846.27 has been used for the delineation purpose to date, only $84,153.73 will be available to partly cover the remediation cost. **It is therefore estimated that Mr. Blize will be responsible for the balance of approximately $37,946.27 and the GST of the project, which is estimated at $8547. These are very preliminary estimates and costs will be further defined during the project planning phase. It should be noted that Mr. Blize would still be responsible for payment of any amount above the available funding under the program. With this in mind, please note that more funding may be available for remediation, or for covering costs that may be considered beyond his means, if Mr. Blize addresses the issue with the Appeal Board and is approved.**

A. RECOMMENDED REMEDIAL ACTION PLAN (IN-SITU BIOREMEDIATION)

In-situ bioremediation (Option 2) is selected as the proposed remediation plan for the following reasons:

- The associated cost appears to be the lowest of the three remediation methods considered.
- Vapor Extraction Method is not chosen because the soil consists mainly of clay and silt which have relatively low permeability. The traditional soil vapor extraction pump may not be powerful enough to vacuum the volatile hydrocarbons trapped in small pores of the soil, especially for a large volume of contaminated soil (1,100 m^3). A more expensive vapor extraction system (Multi-Phase Extraction) is required for treating both contaminated soil and groundwater. In-situ bioremediation is therefore recommended.
- Business operation will not be interrupted as in the case of excavation.

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- The volume of the contaminated soil is significantly large (1,100 m^3). In-situ bioremediation is cost effective when compared to other treatment technologies.

Task 1. Liaison with Interested Parties

a. Preparation of tender documents
b. Review of site information with subcontractors that includes:
   - Site visits
   - Meetings

c. Confirm terms of reference with contractors.

d. Co-ordination and scheduling of site works with interested parties.

e. Review work and provide direction to interested parties.

Task 2. Detailed Action Plans for Remediating Soil and Groundwater

- The pumps with associated piping and the two Underground Storage Tanks (USTs) will be removed.

- Disposal of scrap metal and tanks at an approved class landfill.

- Recover and dispose of liquids that accumulate during excavation.

- Backfill and compact excavation in the area of the USTs and the pump island.

b. In-Situ Bioremediation for the hydrocarbon contaminated area.

A maximum of 10 boreholes will be drilled in close proximity to the boreholes drilled in the Phase III Environmental Site Assessment (ESA).

(a) Drilling of boreholes to provide an avenue for injecting the microbes into the contaminated zone.

(b) A sampling and monitoring program to monitor the effectiveness of the remediation effect:

   - Borehole drilling in the contaminated zone.
   - Groundwater monitoring and soil sampling from the drilled boreholes.

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Task 3. On-Going Monitoring Program (one year)

a. Confirmatory Laboratory Analysis for Soil and Groundwater Samples

- Soil and groundwater samples will be collected twice in the estimated time frame of one year, or until the representative samples meet the applicable criteria. For budgetary purposes, it is estimated that the contaminated site will be monitored for 1 year and the site will be remediated to the applicable criteria.

- Soil samples will be taken from the boreholes and field tested using the photoionization detector (PID).

- The laboratory results will be compared to the Generic Hydrocarbon and Lead Criteria for Fine-Grained Soil (Commercial Land Use) for the petroleum hydrocarbon fractions (F1, F2, F3 and F4); and the Generic Hydrocarbon Criteria for the Groundwater Ingestion Pathway (Fine -Grained Soil) for the BTEX levels, defined in the Alberta Environment's Risk Management Guidelines for Petroleum Storage Tank Sites (October, 2001). All the soil samples will be tested for BTEX (Benzene, Toluene, Ethylbenzene, Xylenes), petroleum hydrocarbon fractions: Fraction 1 (C6 - C10), Fraction 2 (C10-C16), Fraction 3 (C16-C34), Fraction 4 (C34-50) and lead. The groundwater sample will be tested for BTEX, and petroleum hydrocarbon fractions: F1 and F2.

- One year is expected for remediation of the site to the applicable criteria. This is based on the available information provided by the companies that offer in-situ bioremediation and the moderate levels of petroleum contaminants (F1 ranging from 745 to 1730 ppm when compared to the criteria of 660 ppm).

b. Data Compilation and Report Writing

- Laboratory results will be compiled and analyzed, and a semi-annual progress report will be submitted to the client. For budgetary purposes, it is estimated that the site will be monitored for 1 year.

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B. COST ESTIMATE FOR THE PROPOSED REMEDIATION PLAN

This estimate is made based on the existing hydrocarbon contamination levels found to date, however, it should be noted that these values may fluctuate should evidence of increased contamination be experienced during remediation. It should also be noted that on-site adjustments may be required depending on the conditions found at the sub-surface level. Any additional work, other than outlined in the above tasks would only be undertaken with client and Alberta Remediation Program consent.

The total cost estimated for the proposed remediation plan is approximately $111,000. However, because of the uncertainties involved in option 2, **a contingency of an additional 10% is added onto the estimated cost. The contingency cost is provided for additional soil and groundwater monitoring, until the site is completely remediated. The total eligible cost estimated for the proposed remedial plan is therefore approximately $122,100 + GST.**

Table 1. COST ESTIMATE FOR THE REMEDIATION WORK OUTLINED ABOVE (Contractors)

Job Description	Quantity	Estimated Cost	remark
1. Utility Locates	N/A	$ 0	eligible
2 Mobilization of Personnel & Equipment	N/A	$ 2,000	eligible
3. Remove & Dispose of Piping & Tanks, and pump	2 tanks at $2,000 each, and pumps with piping	$ 5,000	eligible
4. Vacuum Truck Recovery & Disposal of Pit Liquids	10 m^3	$1,000	eligible
5. Backfill the excavated area and compaction		$2,000	
6. In-situ bioremediation	1100 m^3	$ 77,000	eligible
SubTotal $		**$ 87,000**	eligible

1. Add 5% contingency for winter or inclement weather conditions.
2. N/A - not applicable

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Table 2. COST ESTIMATE FOR THE REMEDIATION WORK OUTLINED ABOVE (KC Environmental Ltd.)

Item	Quantity	Estimated Cost	remarks
1. Tender Document Preparation	N/A	$2,000	Eligible
2. Project Management for interested parties (coordination , work scheduling, providing direction)	N/A	$ 3,000	Eligible
3.PID Field test equipment for monitoring	N/A	$1,000	Eligible
4. On-site supervision for injecting microbes into the boreholes, and excavation	N/A	$1,000	Eligible
5. On-going monitoring for 1 year - soil and groundwater sampling by borehole drilling	twice for 1 year	$ 8,000	Eligible
6. On-going monitoring for 1 year - Confirmatory laboratory samples and laboratory analysis	twice for 1 year	$7,000	Eligible
7. Data Compilation and Reporting (on-going monitoring)	2 reports	$ 2,000	Eligible
SubTotal $		$24,000	Eligible

Please note that any remediation underneath the building will be carried out only if permission is granted and if the structural integrity of the building is not compromised. The client and Alberta Remediation Program will be notified and consulted regarding this matter.

C. PROJECT SCHEDULE

A project schedule depicting the timing and duration of each task is provided as shown below:

Table 3. Project Schedule

Project Task	Proposed Date
1. Project Initiation	**Fall, 2002**
Borehole drilling and injection of microbes into contaminated soil	5 days
2. On-going Monitoring (1 year)	
Soil and groundwater sampling	**Twice in one year**
Total Project time	**1 year**

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D. PROJECT PAYMENT

The Project will be invoiced monthly. Project costs not covered by the Alberta Remediation Program will be billed directly to Mr. Blize.

E. PROJECT LIMITATIONS

This project was completed to the best of the consultant's abilities and in accordance to the APEGGA Code of Ethics. The report was based on the information reviewed to the extent that the information was available and to the extent considered reasonable within the allocated project time frame and project budget. KC Environmental Group Ltd. and the environmental consultants who prepare this report will not accept any liability for contamination that may be found later on the subject site and is not identified in this environmental report. One copy of the report will be maintained in the consultant's files as required by APEGGA.

Your signature, or that of authorized personnel, in the space provided at the bottom of this letter will serve as our formal authorization to begin this work. Please fax us back a copy of this letter so that we may start as soon as possible. Please note that we also require written authorization to proceed from the government.

A completion date will be discussed with the client upon approval of the project. If you have any question or need clarification presented herein please contact the undersigned at your earliest convenience. We look forward to working with you on this project.

Sincerely Yours,

KC Environmental Group Ltd.

Bryan Armstrong, M.Eng. P.Eng.
Civil and Environmental Engineer

PERMIT TO PRACTICE
KC Environmental Group Ltd.
Signature
Date Oct. 25/2002
PERMIT NUMBER: P 6030
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Work Authorization to Proceed:

Date:

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APPENDIX A

DETAILED INFORMATION ON THE SELECTED REMEDIATION OPTIONS AND THE RECOMMENDED REMEDIATION METHODOLOGY

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1. BACKGROUND

The contaminated area is identified as being on the west side of the subject site where the pump island and the gasoline USTs are located. It is estimated that the depth to which the soil has been contaminated with petroleum hydrocarbon is approximately 4.50 m. The contaminated area on-site is estimated to be about 250 m^2. Even though no drilling was done underneath the building, it is reasonable to believe that there is no contamination underneath the on-site building located north of the pump island. The total volume of impacted soil is about 1100 m^3 on-site based on a maximum contamination depth of 4.5 m.

2. SELECTED REMEDIATION METHODOLOGIES

The following are the selected options for considerations:

Option 1: In-Situ Multi-phase Extraction (MPE):

A. General Description

Multi-phase Extraction is a remediation process that has shown excellent success in a variety of contaminant situations where liquid contaminants have entered a groundwater system. Multi-phase Extraction (MPE) removes liquid contamination from the unsaturated zone. This zone is located between the surface soil and the groundwater. This technique is capable of simultaneously removing volatile organic contaminants (VOCs) resulting from service station operations. VOC's are typically present in the soil in one of three different phases:

(I) Light, non-aqueous phase liquids (LNAPL) such as gasoline;

(2) Dissolved phase hydrocarbons; and,

(3) Vapour phase hydrocarbons.

Multi-phase Extraction operates by creating a high vacuum at the surface and effectively "sucks up" contaminants. Typically the system uses a water-cooled liquid ring vacuum pump or blower to create a large vacuum. Attaching the liquid ring to a tube inserted at the groundwater surface enables the simultaneous extraction of vapour, product and water. The high vacuum mechanism at the surface induces airflow through the soil, stripping and volatilizing the VOCs from the soil matrix into the air stream.

(B) General remedial procedures

The following describes the general procedures for the site if option 1 is selected:

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(i) Boreholes drilling for recovery wells

(ii) After a borehole is drilled, a recovery well is inserted into the newly created borehole for contamination collection or treatment.

(iii) The recovery system will:

- Collect vapors rising through the soil layer
- Skim contaminants from the groundwater surface
- Gather contaminants that have dissolved into the groundwater.

(C) Continuous monitoring program:

Proposed sampling frequency

- For budgetary purposes, it is assumed that 10 boreholes are required.
- The proposed sampling frequency hydrocarbon vapour is twice per year (one year is anticipated for completion of the program).

(D) Applicability to the subject site

The laboratory results show that both soil and groundwater are contaminated with petroleum products.

BTEX and fraction F1 are the main contaminants

The levels of benzene in the contaminated soil samples ranged from 0.087 ppm to 4.05 ppm (criteria: 0.073 ppm), and the levels of petroleum fraction F1 ranged from 745 to 1,730 ppm (criteria: 660 ppm). Considering the volatile nature of BTEX and Fraction F1, SVE is a good candidate for the remediation purposes.

Groundwater

The groundwater sample had F1 level of 15.9 ppm (Criteria: 5 ppm) and F2 level of 41 ppm (Criteria: 2 ppm). Considering the relatively high level of F2 in the groundwater sample, MPE is a good candidate as it is very effective for groundwater containment.

Soil Type

- Vapor Extraction Method is not chosen because the soil consists mainly of clay and silt which have relatively low permeability. The traditional soil vapor extraction pump may not be powerful enough to vacuum the volatile hydrocarbons trapped in small pores of the soil, especially for a large volume of contaminated soil (1,100 m^3). A more expensive vapor extraction system

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(Multi-Phase Extraction) is required for treating both the contaminated soil and groundwater system.

Underneath on-site building

- Installation of vapor extraction is a good candidate for remediating the contaminated soil underneath the building as it only involves installation of piping and recovery wells for the trapped petroleum hydrocarbons.
- However, the Phase III Delineation Report shows that contamination is not likely present underneath the on-site commercial building located on site, as shown on the attached site sketch (Appendix B). Borehole drilling was not done in Phase III so as not to jeopardize the structural integrity of the buildings.

(E) Advantages

- Piping can be used to collect and treat subsurface contaminants in vapor, liquid or dissolved form even if they are located underneath structures.
- No excavation other than borehole drilling is required.
- Soil backfilling is not required.
- Less disruption to the site activity.
- Hydrocarbons trapped below the groundwater surface are available for simultaneous removal through volatilization and aerobic biodegradation (bioventing).
- Vapour extraction combined with bioventing is a more rapid mass removal process compared to groundwater extraction. The reason is that LNAPL has a low solubility, and a relatively high vapour pressure and therefore LNAPL will partition much faster to air than groundwater.

(F) Disadvantages

- Higher capital cost which includes installation of the vacuum extraction system.
- Monitoring of the soil and groundwater is an on-going process until the representative soil and groundwater samples meet the applicable criteria.
- Not an immediate clean up solution. It is a relatively long term process; the time frame of remediation is approximately 1 to 3 years.
- Operating and maintenance cost is required.

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(G) Cost Estimate:

The total cost estimated for option 1 is approximately $134,500. However, because of the uncertainties involved in option 1, **a contingency of an additional 10% is added onto the cost. The total eligible cost estimated for option 1 is therefore approximately $147,950 + GST.** The contingency cost is provided for additional soil and groundwater monitoring, until the site is completely remediated.

Table A1. COST ESTIMATE FOR OPTION 1 (Contractors)

Job Description	Quantity	Estimated Cost	remark
1. Utility Locates	N/A	$ 0	eligible
2. Mobilization of Personnel & Equipment	N/A	$ 2,000	eligible
3. Remove & Dispose of Piping & Tanks, and pump	2 tanks at $2,000 each, and pumps and piping	$ 5,000	eligible
4. Backfill the excavated area and compaction	N/A	$2,000	
5. Load , Transport and disposal of debris during installation of the MPE infrastructure and boreholes drilling for on-going monitoring	N/A	$ 2,000	eligible
6 Vacuum Truck Recovery & Disposal of Pit Liquids	10 m^3	$ 500	eligible
7 Sub-Grade Piping & Monitoring Infrastructure	N/A	$ 30,000	eligible
8. Electricity connection (class I for explosion proof)		$ 15,000	eligible
9. MPE System Capital Cost + Installation	1 per site	$ 45,000	eligible
10. Annual operating cost (electricity)		$ 6,000	eligible
SubTotal $		**$ 107,500**	eligible

Table A2. COST ESTIMATE FOR OPTION 1 (KC Environmental Ltd.)

Item	Quantity	Estimated Cost	remarks
1. Tender Document Preparation		$2,000	Eligible
2. Project Management for interested parties (coordination , work scheduling, providing direction)		$3,000	Eligible
3 On- site supervision (1 week)		$2,000	
4. on-going monitoring for 1 year - soil and groundwater sampling by borehole drilling and also vapor sampling from the recovery wells	Twice for vapor sampling from recovery wells Once for soil and groundwater sampling	$ 9,000	Eligible
5 PID Field test equipment	N/A	$1,000	Eligible
6. Confirmatory laboratory samples and laboratory analysis (on-going monitoring)	1 year	$ 8,000	Eligible
7. Data Compilation and Reporting (on-going monitoring)	2 reports	$ 2,000	Eligible
SubTotal $		$27,000	Eligible

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Option 2: In-Situ Bioremediation (BioQuest Technology):

Option 2 is selected as the proposed remediation plan for the following reasons:

- The associated cost appears to be the lowest of the three remediation methods considered.
- Vapor Extraction Method is not chosen because the soil consists mainly of clay and silt which have relatively low permeability. The traditional soil vapor extraction pump may not be powerful enough to vacuum the volatile hydrocarbons trapped in small pores of the soil, especially for a large volume of contaminated soil (1,100 m^3). A more expensive vapor extraction system (Multi-Phase Extraction) is required for treating both contaminated soil and groundwater. In-situ bioremediation is therefore recommended.
- Business operation will not be interrupted as in the case of excavation.
- The volume of the contaminated soil is significantly large (1100 m^3), In-situ bioremediation is cost effective when compared to other treatment technologies.

(A) General Description

BioQuest's Technology utilizes harmless bacteria that that have been raised in the laboratory on a diet of hydrocarbons. These microbes are then injected in a slurry of water, oxygen and nutrients into the soil, where the microbes will break down the hydrocarbon contaminants.

The process introduces a selected group of hydrocarbon consuming aerobic microbes in large amounts (100 billion per gram) into the contaminated zones. The microbes then begin to consume the hydrocarbons and the process of "micro-organism splitting" begins. Within this environment, the microbes are able to split, or multiply, in 20-30 minute intervals. From this point, for every 20-30 minute interval, the original 100 billion microbes becomes 200 billion and this process continues until one of the four elements of water, nutrient, food or oxygen have been depleted.

(B) General Remedial Procedures

The following describes the general procedures for the site if option 2 is selected:

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(i) Boreholes drilling in order to provide an avenue for injecting the hydrocarbon eating microbes into the contaminated zone.

(ii) A sampling and monitoring program to monitor the effectiveness of the remediation:

- Borehole drilling
- Groundwater monitoring and soil sampling from the drilled boreholes

(C) Applicability to the subject site

BTEX and fraction F1 are the main contaminants

Soil samples -The levels of benzene in the contaminated soil samples ranged from 0.087 ppm to 4.05 ppm (criteria: 0.073 ppm), and the levels of petroleum fraction F1 ranged from 745 to 1,730 ppm (criteria: 660 ppm).

Groundwater samples -The groundwater sample had F1 level of 15.9 ppm (Criteria: 5 ppm) and F2 level of 41 ppm (Criteria: 2 ppm).

Considering the contaminants are mainly light hydrocarbons, in-situ bioremediation will be a good candidate as light hydrocarbons are easier for the microbes to break down.

Soil Type

- The soil consists mainly of clay and silt which have relatively low permeability. It is harder for the microbes to get into the small pore space of soil with low permeability to consume the BTEX and petroleum fraction F1 trapped in the soil matrix. Thus, hydrocarbon starved microbes might have to be injected twice into the contaminated zone.

Underneath the on-site building

- Phase III Delineation Report shows that contamination is not likely present underneath the on-site commercial building located on site, as shown on the attached site sketch (Appendix B). Microbes may migrate into any contaminated area underneath the building to search for hydrocarbons, the food source.

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(D) Advantages

- No excavation other than borehole drilling is required.
- Soil backfilling is not required.
- Less disruption to the site activity.
- Soil integrity is maintained.
- A natural process that consumes organic contaminants and by-products are generally innocuous.
- Most of the hydrocarbon contaminated sites are remediated to the applicable criteria in 120 days (4 months).

(E) Disadvantages

- Monitoring of the soil and groundwater is an on-going process until the representative soil and groundwater samples meet the applicable criteria.
- Not an immediate clean up solution.
- There are some uncertainties on total remediation.

(F) Cost Estimate:

The total cost estimated for the remediation project is approximately $111,000. However, because of the uncertainties involved in option 2, a contingency of 10% is added onto the estimated cost. The contingency cost is provided for additional soil and groundwater monitoring, until the site is completely remediated. **The total eligible cost estimated for the proposed remedial plan is therefore approximately $122,100 + GST.** Please refer to Table 1 and 2 for detailed breakdown of cost.

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Option 3 – Excavation with off-site Disposal and Natural Attenuation for Area underneath the Building if there is any contamination

(A) General Description

- Accessible contaminated area -This remediation method would involve excavation and stockpile of clean fill material, installation of a retaining wall, excavation and disposal of tanks/contaminated soil, replacement of fill and compaction.

(B)) Applicability to the subject site

BTEX and Petroleum Fraction F1 are the two main contaminants

- Considering the highly mobile nature of these light hydrocarbons BTEX and F1, excavation can prevent further migration of these contaminants by cleaning up majority of the contaminated area immediately.

- As the majority of the contaminated area is removed. It is reasonable to believe that the any remaining component concentrations in the inaccessible soil underneath the building will diminish with time from natural attenuation (i.e. remaining components will break down on their own over time).

- Laboratory analysis shows that groundwater has been impacted by the petroleum hydrocarbons. Immediate action such as excavation can prevent further migration of these contaminants by cleaning up the majority of the contaminated area. Groundwater is used for potable water for the on-site residential house and the off-site residential house.

(C) Advantages

- Most of the contaminated area is immediately and almost completely cleaned up.

(D) Disadvantages

- Disposal of contaminated soil is required.
- Backfilling and compaction of fill are required.
- Site activity is interrupted during excavation of the contaminated area.
- Import of soil necessary.

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(E) Estimated Cost

The total eligible cost estimated of option 3 is approximately $149,000 + GST.

Table C1. COST ESTIMATE FOR OPTION 3 (Contractors)

Job Description	Quantity	Estimated Cost	remarks
1. Utility Locates	N/A	$ 0	eligible
2. Mobilization of Personnel & Equipment	N/A	$ 3,000	eligible
3. Install Fencing & Signage	N/A	$ 2,000	eligible
4. Install Retaining Structures	30 m (maximum)	$ 9,000	eligible
5. Remove & Dispose of Piping & Tanks, and pump	2 tanks at $2,000 each, and pumps and piping	$ 5,000	eligible
6. Excavate, Load & Transport Contaminated Material	1100 m^3	$80,000	eligible
7. Vacuum Truck Recovery & Disposal of Pit Liquids	30 m^3	$ 6,000	eligible
8. Backfill, Delivery, Placement & 95% Compaction	As per Item 6	$23,000	eligible
SubTotal $		$128,000	eligible

Notes:
3. Add 5% contingency for winter or inclement weather conditions.
4. N/A - not applicable

Table C2. COST ESTIMATE FOR OPTION 3 (KC Environmental Ltd.)

Job Description	Quantity	Estimated Cost	remark
1. Tender Preparation (tender document preparation and selection of contractors)		$2,000	Eligible
2. Project Management for interested parties (coordination , work scheduling, providing direction)		$3,000	Eligible
3.PID Field test equipment		$1,000	Eligible
4. Confirmatory Lab Analyses (Excavation)	N/A	$ 8,000	Eligible
5. Data Compilation & Reporting (excavation))	one	$1,000	Eligible
6. Engineering and Project Supervision (3weeks)	N/A	$ 6,000	Eligible
SubTotal $		$21,000	Eligible

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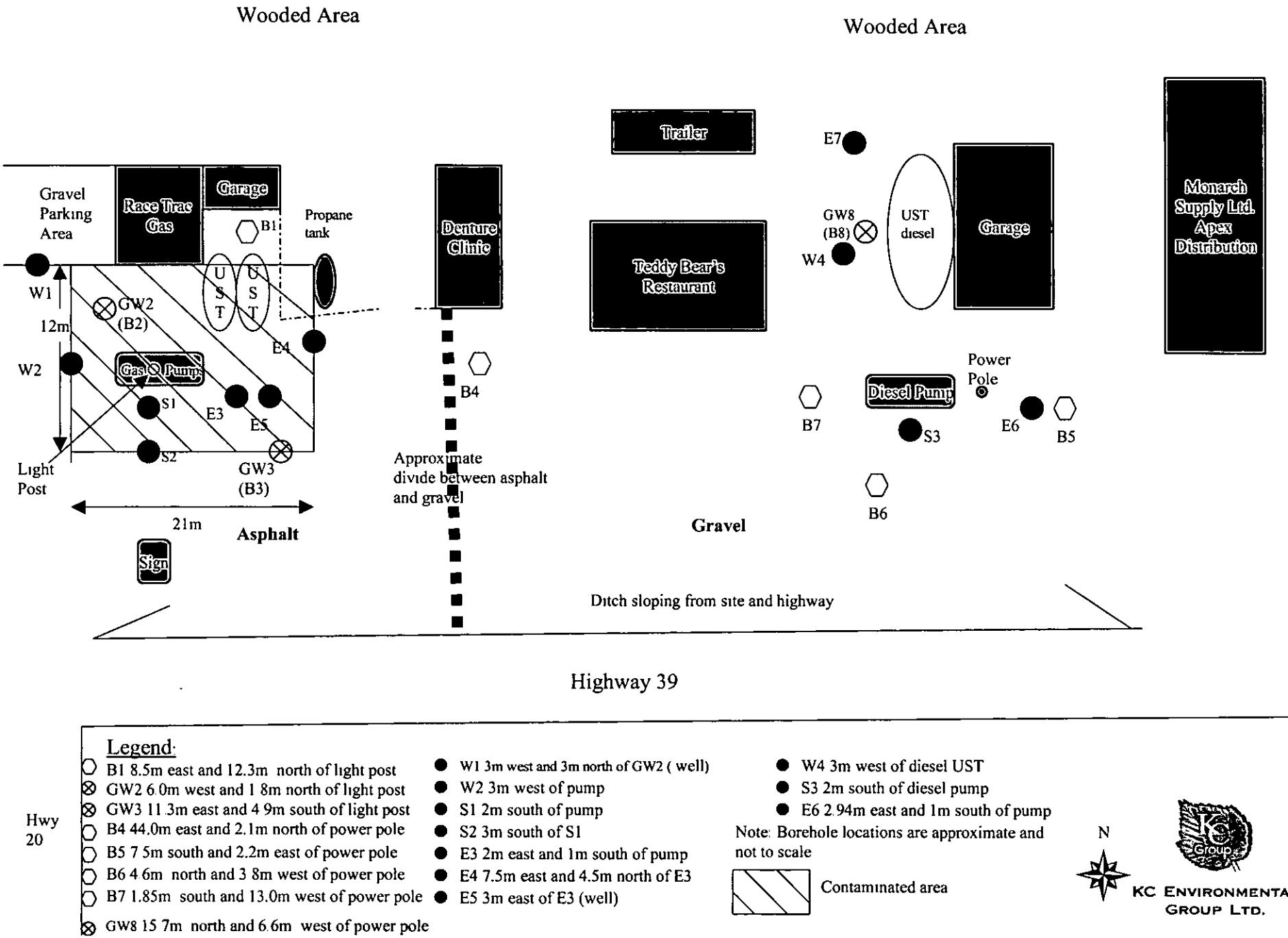
APPENDIX B

SITE SKETCH


Wooded Area
Wooded Area
Gravel Parking Area
Race Trac Gas
Garage
B1
Propane tank
Denture Clinic
Trailer
Teddy Bear's Restaurant
E7
GW8 (B8)
W4
UST diesel
Garage
Monarch Supply Ltd. Apex Distribution
W1
GW2 (B2)
12m
W2
UST
UST
E4
Gas Pump
S1
E3
E5
S2
GW3 (B3)
Light Post
21m
Asphalt
Sign
B4
Approximate divide between asphalt and gravel
Power Pole
Diesel Pump
B7
S3
E6
B5
B6
Gravel
Ditch sloping from site and highway
Highway 39
Hwy 20
Legend:
B1 8.5m east and 12.3m north of light post
GW2 6.0m west and 1 8m north of light post
GW3 11.3m east and 4 9m south of light post
B4 44.0m east and 2.1m north of power pole
B5 7 5m south and 2.2m east of power pole
B6 4.6m north and 3 8m west of power pole
B7 1.85m south and 13.0m west of power pole
GW8 15 7m north and 6.6m west of power pole
W1 3m west and 3m north of GW2 (well)
W2 3m west of pump
S1 2m south of pump
S2 3m south of S1
E3 2m east and 1m south of pump
E4 7.5m east and 4.5m north of E3
E5 3m east of E3 (well)
W4 3m west of diesel UST
S3 2m south of diesel pump
E6 2.94m east and 1m south of pump
Note: Borehole locations are approximate and not to scale
Contaminated area
N
KC Group
KC Environmental Group Ltd.