TE 23

HEMMERA

RESOURCE
CONSULTANTS LTD.

OCP REMEDIATION

Brooks Brook
Yukon Territory

Prepared For:

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March 2000
File: 316-003.03

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

1.0 INTRODUCTION

Hemmera Resource Consultants Ltd. (Hemmera) completed the supervision of the remediation of organochlorine pesticide (OCP) contaminated soil at the Brooks Brook camp site at Gantiyawk near Teslin Yukon Territory (Figure 1). This work was completed as per our cost estimate and proposal of October 5, 1999 to Indian and Northern Affairs Canada (INAC) and under the terms and conditions specified in Standard Offer Agreement Number 98-6188 and call up number 98-6188-03.

1.1 Previous Investigation

Previous investigations by Royal Military College of Canada (RMC) Environmental Sciences Group (ESG) in 1997 had indicated that one soil sample collected south of the new cook shack had elevated concentrations of OCPs. In 1997, Hemmera advanced three test pits in this area and collected soil samples for analysis. The results of these analyses indicated moderately elevated concentrations of OCPs. It was felt that further investigation was required in light of the concentrations of OCPs detected. A grid of surface and shallow near surface sampling locations was laid out and soil samples were collected from surface and at a depth of approximately 20 to 30 cm. These samples were submitted to the project laboratory for analysis of concentrations of OCPs. The results of the analysis of these soil samples indicated that OCPs were widely dispersed over the sampling grid and that the full extent of the contamination had not been delineated. It was decided that a third sampling event in 1998 was required with field testing of soil samples in order for the full extent of the OCP contaminated soil to be determined. In addition, test pits were advanced to a depth of 1.5 metres at four locations in the grid. Test pit locations were chosen based on the analysis of surface samples. Representative locations with high OCP concentrations in surface soil samples were targeted. Samples were collected every 0.25 metres of vertical depth in each test pit. An immunoassay field test kit was used to determine concentrations of total OCPs. Using the results of the field

testing, the extent of the OCP contamination was delineated. In order to ensure that the field testing results were valid, duplicates of the field testing samples were analyzed at the project laboratory in Vancouver, B.C.

The results of the analysis of the soil samples indicated that the depth of the OCP contamination was less than 1.25 metres at the four test pit locations. Since the test pits were advanced at locations that had the highest concentrations of OCPs in surface samples, it was felt that the OCP contamination would be much shallower at other areas with lower concentrations at surface. In three of the four test pits advanced to test the depth of OCP contamination, the maximum depth of contamination using the 0.5 ppm individual OCP criteria was 0.5 metres. Therefore, assuming that, over the entire area contaminated with individual OCPs in excess of 0.5 ppm, the average depth of contamination is 0.625 metres, then the total volume of contaminated soil is approximately 1875 m^3. This volume was used as the approximate volume of soil requiring remediation. However, the analysis of samples collected during test pitting indicated that a sample at a depth of 1.25 metres in one of the test pits had concentrations of individual OCPs in excess of 0.5 ppm. While the sample at a depth of 1.5 metres in the same test pit had concentrations of individual OCPs less than 0.5 ppm.

The test pitting was not extensive enough to fully delineate the vertical extent of OCP contamination across the entire grid. It was felt that the volume of contaminated soil could increase due to the presence of areas with elevated OCP concentrations at depths greater than 0.625 metres. Figure 3 shows the extent of soil contaminated with concentrations of DDT in excess of 0.7 ppm given the available information.

During the previous investigations at the site, an area of soil contaminated with concentrations of heavy extractable petroleum hydrocarbons (HEPH) was detected. The location of exceedances are shown on Figure 3. This HEPH is limited to depths

shallower than 0.2 metres and is entirely contained within the intended excavation for the removal of OCP contaminated soil.

Throughout this report, location names are used that may now seem inappropriate, such as "new cook shack." The building referred to as the "new cook shack" has been moved, as this building was located in the center of the area to be remediated. However, many of the previous sampling locations were located relative to the "new cook shack" location. While it might seem appropriate to designate the current location of the cook shack as the "new cook shack," in order to maintain consistency with previous reports and to maintain a system of nomenclature that has been established, the names given to locations and infrastructure during the initial phases of investigation will be maintained. Please refer to Figure 2 for the location of the areas and infrastructure referenced.

1.2 Scope of Work and Objectives

There were two scopes of work for this project: Hemmera's and the overall project's. Hemmera's scope of work was to provide technical supervision to the remediation contractor for such items as delineation of excavation extent, confirmation sampling and general assessment of the general contractor's procedures. The scope of work for the project was the remediation of OCP contaminated soil in the vicinity of the new cook shack through excavation and off-site removal of soil.

The objective of the work was the remediation of OCP contaminated soils such that residual DDT concentrations in soil are less than 0.7 ppm.

1.3 Remedial Criteria

The remedial criterion to be used for this project is 0.7 ppm DDT. In order to obtain field confirmation of the concentrations of OCP remaining in the soil, an immunoassay test kit

was used on-site. This field test kit is unable to differentiate between DDD, DDE and DDT. Additionally, the test kit is set up such that one of the standard references to complete the test is set at 0.5 ppm DDD + DDE + DDT. Thus, in order to avoid unnecessary dilution of reference standards in order to get a 0.7 ppm reference standard, which may result in errors, a field criteria of 0.5 ppm DDD + DDE + DDT was used. This will also provide for a margin of error. All confirmation samples were split into duplicates and approximately every second split was analyzed at the project laboratory in Vancouver to determine if indeed the residual concentration of DDT was less than 0.7 ppm. The field test kit was used as part of the previous investigation at this site and it has proven to be an accurate tool for the assessment of OCP concentrations in soil. All soil samples were homogenized prior to testing to ensure that the field testing and laboratory testing would not be biased by the nugget effect.

The remedial criteria for the extractable petroleum hydrocarbons (EPH)(which includes HEPH and light extractable petroleum hydrocarbons (LEPH)) was the Yukon Contaminated Sites Regulations Residential Standards of 1,000 ppm for both HEPH and LEPH.

2.0 WORK PROGRAM

The work program for this project incorporated a number of key components:

- Health and safety;
- Site preparation;
- Protocol;
- Excavation;
- Confirmation Sampling;
- Site closure; and
- Air Quality Monitoring.

Photos at the back of this report document the various stages in the remediation.

2.1 Health and Safety

A comprehensive Site Safety and Health Plan (Site Safety Plan) was implemented at the Brooks Brook Camp site during the remediation program in accordance with the guidelines issued by the U.S. National Institute for Occupational Safety and Health (NIOSH) *(Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities)* and the *Yukon Occupational Health and Safety Handbook* (Yukon Workers Compensation Health and Safety Board 1992) as outlined below. The purpose of the Site Safety Plan was to establish requirements for protecting the health and safety of field personnel during the activities conducted on the site. The plan was prepared to ensure that the consulting and contractor's personnel were suitably protected during remediation operations until such time as the soils have been confirmed to be at non-hazardous levels. The plan contains safety information, instructions and procedures. This plan was reviewed on an ongoing basis as the work progressed.

All workers underwent a training session in health and safety concerns prior to being allowed to work at the site.

2.2 Site Preparation

Previous investigations of the site have used the southeast corner of the new cook shack as a benchmark for the sampling grid. All historical sample locations to date were referenced to this point. In order to ensure that the extent of the excavation was accurately laid out and that confirmation sample locations could be accurately referenced, new benchmarks were established outside of the anticipated excavation extent (Figure 4). In order to delineate the extent of the excavation as originally envisioned, the corner of the new cook shack foundation, which was still in place even though the cook shack had been relocated, was used as a benchmark. A total station survey instrument was used to delineate the extent of the contaminated zone as identified during previous investigations. Survey tape and stakes were used to mark the boundary of the contaminated zone.

All vegetation was removed from the excavation area using the rake attachment on a Komatsu excavator. This material was placed in either waste bins for disposal as contaminated waste or temporarily in a flat bed truck with removable sides. This flat bed truck was covered with a sheet of polyethylene prior to the placement of the vegetation inside. A polyethylene sheet was used to cover the top of the truck. This was later transferred to a bulk hauler for shipment to the West Edmonton landfill for disposal

Following the completion of the surveying to establish the excavation extent, new survey benchmarks were established outside of the excavation (Figure 4) and the foundation for the new cook shack was removed and disposed as contaminated material. During the course of the excavation, metal and wood debris was encountered. Any material that was encountered that was in contact with contaminated soil was treated as contaminated material.

Temporary fencing was installed around the excavation area and the soil bag storage area. A decontamination trailer was established and decontamination protocols were established following the establishment of the fenced area. All personnel entering into the fenced area were required to wear protective equipment and to undergo the decontamination ritual prior to exiting the fenced in area.

The area was divided into a hot zone and the soil storage area. The hot zone was defined as the excavation and the soil stockpile areas. Temporary plastic sheeting was laid down under the soil stockpile area in order that the bags would not freeze to the ground in the winter.

2.3 Protocol

The soil was excavated using a Komatsu 200 excavator. It was then transported to the soil stockpile area using a front-end loader. These two pieces of equipment, along with a small excavator that was used to load the bags, were designated as hot zone equipment and did not leave the hot zone unless they had been decontaminated. A soil stockpile was established at the edge of an existing concrete foundation (Foundation "K"). Front-end loaders equipped with special forked hoppers were used to transport the soil storage bags. These storage bags had a stated capacity of 1.2 m^3. The loaders would pull up to the edge of the soil stockpile and the small excavator would load the bags to their stated capacity. One of the crew would brush off any excess soil and the loader would proceed to the soil storage area. Two crew members would release the bag from the hopper and close it off at the top using the attached ties. They would then load the hopper with another bag and the cycle would continue. Two loaders were used to move bags. Initially, the soil storage area was not entirely covered with plastic sheeting and the hoppers were not being brushed off prior to moving. Some soil did spill off of the hoppers as they were moved from the loading zone to the storage area. Surface samples of the area over which the

loaders traveled were field tested (Sample IDs: T1 to T6) and did not indicate elevated concentrations of OCP. Two of these samples (Sample ID: T3 and T6) were also analysed at CANTEST Laboratories of Vancouver for concentrations of OCPs. The analysis indicated concentrations of DDT much less than 0.7 ppm (T3 = 0.14 ppm DDT and T6 = 0.1 ppm DDT). The soil storage area and the transfer route were eventually completely covered with heavy plastic sheeting and virtually all of the small amount of soil that might spill off of the hopper or bags would land on this tarp. This tarp will be treated as contaminated material after all of the soil bags are removed off site. It will also be disposed at the West Edmonton landfill.

The bags were arranged to provide easy access during the winter. General Waste planned on taking advantage of cheaper backhaul rates to move the soil storage bags to the West Edmonton Landfill over the winter. A forklift was to be garaged at a local crew member's home and this crew member would load the trucks as they came through the site over the winter. In order to protect the bags from snow and rain, they were covered with layers of polyethylene sheeting, which was weighted down with logs. General Waste originally planned to stack the soil bags two high. This was abandoned in favor of a single layer of bags.

As the excavation progressed, it became necessary to move the soil bagging operation to another area adjacent to the site. The original loading area was scraped clean using the excavator and any material collected was treated as contaminated material. A new bagging area was created at the southeast corner of the excavation. Contaminated soil was stockpiled on boards laid down on top of the plastic sheeting and on areas identified as clean in the excavation. These areas were scraped clean following the completion of the soil bagging operation. All areas that contaminated soil was stockpiled on were over excavated down to below an elevation that had been tested as clean prior to backfill.

2.4 Excavation

The original area to be excavated encompassed approximately 3000 m^2 (Figure 3). The minimum depth of excavation was to be 0.5 metres. Due to inaccuracies in the layout of the original sampling grid, there was some concern that laying out the excavation extent using the drafted plan may not result in all of the contaminated soil area falling within the excavation extent. This was because the drafted plan was based on an accurate 5 metre sampling grid while in the field the sampling grid was not as accurate(it was laid out by eye using a tape measure and pacing for distances), particularly farther away from the benchmark (south east corner of the foundation for the new cook shack). It was decided to trench the excavation as laid out; sample the outside walls of the trench; and adjust the excavation extent based on the results of the analysis of these samples using the immuno assay test kit. Soil samples were collected along the walls of this trench at depths of 0-20 cm. It was felt that the mode of contamination was by surface spills and, as such, samples collected at or near the surface would provide a better indication of whether or not closure was being attained than if samples were collected over the full depth profile of the trench walls. The samples were collected at a frequency of approximately 1 per 10 lineal metres of wall. In some areas of the excavation, numerous step outs were required. The overall area to be excavated expanded to approximately 3900 m^2. Figure 4 shows the original outline of the contaminated area and the final outline of the contaminated area for comparison.

As confirmation of the remedial goals was attained over portions of the excavation, clean backfill was brought into the site and placed using front-end loaders and caterpillar bulldozers. This was compacted using a rolling drum compactor and, in some cases, liberal applications of water.

2.5 Confirmation Sampling

The excavation was advanced in approximately 0.5 metre lifts. Confirmation samples were collected on a 5 metre grid over the base of the excavation area and tested in the field using the immuno assay test kit (Figure 5). Three hundred and fifty one samples were tested in the field using the immuno assasy test kit. Samples that had concentrations of DDD+DDE+DDT greater than 0.5 ppm were classified as failures (i.e. contaminated) and a further 0.5 metre lift was excavated from an area covering approximately 25 m^2 centered on the failed sample collection location. This proceeded until the results of the immuno assay testing indicated that the residual concentration of DDD+DDE+DDT was less than 0.5 ppm. The results of the immuno assay test results are summarized in Table 1 for all samples and at the bottom of Table 2 for those samples also analysed at the laboratory.

The results of the analysis of the trench samples were used to provide confirmation of horizontal closure on the contaminated soil.

In a few locations (Sample ID: LC10, LC13 and LD4), the results of the immuno assay testing indicated that the concentrations of DDD+DDE+DDT was marginally greater than 0.5 ppm. In these cases, the field engineer determined that closure had been obtained even though the immuno assay test kit results were marginally over 0.5 ppm, as the immuno assay test criteria was conservative. It was felt that the laboratory analysis would confirm that the concentration of DDT would be less than 0.7 ppm. This proved to be correct (LC10 = <0.03 ppm DDT, LC13 = 0.26 ppm DDT and LD4 = <0.03 ppm DDT).

In order to provide laboratory confirmation of remediation of OCP contaminated soil to concentrations of less than 0.7 ppm DDT, 157 samples were analysed at CANTEST Laboratories of Vancouver for concentrations of OCPs. The results of the analysis of

these soil samples are summarized in Table 2. The original laboratory data are included in Appendix A.

Some of the samples collected from the area underlying where hydrocarbon contamination had been encountered during the investigation were submitted to Cantest for analysis of concentrations of Extractable Petroleum Hydrocarbons (EPH). The results of these analyses indicated none of the samples had detectable concentrations of EPH (Table 3). The location of the samples submitted for EPH analyses are shown in Figure 5.

The results of the analysis of the samples for OCPs has indicated that remediation of OCP contaminated soil such that concentrations of DDT are less than 0.7 ppm has been completed.

2.6 Material Disposal

The excavated soil is to be disposed at the West Edmonton Landfill. The soil storage bags are to be transported to the landfill over the winter. Manifests for the transportation of the soil are the responsibility of General Waste. In total, 3000 bags of soil will need to be shipped to the landfill. The preliminary data has indicated that the average bag weight is 2.3 tonnes/bag, with the range from 1.9 to 2.9 tonnes/bag.

2.7 Site Closure

Hemmera's representative mobilized from the site prior to the complete closure of operations. However, backfilling of the site was ongoing at the time of departure and confirmation that residual concentrations of DDD+DDE+DDT less than 0.5 ppm had either been obtained or a decision had been made to halt the excavation due to great depth. The soil storage area was wrapped with construction fencing.

All equipment was washed prior to demobilizing from the site. All protective equipment that could not be cleaned was treated as if it were contaminated and disposed along with the soil.

A truck loading ramp was constructed using old concrete blocks and compacted clean fill. This ramp was to be used to facilitate the loading of the soil storage bags onto the trucks for transport to the West Edmonton landfill.

2.8 Air Quality Monitoring

During the excavation, air quality monitoring stations were set up inside the cab of the small excavator and along the northern perimeter fence. These air quality samples were analyzed for concentrations of OCP. All of the samples came back less than the detection limits and the air quality monitoring was halted after approximately 1 week. The health and safety requirements were not reduced even though the air quality monitoring results indicated that OCP contaminated airborne particulate matter was not a concern. The results of the analysis of the air quality samples are summarized in Table 5 and included in Appendix A.

3.0 OBSERVATIONS

During the course of the remediation, a number of observations were made and events occurred that are worth noting.

The initial sampling grid was set using a tape measure and the eastern edge of the foundation for the new cook shack as a baseline. All of the sampling locations were measured from the south east corner of this foundation. Consequently, the 5 metre grid was not very accurate. When the surveyors came attempted to mark out the extent of the proposed excavation as drawn on the map, there was some discrepancy between the extent of the excavation as drawn on the map and the extent of the excavation as it was laid out in the field using the south east corner of the new cook shack foundation as a bench mark. The further away from the bench mark, the less accurate the grid became in the field. In order to resolve this discrepancy, the field engineer had the surveyor lay out the excavation boundary using the south east corner of the foundation for the new cook shack as a bench mark and trenching and sampling was commenced along this boundary. Samples were tested using the immuno assay test kit such that field engineer could have a greater level of comfort that the full extent of the contamination would fall within the confines of the excavation. On doing this, we discovered more areas with contaminated soil and the excavation eventually ended up expanding by approximately 900 m^2.

During the excavation of the southwestern part of the excavation, an old 205 litre drum was struck by the loader (Figure 5, labeled "Drum"). This drum started to spill oil onto the ground. It was unclear from the markings on the drum what kind of oil this might be and, given the common occurrence of PCB laden oil on sites such as this, it was treated as if it contained PCBs. The drum was emptied into a 205 litre plastic drum, which was sealed and wrapped in polyethylene. The contaminated soil was shoveled into a separate drum and sealed. The drum was placed in one of the soil storage bags and then wrapped in polyethylene. The area was cordoned off and an oil soaked sample of soil was

submitted to the project lab for analysis for concentrations of PCBs (Sample ID: Drum1). The results of the analysis of this soil sample indicated that concentrations of PCBs were less than the detection limit. The drummed material was moved to the side of the hot zone and disposed by General Waste as waste oil and oil contaminated sludge.

All health and safety guidelines and protocols were adhered to during the completion of the project.

In order to facilitate the passage of the semi trucks that were to haul the soil storage bags off site over the course of the winter, the access roads into the site were widened and graded. The vegetation removed during this work was hauled to the dump, as it was removed from an area that was a considerable distance from the contaminated zone.

The storage area for the soil bags extended to the edge of Foundation "K" (Figure 5 labeled "Temporary Storage Area). These bags cover an area that had previously been identified as containing hydrocarbon contaminated soil. These bags will have to be removed if any remediation of this area is planned.

During the preparation of the site, it was noted that what looked like a garage service pit was located at the middle southern edge of Foundation "K." As well, a sump was located at the western edge of the foundation. The sump was removed during the course of the re-grading of the site following backfilling. The exposed sub-grade for Foundation "K" was observed to be grey in color and appeared to be stained. Two soil samples collected from this material did not have elevated concentrations of hydrocarbons (Sample IDs: Pad 1 and Pad 2). However, no testing of the area around the garage service pit was completed and this remains as an area of potential concern. The results of the testing of these samples are summarized in Table 4 and the original laboratory data is included in Appendix A.

4.0 CLOSURE

This report was prepared by Hemmera Resource Consultants Ltd. for the account of INAC. The material in it reflects Hemmera's judgement in light of the information available to them at the time of preparation. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, are the responsibility of such Third Parties. Hemmera Resource Consultants Ltd. accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

Yours truly,

HEMMERA RESOURCE CONSULTANTS LTD.

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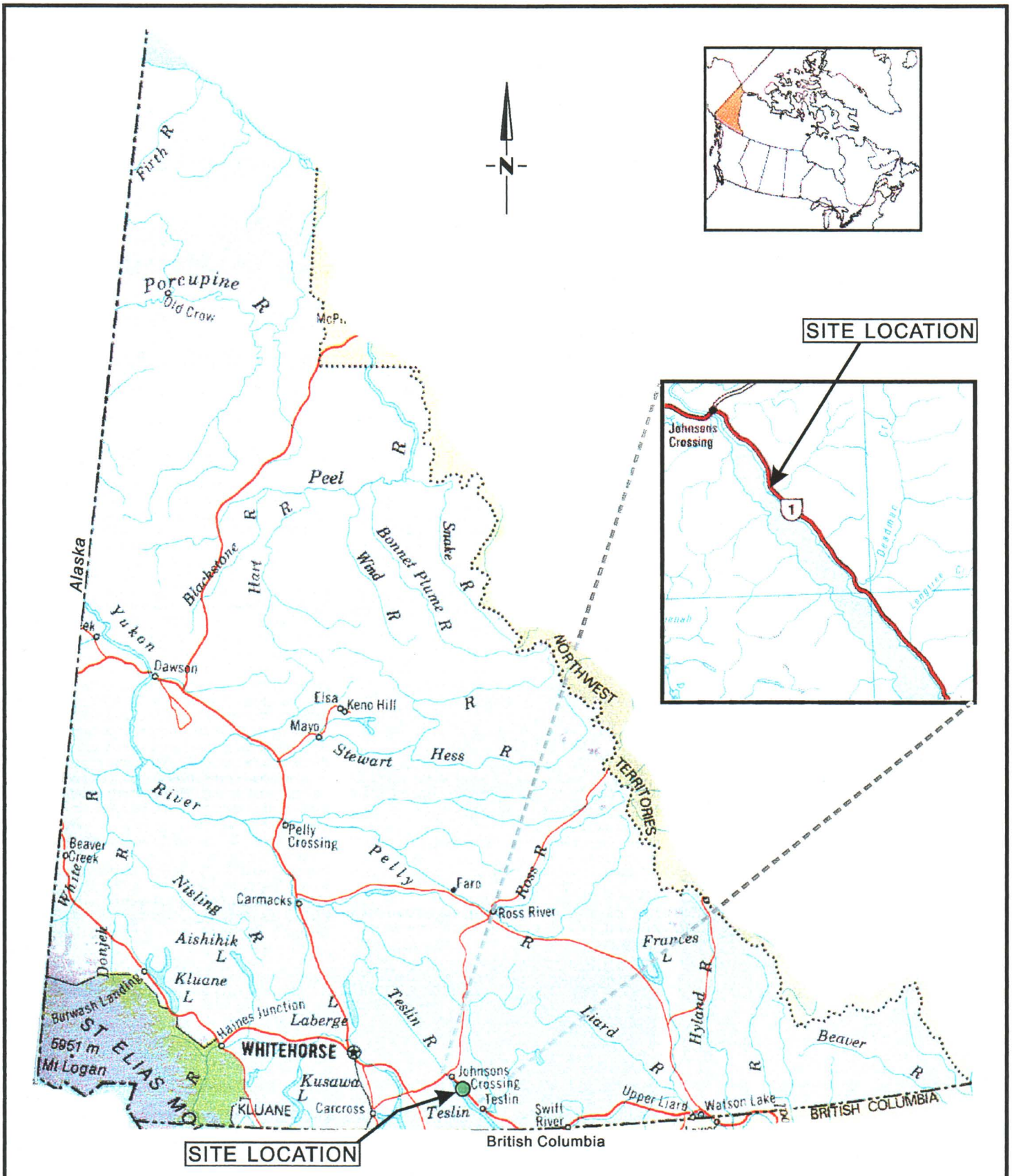
Principal

Phil R. Scalia, B.Sc., B.Ap.Sc., Dip., M.Sc., E.I.T.
Environmental Specialist



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OCP REMEDIATION
BROOKS BROOK, Yukon Territory

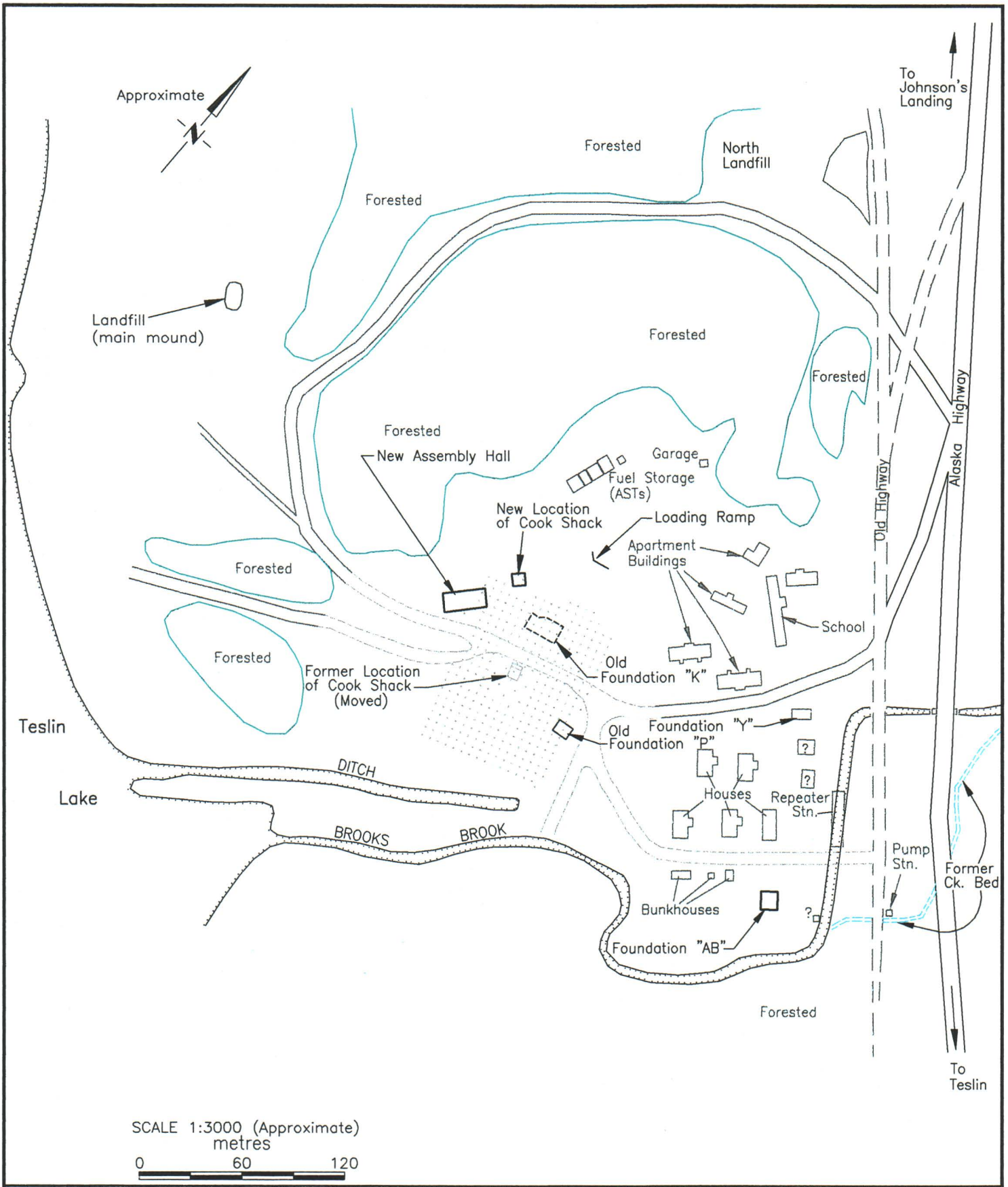
Location Map

CLIENT: INDIAN and NORTHERN AFFAIRS CANADA

PROJECT No. 316-003.03

March 2000

Figure 1



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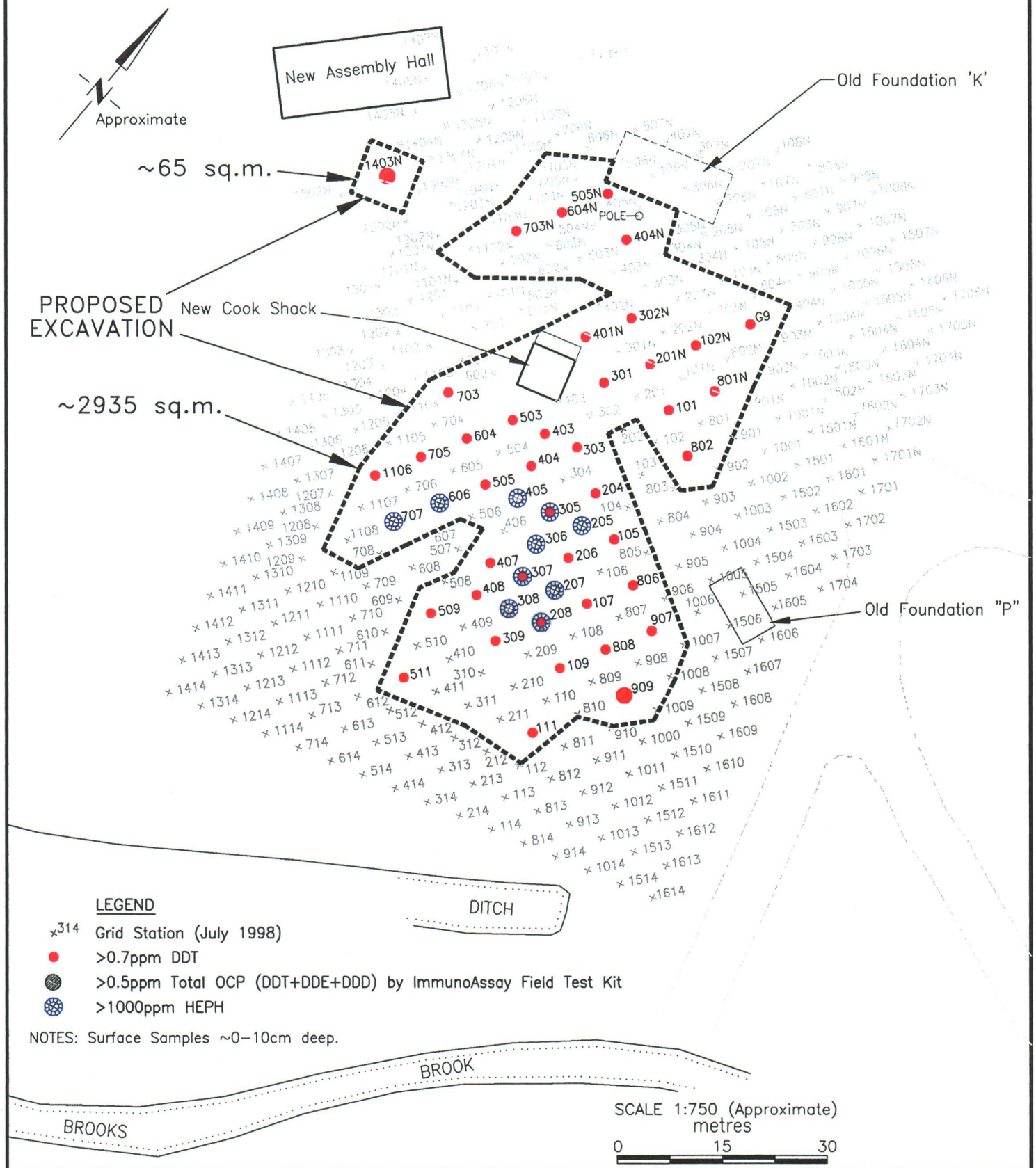
BROOKS BROOK, YUKON TERRITORY

DETAILED LOCATION MAP

PROJECT No.		
316-003.03	March 2000	FIGURE 2



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OCP REMEDIATION
BROOKS BROOK, YUKON TERRITORY

ORIGINAL EXTENT OF SOIL CONTAMINATION

PROJECT No.		
316–003.03	March 2000	FIGURE 3

NEW
ASSEMBLY HALL

COOK
SHACK

REMEDIATION AREA BOUNDARY
(SEPTEMBER 28, 1999)

PROPOSED EXCAVATION BOUNDARY

SURVEY CONTROL
"CP103"

PEIZOMETER

Fence

VAN

POWER POLE

SURVEY CONTROL "Y7984"

OLD CONCRETE PAD

TEMPORARY STORAGE AREA

Old
Foundation
"P"

SURVEY CONTROL "CP102"
DESTROYED

TEMPORARY FENCE

SURVEY CONTROL "Y7985"

DITCH

SCALE 1:500
metres
0 10 20

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BROOKS BROOK, YUKON TERRITORY

PROPOSED & FINAL
EXTENTS OF OCP EXCAVATION

PROJECT No. 316-003.03 | March 2000 | FIGURE 4

NEW ASSEMBLY HALL

COOK SHACK

OLD CONCRETE PAD

VAN

POWER POLE

0.74 ppm DDT

SAMPLES PAD1 & PAD2 WERE ANALYSED FOR PAHs

REMEDIATION AREA BOUNDARY (SEPTEMBER 28, 1999)

Fence

0.85 ppm DDT

DITCH

Old Foundation "P"

TEMPORARY STORAGE AREA

DRUM

T1 T2 T3 T4 T5 T6

NP2 NP3 NP5 NP6 NLA1 NLA2 NLA3 NLA4

P1 P8 P9 P14 P16 P17 P22 P23 P25 P26 P27 P28 P29 P30 P33 P41 P42 P43 P46 P47 P48 P49 P50 P52 P54 P55 P56 P57 P61 P62 P64 P65 P67 P68 P69 P70 P72 P73 P74 P76 P77 P85 P88 P89 P90 P91 P94 P95 P96

PAD1 PAD2

LA1 LA2 LA3 LA4 LA5 LA6 LA7 LA8 LA9 LA10 LA11 LA12 LA13 LA14 LA15 LA16 LA17 LA18 LA19 LA20 LA21 LA22 LA23 LA24 LA25 LA26 LA27 LA28 LA29 LA30 LA31 LA32 LA33 LA34 LA35 LA36 LA37 LA38 LA39 LA41 LA42 LA43 LA44 LA45 LA46 LA47 LA48 LA49 LA50 LA51 LA52 LA53 LA54 LA55 LA56 LA58 LA59 LA60 LA61 LA62 LA63 LA64 LA65 LA66 LA67 LA68 LA70 LA71 LA72 LA73 LA74 LA75 LA76 LA78 LA79 LA80 LA82 LA83 LA84 LA85 LA86 LA87 LA88 LA89 LA90 LA91 LA92 LA93 LA94 LA95 LA96 LA97 LA98 LA99 LA100 LA101 LA102 LA103 LA104 LA105 LA106 LA107 LA108 LA109 LA110 LA111 LA112 LA113 LA114 LA115 LA116 LA117 LA118 LA119 LA120 LA121 LA122 LA123 LA124 LA125 LA126 LA127 LA128 LA129 LA130 LA131 LA132 LA133 LA134 LA135 LA136 LA137 LA138 LA140 LA141 LA143 LA144 LA145 LA146 LA147 LA149

LB1 LB2 LB3 LB4 LB5 LB6 LB7 LB9 LB10 LB11 LB12 LB13 LB15 LB17 LB18 LB19 LB22 LB23 LB24 LB25A LB27 LB28 LB29 LB30 LB31 LB32 LB33 LB34 LB35 LB36 LB37 LB38 LB39 LB40 LB41 LB42 LB43 LB44

LC1 LC2 LC3 LC4 LC5 LC6 LC7 LC8 LC9 LC10 LC11 LC12 LC13 LC14 LC15

LD1 LD2 LD3 LD4 LD5

LE1 LE2 LE3

LEGEND

- LA23 — Sample Number
  Confirmatory Sample Location
- P91 — Laboratory Analysed for OCP:
  <0.7 ppm DDT (Except Where Noted)
- EPH Analysis <1000 ppm HEPH
- Surface Sample Locations

NOTE: All samples were field analysed for OCP.

SCALE 1:500
metres
0 10 20

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BROOKS BROOK, YUKON TERRITORY

SAMPLE LOCATIONS & ANALYTICAL RESULTS

PROJECT No. 316-003.03 | March 2000 | FIGURE 5

PHOTO 1: Remediation of small area south of the assembly hall.

PHOTO 2: Soil bagging operation. Trench in foreground delineates area to be excavated.

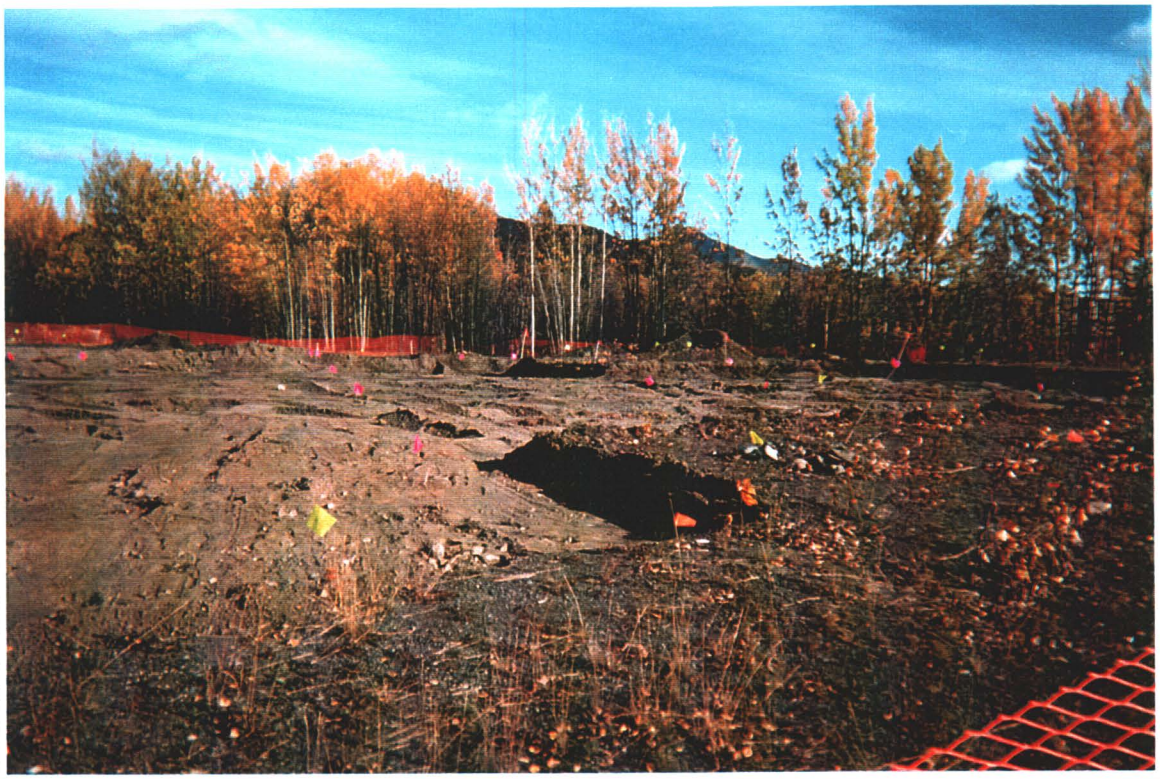

PHOTO 3: Main excavation. Pink and yellow survey flags mark sampling locations.

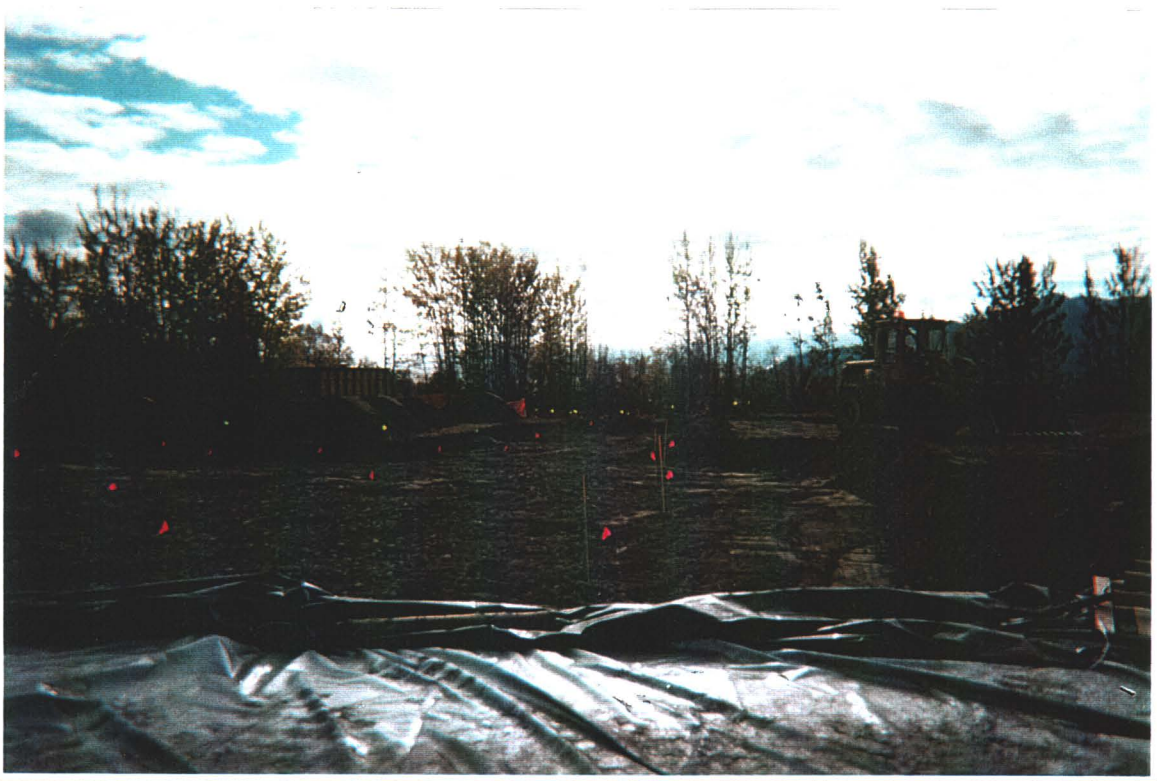

PHOTO 4: Eastern edge of excavation. Piles of clean backfill stockpiled for eventual use. Note tarp in foreground which underlays soil bag storage.

PHOTO 5: Excavator cleaning up area in front of Decontamination Van. Orange painted vertical pipe is location of piezometer.

PHOTO 6: Concrete slab on left was location of original soil bagging operation. New soil bagging operation visible at upper right corner of photo.

PHOTO 7: Stockpile at new soil bagging operation.

PHOTO 8: Backfill being pushed into southeast corner of excavation. Excavation advanced to 2.5m depth in some of the cells in this area.

PHOTO 9: Backfilled and compacted area in northwest corner of excavation. Temporary ramp that is to be used to load trucks is visible at left.

Table 1

Immuno Assay Test Results

Brook Brook, Yukon

File: 316-003.03

ID	DDT Concentration Range
NP1	3.8 - 6.5
NP2	0.22 - 0.42
NP3	0.03 - 0.05
NP4	0.8 - 1.5
NP5	0.015 - 0.03
NP6	0.08 -0.15
NLA1	0.015 - 0.03
NLA2	0.015 - 0.03
NLA3	0.01 - 0.03
NLA4	0.015 - 0.03
P1	1.6 - 2.7
P2	24 - 38
P3	5 - 8
P4	5 - 8
P5	2.5 - 4.1
P6	1.8 - 2.8
P7	0.65 - 1.2
P8	0.22 - 0.42
P9	0.33 - 0.52
P10	20 - 34
P11	0.06 - 0.12
P12	0.04 - 0.07
P13	0.19 - 0.36
P14	0.015 - 0.03
P15	1.4 - 2.1
P16	0.22 - 0.42
P17	0.11 - 0.2
P18	0.01 - 0.03
P19	0.08 - 0.14
P20	50 - 80
P21	15 - 26
P22	0.04 - 0.07
P23	0.10 - 0.18
P24	0.85 - 1.9
P25	0.45 - 0.8
P26	0.015 - 0.03
P27	0.85 - 1.9
P28	0.12 - 0.21
P29	0.04 - 0.08
P30	0.65 - 1.2
P31	3.1 5.1
P32	12 - 20

ID	DDT Concentration Range
P33	0.65 - 1.2
P34	0.08 - 0.15
P35	0.18 - 0.35
P36	0.82 - 1.7
P37	0.85 - 0.19
P38	1.8 - 2.8
P39	20 - 34
P40	26 - 41
P41	0.03 - 0.06
P42	3.8 - 6.5
P43	0.06 - 0.1
P44	41 - 65
P45	13 - 20
P46	ND
P47	0.19 - 0.36
P48	0.01 - 0.03
P49	0.015 - 0.03
P50	0.19 - 0.36
P51	1.4 - 2.1
P52	0.45 - 0.8
P53	0.38 - 0.58
P54	0.15 - 0.28
P55	0.54 - 1.1
P56	1.1 - 2.0
P57	0.19 - 0.36
P58	4 - 7.5
P59	0.48 -0.9
P60	0.10 - 0.18
P61	0.01 - 0.03
P62	0.03 - 0.06
P63	1.5 - 2.5
P64	0.05 - 0.1
P65	0 - 0.02
P66	0.015 - 0.03
P67	0.01 - 0.03
P68	0.015 - 0.03
P69	0.48 - 0.9
P70	0.16 - 0.30
P71	0.15 - 0.28
P72	0.015 - 0.03
P73	0.06 - 0.1
P74	0 - 0.02
P75	1.6 - 2.7

ID	DDT Concentration Range
P76	0.01 - 0.03
P77	0.11 - 0.2
P78	2.5 - 4.1
P79	38 - 55
P80	0.82 - 1.7
P81	3 - 4.8
P82	0.22 - 0.42
P83	0.38 - 0.58
P84	9 - 18
P85	0.06 - 0.1
P86	0.16 - 0.30
P87	0.48 - 0.90
P88	0.38 - 0.58
P89	0.85 - 1.9
P90	0.48 - 0.90
P91	0.015 - 0.03
P92	0.11 - 0.20
P93	0.01 - 0.03
P94	0.01 - 0.03
P95	0.01 - 0.03
LA1	0.42 - 0.70
LA2	0.03 - 0.06
LA3	0.11 - 0.20
LA4	0.01 - 0.03
LA5	24 - 38
LA6	0.85 - 1.9
LA7	0.015 - 0.03
LA8	0.01 - 0.03
LA9	0.015 - 0.03
LA10	0.03 - 0.05
LA11	0.01 - 0.03
LA12	0.01 - 0.03
LA13	ND
LA14	0.04 - 0.08
LA15	4 - 7.5
LA16	ND
LA17	0.08 - 0.15
LA18	0.06 - 0.12
LA19	0.015 - 0.03
LA20	0.03 - 0.06
LA21	10 - 19
LA22	0.01 - 0.03
LA23	0.01 - 0.03

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

Table 1

Immuno Assay Test Results

Brook Brook, Yukon

File: 316-003.03

ID	DDT Concentration Range
LA24	0.01 - 0.03
LA25	ND
LA26	0.01 - 0.03
LA27	ND
LA28	0 - 0.01
LA29	0.16 - 0.30
LA30	0 - 0.02
LA31	0.01 - 0.03
LA32	12 - 20
LA33	10 - 19
LA34	0.18 - 0.35
LA35	0.01 - 0.03
LA36	0 - 0.01
LA37	0.01 - 0.03
LA38	0.01 - 0.03
LA39	0.06 - 0.12
LA40	0.015 - 0.035
LA41	0.01 - 0.03
LA42	0.015 - 0.03
LA43	0.17 - 0.33
LA44	0 - 0.02
LA45	0.01 - 0.03
LA46	0.015 - 0.03
LA47	0.01 - 0.03
LA48	0.01 - 0.03
LA49	0.17 - 0.33
LA50	0.42 - 0.70
LA51	0.65 - 1.20
LA52	2.5 - 4.1
LA53	0.01 - 0.03
LA54	0.015 - 0.035
LA55	0.01 - 0.03
LA56	0.08 - 0.14
LA57	20-34
LA58	100+
LA59	50 - 80
LA60	1.1 - 2.0
LA61	0.01 - 0.03
LA62	0.015 - 0.03
LA63	0.04 - 0.07
LA64	0.015 - 0.03
LA65	100+
LA66	100+
LA67	0.025 - 0.04

ID	DDT Concentration Range
LA68	0.38 - 0.58
LA69	100+
LA70	100+
LA71	0.015 - 0.03
LA72	100+
LA73	1.6 - 2.7
LA74	0.01 - 0.03
LA75	0.08 - 0.15
LA76	0.33 - 0.52
LA77	0 - 0.01
LA78	ND
LA79	0 - 0.02
LA80	0 - 0.02
LA81	4.5 - 7.8
LA82	0 - 0.02
LA83	0.01 - 0.03
LA84	0.01 - 0.03
LA85	0 - 0.02
LA86	0.01 - 0.03
LA87	0.01 - 0.03
LA88	1.8 - 2.8
LA89	0.48 -0.90
LA90	0.015 - 0.03
LA91	0.01 - 0.03
LA92	100+
LA93	100+
LA94	1.6 - 2.7
LA95	0.06 - 0.12
LA96	0.01 - 0.03
LA97	0.015 - 0.03
LA98	0.06 - 0.10
LA99	0.04 - 0.08
LA100	0 - 0.02
LA101	0.03 - 0.05
LA102	0.04 - 0.07
LA103	0.19 - 0.36
LA104	0.12 - 0.21
LA105	0.015 - 0.035
LA106	0.03 - 0.06
LA107	1.8 - 2.8
LA108	0.08 - 0.15
LA109	14 - 21
LA110	0.06 - 0.1
LA111	0.19 - 0.36

ID	DDT Concentration Range
LA112	41 - 65
LA113	3.8 - 6.5
LA114	100+
LA115	9 - 18
LA116	5 - 8
LA117	0.08 - 0.15
LA118	1.1 - 2.0
LA119	4 - 7.5
LA120	24 - 38
LA121	25 - 39
LA122	4.5 - 7.8
LA123	0.04 - 0.08
LA124	100+
LA125	40 - 60
LA126	50 - 80
LA127	8.5 - 16
LA128	100+
LA129	1.6 - 2.7
LA130	0.015 - 0.035
LA131	6.5 - 11
LA132	0 - 0.02
LA133	0.01 - 0.03
LA134	25 - 39
LA135	0.01 - 0.03
LA136	0.015 - 0.035
LA137	ND
LA138	2.8 - 4.5
LA139	100+
LA140	0.03 - 0.06
LA141	0 - 0.01
LA142	0.38 - 0.58
LA143	0.015 - 0.03
LA144	0.05 - 0.1
LA145	0 - 0.01
LA146	0.42 -0.7
LA147	0.03 - 0.06
LA148	ND
LA149	0.015 - 0.03
LB1	0.8 - 1.5
LB2	26 - 41
LB3	26 - 41
LB4	0.85 - 1.9
LB4	0.85 - 1.9
LB5	0.03 - 0.06

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

Table 1

Immuno Assay Test Results

Brook Brook, Yukon

File: 316-003.03

ID	Range
LB6	0 - 0.02
LB7	0.01 - 0.03
LB8	50 - 80
LB9	10 - 19
LB10	25 - 39
LB11	10 - 19
LB12	0 - 0.01
LB13	ND
LB14	ND
LB15	ND
LB16	0.03 - 0.06
LB17	0 - 0.01
LB18	0.04 - 0.08
LB19	0 - 0.02
LB20	0.04 - 0.07
LB21	0 - 0.01
LB22	ND
LB23	0.16 - 0.30
LB24	ND
LB25	0.01 - 0.03
LB25A	0.05 - 0.10
LB26	0.015 - 0.03
LB27	0.06 - 0.10
LB28	0.015 - 0.03
LB29	1.1 - 2.0
LB30	0.11 - 0.20
LB31	0.03 - 0.06
LB32	38 - 55
LB33	4 - 7.5
LB34	100+
LB35	0.22 - 0.42
LB36	100+
LB37	0.015 - 0.03
LB38	0.40 - 0.65
LB39	0.015 - 0.035
LB40	1.9 - 3.3
LB41	0.01 - 0.03
LB42	0.015 - 0.035
LB43	10 - 19
LB44	0 - 0.01
LC1	0.015 - 0.03
LC2	25 - 39
LC3	100+
LC4	20 - 34
LC4 Rep	20 - 34

ID	Range
LC5	0.12 - 0.21
LC6	0.015 - 0.03
LC7	100+
LC8	0.01 - 0.03
LC9	0.06 - 0.1
LC10	0.54 - 1.1
LC11	0 - 0.02
LC12	0.01 - 0.03
LC13	0.65 - 1.2
LC14	ND
LC15	0.05 - 0.1
LD1	100+
LD2	1.1 - 2.0
LD3	0.54 - 1.1
LD4	1.8 - 2.8
LE1	0.01 - 0.03
LE2	0.01 - 0.03
LE3	0.01 - 0.03
T1	0.06 - 0.10
T2	0.12 - 0.21
T3	0.06 - 0.12
T4	0.16 - 0.30
T5	0.05 - 0.10
T6	0.33 - 0.52

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	NP2 9/22/99	NP3 9/22/99	NP5 9/23/99	NP6 9/23/99	NLA1 9/22/99	NLA2 9/22/99	NLA3 9/22/99	NLA4 9/22/99
Moisture		%	3.4	4.4	3.6	9.4	4.7	4.1	2.8	3.5
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	0.062	0.009	< 0.003	0.037	< 0.003	< 0.003	< 0.003	< 0.003
o,p-DDT		ug/g	0.012	< 0.003	< 0.003	0.017	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDT	0.7	ug/g	0.14	0.03	0.013	0.16	< 0.003	< 0.003	< 0.003	< 0.003
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0.22-0.42	0.03-0.05	0.015-0.03	0.08-0.15	0.015-0.03	0.015-0.03	0.01-0.03	0.015-0.03

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	P6 9/22/99	P7 9/22/99	P8 9/22/99	P9 9/22/99	P14 9/22/99	P15 9/22/99	P16 9/22/99	P17 9/23/99
Moisture		%	4	5.7	2.7	6.7	2.2	3.1	2.3	6.7
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	0.094	0.23	0.073	0.016	< 0.003	< 0.003	< 0.003	0.015
o,p-DDT		ug/g	0.084	0.055	0.013	< 0.003	< 0.003	0.019	0.065	0.009
p,p-DDT	0.7	ug/g	0.62	0.22	0.35	0.025	< 0.003	0.066	0.24	0.1
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	1.8-2.8	0.65-1.2	0.22-0.42	0.33-0.52	0.015-0.03	1.4-2.1	0.22-0.42	0.11-0.2

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	P22 9/23/99	P23 9/23/99	P25 9/23/99	P26 9/23/99	P27 9/23/99	P28 9/23/99	P29 9/23/99	P30 9/23/99
Moisture		%	3.9	6.8	9	5.3	2.7	5.1	5.8	9
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	< 0.003	< 0.003	0.008	< 0.003	< 0.003	< 0.003	< 0.003	0.006
o,p-DDT		ug/g	< 0.003	0.011	0.014	< 0.003	0.073	0.006	< 0.003	0.031
p,p-DDT	0.7	ug/g	0.007	0.025	0.088	< 0.003	0.24	0.015	0.003	0.19
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0.04-0.07	0.1-0.18	0.45-0.8	0.015-0.03	0.85-1.9	0.12-0.21	0.04-0.08	0.65-1.2

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	P33 9/23/99	P41 9/23/99	P42 9/23/99	P46 9/23/99	P47 9/23/99	P48 9/23/99	P49 9/23/99	P50 9/23/99
Moisture		%	4.6	3.2	9.2	6.8	7.4	3.1	8.8	15.3
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	< 0.003	0.022	0.008	< 0.003	0.005	< 0.003	< 0.003	0.05
o,p-DDT		ug/g	0.047	0.007	< 0.003	< 0.003	0.008	< 0.003	< 0.003	0.045
p,p-DDT	0.7	ug/g	0.74	0.098	0.025	0.005	0.044	0.008	< 0.003	0.26
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0.65-1.2	0.03-0.06	3.8-6.5	ND	0.19-0.36	0.01-0.03	0.015-0.03	0.19-0.36

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	P52	P54	P55	P56	P57	P60	P61	P62	P64
		Date Sampled	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99
Parameter	**Criteria ***	**Units**									
Moisture		%	6.7	9.6	6.3	5	6	4.9	5.5	5.3	6.9
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	0.028	0.051	0.021	0.3	0.031	< 0.03	< 0.003	0.006	0.008
o,p-DDT		ug/g	0.025	0.026	0.035	0.029	0.044	< 0.03	< 0.003	< 0.003	0.017
p,p-DDT	0.7	ug/g	0.37	0.32	0.46	0.5	0.55	0.11	0.006	0.12	0.17
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0.45-0.8	0.15-0.28	0.54-1.1	1.1-2.0	0.19-0.36	0.10-0.18	0.01-0.03	0.03-0.06	0.05-0.1

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	P65	P67	P68	P69	P70	P72	P73	P74
		Date Sampled	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/24/99	9/24/99
Parameter	**Criteria ***	**Units**								
Moisture		%	9.7	10.5	9.2	5.5	10.8	6.3	4.6	3.1
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.03	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.03	0.005	< 0.003	0.022	< 0.003
o,p-DDT		ug/g	< 0.003	< 0.003	< 0.003	0.08	0.03	< 0.003	0.02	< 0.003
p,p-DDT	0.7	ug/g	0.004	0.008	0.02	0.67	0.26	0.007	0.13	< 0.003
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.03	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0-0.02	0.01-0.03	0.015-0.03	0.48-0.9	0.16-0.30	0.015-0.03	0.06-0.1	0-0.02

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	P76	P77	P82	P86	P88	P90	P91	P94
		Date Sampled	9/24/99	9/24/99	9/24/99	9/24/99	9/24/99	9/24/99	9/25/99	9/25/99
Parameter	**Criteria ***	**Units**								
Moisture		%	10	5.8	5.5	5.6	5.3	6.9	7.7	7.5
Aldrin		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.005	< 0.05	< 0.005	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.005	< 0.05	< 0.005	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.005	< 0.05	< 0.005	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.003	< 0.03	< 0.003	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.003	0.05	0.009	0.14	0.25	< 0.03	0.07	< 0.03
o,p-DDT		ug/g	< 0.003	< 0.03	0.007	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.01	0.23	0.048	0.44	0.21	0.27	0.16	0.18
Dieldrin		ug/g	< 0.003	< 0.03	< 0.003	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.001	< 0.01	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 0.3	< 3	< 0.3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.01-0.03	0.11-0.2	0.22-0.42	0.16-0.3	0.38-0.58	0.48-0.9	0.015-0.03	0.01-0.03

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	P95 9/25/99	LA1 9/25/99	LA4 9/25/99	LA8 9/25/99	LA10 9/25/99	LA12 9/25/99	LA14 9/25/99	LA16 9/25/99	LA17 9/26/99
Moisture		%	7.3	2.7	2.9	0.6	1.4	2.4	2.5	4.1	3.3
Aldrin		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
beta-BHC		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
delta-BHC		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
p,p-DDE		ug/g	0.064	< 0.03	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
o,p-DDT		ug/g	0.032	< 0.03	< 0.003	< 0.003	0.007	< 0.003	0.017	< 0.003	< 0.003
p,p-DDT	0.7	ug/g	0.24	0.12	< 0.003	< 0.003	0.019	< 0.003	0.031	< 0.003	< 0.003
Dieldrin		ug/g	< 0.03	< 0.03	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toxaphene		ug/g	< 3	< 3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Immuno Assay **	0.5	ug/g	0.01-0.03	0.42-0.7	0.01-0.03	0.01-0.03	0.03-0.05	0.01-0.03	0.04-0.08	ND	0.08-0.15

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	LA20	LA22	LA24	LA27	LA29	LA30	LA32	LA34	LA36
		Date Sampled	9/26/99	9/26/99	9/26/99	9/26/99	9/26/99	9/26/99	9/26/99	9/27/99	9/27/99
Parameter	**Criteria ***	**Units**									
Moisture		%	2.5	1.1	1	2.3	1.7	5.3	4.4	1.6	3
Aldrin		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.004	< 0.003	< 0.003	0.013	< 0.003	0.031	0.19	0.19	< 0.03
Dieldrin		ug/g	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.03-0.06	0.01-0.03	0.01-0.03	ND	0.16-0.3	0-0.02	12-20	0.18-0.35	0-0.01

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LA39 9/27/99	LA40 9/27/99	LA41 9/27/99	LA43 9/27/99	LA45 9/27/99	DUP1 9/27/99	LA46 9/27/99	DUP2 9/27/99
Moisture		%	1.9	3.4	11	10.7	6.3	5.7	1.5	1.8
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.06-0.12	0.015-0.035	0.01-0.03	0.17-0.33	0.01-0.03		0.015-0.03	

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup1=LA45; Dup2=LA46

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	LA49	DUP3	LA51	LA53	DUP4	LA55	DUP5	LA61	DUP6
		Date Sampled	9/27/99	9/27/99	9/27/99	9/27/99	9/27/99	9/27/99	9/27/99	9/27/99	9/27/99
Parameter	**Criteria ***	**Units**									
Moisture		%	4.8	4	5.9	12.6	13.8	2.8	2.8	1.2	1.1
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	0.19	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.06	0.07	0.85	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.17-0.33		0.65-1.2	0.01-0.03		0.01-0.03		0.01-0.03	

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup3=LA49; Dup4=LA53; Dup5=LA55; Dup6=LA61

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LA63 9/27/99	DUP7 9/27/99	LA67 9/27/99	DUP8 9/27/99	LA71 9/27/99	DUP9 9/27/99	LA 76 10/5/99	LA 78 10/5/99
Moisture		%	1.4	0.6	4.1	2.5	1.9	1.6	1.3	2.8
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.04	0.03	< 0.03	0.22	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.04-0.07		0.025-0.04		0.015-0.03		0.33-0.52	ND

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup7=LA63; Dup8=LA67; Dup9=LA71

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LA 80 10/5/99	LA 83 10/5/99	LA 85 10/5/99	LA 87 10/5/99	LA 89 10/5/99	LA 90 10/5/99	LA 97 10/5/99	LA 98 10/5/99
Moisture		%	9.6	3.5	1.1	1	5.1	10.7	11.4	4.4
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	0.05	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	< 0.03	< 0.03	< 0.03	< 0.03	0.35	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0-0.02	0.01-0.03	0-0.02	0.01-0.03	0.48-0.9	0.015-0.03	0.015-0.03	0.06-0.10

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	LA 100	LA 103	LA 105	LA 111	LA 117	LA 123	LA 133	LA 136
		Date Sampled	10/5/99	10/5/99	10/6/99	10/6/99	10/6/99	10/6/99	10/6/99	10/6/99
Parameter	**Criteria ***	**Units**								
Moisture		%	1.2	1	4.5	1.6	1.5	1.1	10.1	12.5
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0-0.02	0.19-0.36	0.015-0.035	0.19-0.36	0.08-0.15	0.04-0.08	0.01-0.03	0.015-0.035

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

		Sample ID	LA 140	LA 142	LA 145	LA 149	LB6	LB12	LB14	LB15
		Date Sampled	10/7/99	10/7/99	10/7/99	10/12/99	10/6/99	10/7/99	10/7/99	10/7/99
Parameter	**Criteria ***	**Units**								
Moisture		%	2.5	4.3	1.9	1.3	4.6	1.1	2.4	4.5
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.06	0.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.03-0.06	0.38-0.58	0-0.01	0.015-0.03	0-0.02	0-0.01	ND	ND

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LB16 10/7/99	LB18 10/7/99	LB19 10/7/99	LB21 10/7/99	LB23 10/7/99	LB 27 10/12/99	LB 30 10/12/99	LB 35 10/13/99
Moisture		%	3.4	4.4	2.3	1.6	6.5	4.1	2.7	4
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	< 0.03	0.03	< 0.03	< 0.03	0.29	< 0.03	< 0.03	0.11
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.03-0.06	0.04-0.08	0-0.02	0-0.01	0.16-0.30	0.06-0.10	0.11-0.20	0.22-0.42

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LB 37 10/13/99	LB 38 10/13/99	LB 41 10/14/99	DUP 11 10/14/99	LB 42 10/14/99	DUP 12 10/14/99	LB 44 10/14/99
Moisture		%	2.3	1.4	2.4	2.2	0.9	1.1	1.4
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	0.07	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	< 0.03	0.47	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.015-0.03	0.40-0.65	0.01-0.03		0.015-0.035		0.0-0.01

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup11=LD41; Dup12=LB42

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	LC 6 10/13/99	LC 9 10/13/99	LC 10 10/14/99	DUP 17 10/14/99	LC 12 10/14/99	DUP 19 10/14/99	LC 13 10/14/99
Moisture		%	1.5	2.8	18.3	18.9	1.5	2.4	0.8
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.14
p,p-DDT	0.7	ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.26
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g	0.015-0.03	0.06-0.1	0.54-1.1		0.01-0.03		0.65-1.2

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup17=LC10; Dup19=LC12

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	DUP 20 10/14/99	DUP 10 (LD1) 10/14/99	LD 4 10/14/99	LD5 10/15/99	LE 1 10/14/99	DUP 14 10/14/99	LE 2 10/14/99
Moisture		%	1.1	13.1	13.7	10.2	17.2	18	18.4
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
o,p-DDT		ug/g	0.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	0.21	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g			1.8-2.8		0.01-0.03		0.01-0.03

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup10=LD1(which wasn't analysed); Dup14=LE1; Dup20=LC13

Table 2
OCP in Soils
Brooks Brook Yukon
File 316-003.03

Parameter	Criteria *	Sample ID Date Sampled Units	DUP 15 10/14/99	DUP 13 (LB43) 10/14/99	T3 9/26/99	T6 9/26/99
Moisture		%	19.3	0.9	5.9	0.7
Aldrin		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
alpha-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
beta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
delta-BHC		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
gamma-BHC (Lindane)		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
alpha-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05
gamma-Chlordane		ug/g	< 0.05	< 0.05	< 0.05	< 0.05
p,p-DDD		ug/g	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE		ug/g	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDE		ug/g	< 0.03	< 0.03	0.07	< 0.03
o,p-DDT		ug/g	< 0.03	< 0.03	< 0.03	< 0.03
p,p-DDT	0.7	ug/g	< 0.03	< 0.03	0.14	0.1
Dieldrin		ug/g	< 0.03	< 0.03	< 0.03	< 0.03
Endosulfan I		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan II		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulphate		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Endrin		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Endrin Aldehyde		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Heptachlor		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Expoxide		ug/g	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor		ug/g	< 0.1	< 0.1	< 0.1	< 0.1
Toxaphene		ug/g	< 3	< 3	< 3	< 3
Immuno Assay **	0.5	ug/g		10-19	0.06-0.12	0.33-0.52

*criteria was set as the project criteria in the absence of a Yukon Contaminated Sites Regulations criteria
** results of the immuno assay test kit for DDD+DDE+DDT
Dup13=LB43 (which wasn't analysed); Dup15=LE2;

Table 3
EPH in Soils
Brooks Brook Yukon
File: 316-003.03

	Sample ID	LA 8	LA 149	LB 13	LB 28	LB 35	LB 37	LB 38	LB 41	LB 42	LB 44
	Date Sampled	9/25/99	10/12/99	10/7/99	10/12/99	10/13/99	10/13/99	10/13/99	10/14/99	10/14/99	10/14/99
Parameter	**Units**										
Moisture	%	-	-	0.9	1.6	-	-	-	-	-	-
EPH - nC10 to nC19	ug/g	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250
EPH - nC19 to nC32	ug/g	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250

Table 3
EPH in Soils
Brooks Brook Yukon
File: 316-003.03

	Sample ID	LC 6	LC 9	LC 12	LD 5	LE 2
	Date Sampled	10/13/99	10/13/99	10/14/99	10/15/99	10/14/99
Parameter	**Units**					
Moisture	%	-	-	-	-	-
EPH - nC10 to nC19	ug/g	< 250	< 250	< 250	< 250	< 250
EPH - nC19 to nC32	ug/g	< 250	< 250	< 250	< 250	< 250

Table 4
EPH and PAH Concentrations in Soil Samples
Brook Brook Yukon
File: 316-003.03

	Sample ID Date Sampled	PAD 1 10/12/99	PAD 2 10/12/99
Parameter	**Units**		
Moisture	%	2.4	0.9
Naphthalene	ug/g	< 0.5	< 0.05
Acenaphthylene	ug/g	< 0.5	< 0.05
Acenaphthene	ug/g	< 0.5	< 0.05
Fluorene	ug/g	< 0.5	< 0.05
Phenanthrene	ug/g	< 0.5	< 0.05
Anthracene	ug/g	< 0.5	< 0.05
Total LMW-PAH's	ug/g	-	-
Fluoranthene	ug/g	< 0.5	< 0.05
Pyrene	ug/g	< 0.5	< 0.05
Benzo(a)anthracene	ug/g	< 0.5	< 0.05
Chrysene	ug/g	< 0.5	< 0.05
Benzo(b)fluoranthene	ug/g	< 0.5	< 0.05
Benzo(k)fluoranthene	ug/g	-	-
Benzo(a)pyrene	ug/g	< 0.5	< 0.05
Indeno(1,2,3-c,d)pyrene	ug/g	< 0.5	< 0.05
Dibenz(a,h)anthracene	ug/g	< 0.5	< 0.05
Benzo(g,h,i)perylene	ug/g	< 0.5	< 0.05
Total HMW-PAH's	ug/g	-	-
Total PAH's	ug/g	-	-
LEPH-uncorrected for PAH's	ug/g	< 250	< 250
HEPH-uncorrected for PAH's	ug/g	< 250	< 250
LEPH-corrected for PAH's	ug/g	< 250	< 250
HEPH-corrected for PAH's	ug/g	< 250	< 250

Table 5

Air Quality Monitoring Results

Brooks Brook Yukon

File: 316 – 003.03

ORGANOCHLORIDE PESTICIDES IN FILTER

SAMPLE IDENTIFICATION:	Sept 24 Outside	Sept 24 Inside	Sept 25 Inside	Sept 25 Outside	
DATE SAMPLED:	Sept 24/99	Sept 24/99	Sept 25/99	Sept 25/99	DETECTION LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

Table 5

Air Quality Monitoring Results

Brooks Brook Yukon

File: 316 – 003.03

ORGANOCHLORIDE PESTICIDES IN FILTER

SAMPLE IDENTIFICATION:	Sept 26 Inside	Sept 26 Outside	Sept 27 Inside	Sept 27 Outside	
DATE SAMPLED:	Sept 26/99	Sept 26/99	Sept 27/99	Sept 27/99	DETECTION LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

Table 5

Air Quality Monitoring Results

Brooks Brook Yukon

File: 316 – 003.03

ORGANOCHLORIDE PESTICIDES IN FILTER

CLIENT SAMPLE IDENTIFICATION:	Sept 29'99 Inside	Sept 29'99 Outside	Sept 30'99 Inside	Sept 30'99 Outside	
DATE SAMPLED:	Sept 29/99	Sept 29/99	Sept 30/99	Sept 30/99	DETECTION
CANTEST ID:	0650L-1	0650L-2	0650L-3	0650L-4	LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

Analysis Report

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4606 Canada Way
Burnaby, B.C.
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Soil Sample

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Att'n: Mr. Phil Scalia

CHAIN OF CUSTODY: 27793
PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: 1

REPORT DATE: October 6, 1999

DATE SUBMITTED: October 1, 1999

GROUP NUMBER: 9100225

SAMPLE TYPE: Soil

TEST METHODS:

Moisture in Soil - analysis was performed gravimetrically by heating a separate sample portion at 105 C and measuring the weight loss.

Organochlorine Pesticides in Water, Soil and Leachate - analysis was performed using procedures based on U.S. EPA Method 608/8080, including extraction, clean-up steps, and analysis using GC/ECD.

Polychlorinated Biphenyls - analysis was performed using procedures based upon U.S. EPA Methods 608/8080, involving extraction, clean-up steps, and analysis using GC/ECD. Aroclors 1242, 1248, 1254 and 1260 were included.

TEST RESULTS:

(See following pages)

CAN TEST LTD.

Zhenyong Gao, M.Sc.
Coordinator, Trace Organics

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 6, 1999

GROUP NUMBER: 9100225

CANTEST®

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
Drum 1	Sep 30/99	910020148	4.4
DETECTION LIMIT			0.1
UNITS			%

% = percent

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 6, 1999

GROUP NUMBER: 9100225

CANTEST®

Polychlorinated Biphenyls in Soil

CLIENT SAMPLE IDENTIFICATION:	Drum 1	
DATE SAMPLED:	Sep 30/99	DETECTION LIMIT
CAN TEST ID:	910020148	
Arochlor 1242	<	0.3
Arochlor 1248	<	0.3
Arochlor 1254	<	3
Arochlor 1260	<	0.3
Surrogate Recovery		
2,2',4,4',6,6'-hexabromobiphenyl	(a)	-

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
Surrogate recoveries expressed as percent (%)
< = Less than detection limit
Sample# 910020148 - Detection limits adjusted: Interference present in sample
(a) = Surrogate recovery not possible: Interference present in sample

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 6, 1999

GROUP NUMBER: 9100225

CANTEST®

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	Drum 1	
DATE SAMPLED:	Sep 30/99	DETECTION LIMIT
CAN TEST ID:	910020148	
Aldrin	<	0.01
alpha-BHC	<	0.01
beta-BHC	0.02	0.01
delta-BHC	<	0.01
gamma-BHC (Lindane)	<	0.01
alpha-Chlordane	<	0.05
gamma-Chlordane	<	0.05
p,p-DDD	<	0.05
o,p-DDE	0.03	0.03
p,p-DDE	0.34	0.03
o,p-DDT	5.4	0.03
p,p-DDT	12	0.03
Dieldrin	0.04	0.03
Endosulfan I	<	0.1
Endosulfan II	<	0.1
Endosulfan Sulphate	<	0.1
Endrin	<	0.1
Endrin Aldehyde	<	0.1
Heptachlor	<	0.01
Heptachlor Expoxide	<	0.01
Methoxychlor	3.6	0.1
Toxaphene	<	3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit
Sample# 910020148 - Detection limits adjusted: Interference present in sample

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 6, 1999

GROUP NUMBER: 9100225

CANTEST®

Batch Quality Control for Polychlorinated Biphenyls in Soil (QC# 48531)

Parameter	Blank (ug/g)	Blank Limits	Calibration Verification (% Recovery)	Calibration Verification Limits	Duplicate (R.P.D.)	Duplicate Limits
Arochlor 1242	< 0.03	0.03	-	-	NC	25
Arochlor 1248	< 0.03	0.03	-	-	NC	25
Arochlor 1254	< 0.03	0.03	102	75 - 120	18	25
Arochlor 1260	< 0.03	0.03	-	-	NC	25

ug/g = micrograms per gram
R.P.D. = Relative Percent Difference
NC = Not Calculated. Duplicate sample results were less than the detection limit. Relative Percent Difference calculation is not defined for analyte levels of less than detection limit.

Analysis Report

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4606 Canada Way
Burnaby, B.C.
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Soil Samples

REPORTED TO: Hemmera Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, BC
V6Z 2K5

Attention: Mr. Phil Scalia

PROJECT NAME: Brooks Brooks, Yukon
PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: Three Hundred Fifty-One (351)

REPORT DATE: October 20, 1999

DATE SUBMITTED: September 20, 1999

FILE NUMBER: 0648L & 0669L

SAMPLE TYPE: Soil

METHODS OF TESTING:

DDT – Semi-quantitative analysis was performed using an immunoassay test kit. Polyclonal antibodies that bind either DDT or DDT-Enzyme conjugate are immobilized to the walls of the test tubes included in the kit. When DDT is present in the sample, it competes with the DDT-Enzyme conjugate for the antibody binding sites. Photometric interpretation was performed using a portable spectrophotometer. Results are reported as concentration ranges.

RESULTS OF TESTING:

(See the following page)

NOV 15 1999

CANTEST LTD.

Richard S. Jorritz, A.S.C.T.
Supervisor, Inorganic Testing

bc e:\1999\organics\hem101_0648l & 0669l\brooks brooks1.doc

REPORTED TO: Hemmera Consultants Ltd.

REPORT DATE: October 20, 1999

FILE NUMBER: 0648L & 0669L

CANTEST

Client ID	DDT Concentration Range
NP1	3.8 - 6.5
NP2	0.22 - 0.42
NP3	0.03 - 0.05
NP4	0.8 - 1.5
NP5	0.015 - 0.03
NP6	0.08 -0.15
NLA1	0.015 - 0.03
NLA2	0.015 - 0.03
NLA3	0.01 - 0.03
NLA4	0.015 - 0.03
P1	1.6 - 2.7
P2	24 - 38
P3	5 - 8
P4	5 - 8
P5	2.5 - 4.1
P6	1.8 - 2.8
P7	0.65 - 1.2
P8	0.22 - 0.42
P9	0.33 - 0.52
P10	20 - 34
P11	0.06 - 0.12
P12	0.04 - 0.07
P13	0.19 - 0.36
P14	0.015 - 0.03
P15	1.4 - 2.1
P16	0.22 - 0.42
P17	0.11 - 0.2
P18	0.01 - 0.03
P19	0.08 - 0.14
P20	50 - 80
P21	15 - 26
P22	0.04 - 0.07
P23	0.10 - 0.18
P24	0.85 - 1.9
P25	0.45 - 0.8
P26	0.015 - 0.03
P27	0.85 - 1.9
P28	0.12 - 0.21
P29	0.04 - 0.08
P30	0.65 - 1.2
P31	3.1 5.1
P32	12 - 20

Client ID	DDT Concentration Range
P33	0.65 - 1.2
P34	0.08 - 0.15
P35	0.18 - 0.35
P36	0.82 - 1.7
P37	0.85 - 0.19
P38	1.8 - 2.8
P39	20 - 34
P40	26 - 41
P41	0.03 - 0.06
P42	3.8 - 6.5
P43	0.06 - 0.1
P44	41 - 65
P45	13 - 20
P46	ND
P47	0.19 - 0.36
P48	0.01 - 0.03
P49	0.015 - 0.03
P50	0.19 - 0.36
P51	1.4 - 2.1
P52	0.45 - 0.8
P53	0.38 - 0.58
P54	0.15 - 0.28
P55	0.54 - 1.1
P56	1.1 - 2.0
P57	0.19 - 0.36
P58	4 - 7.5
P59	0.48 - 0.9
P60	0.10 - 0.18
P61	0.01 - 0.03
P62	0.03 - 0.06
P63	1.5 - 2.6
P64	0.05 - 0.1
P65	0 - 0.02
P66	0.015 - 0.03
P67	0.01 - 0.03
P68	0.015 - 0.03
P69	0.48 - 0.9
P70	0.16 - 0.30
P71	0.15 - 0.28
P72	0.015 - 0.03
P73	0.06 - 0.1
P74	0 - 0.02
P75	1.6 - 2.7

Client ID	DDT Concentration Range
P76	0.01 - 0.03
P77	0.11 - 0.2
P78	2.5 - 4.1
P79	38 - 55
P80	0.82 - 1.7
P81	3 - 4.8
P82	0.22 - 0.42
P83	0.38 - 0.58
P84	9 - 18
P85	0.06 - 0.1
P86	0.16 - 0.30
P87	0.48 - 0.90
P88	0.38 - 0.58
P89	0.85 - 1.9
P90	0.48 - 0.90
P91	0.015 - 0.03
P92	0.11 - 0.20
P93	0.01 - 0.03
P94	0.01 - 0.03
P95	0.01 - 0.03
LA1	0.42 - 0.70
LA2	0.03 - 0.06
LA3	0.11 - 0.20
LA4	0.01 - 0.03
LA5	24 - 38
LA6	0.85 - 1.9
LA7	0.015 - 0.03
LA8	0.01 - 0.03
LA9	0.015 - 0.03
LA10	0.03 - 0.05
LA11	0.01 - 0.03
LA12	0.01 - 0.03
LA13	ND
LA14	0.04 - 0.08
LA15	4 - 7.5
LA16	ND
LA17	0.08 - 0.15
LA18	0.06 - 0.12
LA19	0.015 - 0.03
LA20	0.03 - 0.06
LA21	10 - 19
LA22	0.01 - 0.03
LA23	0.01 - 0.03

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

REPORTED TO: Hemmera Consultants Ltd.

REPORT DATE: October 20, 1999

FILE NUMBER: 0648L & 0669L

CANTEST

Client ID	DDT Concentration Range
LA24	0.01 - 0.03
LA25	ND
LA26	0.01 - 0.03
LA27	ND
LA28	0 - 0.01
LA29	0.16 - 0.30
LA30	0 - 0.02
LA31	0.01 - 0.03
LA32	12 - 20
LA33	10 - 19
LA34	0.18 - 0.35
LA35	0.01 - 0.03
LA36	0 - 0.01
LA37	0.01 - 0.03
LA38	0.01 - 0.03
LA39	0.06 - 0.12
LA40	0.015 - 0.035
LA41	0.01 - 0.03
LA42	0.015 - 0.03
LA43	0.17 - 0.33
LA44	0 - 0.02
LA45	0.01 - 0.03
LA46	0.015 - 0.03
LA47	0.01 - 0.03
LA48	0.01 - 0.03
LA49	0.17 - 0.33
LA50	0.42 - 0.70
LA51	0.65 - 1.20
LA52	2.5 - 4.1
LA53	0.01 - 0.03
LA54	0.015 - 0.035
LA55	0.01 - 0.03
LA56	0.08 - 0.14
LA57	20-34
LA58	100+
LA59	50 - 80
LA60	1.1 - 2.0
LA61	0.01 - 0.03
LA62	0.015 - 0.03
LA63	0.04 - 0.07
LA64	0.015 - 0.03
LA65	100+
LA66	100+
LA67	0.025 - 0.04

Client ID	DDT Concentration Range
LA68	0.38 - 0.58
LA69	100+
LA70	100+
LA71	0.015 - 0.03
LA72	100+
LA73	1.6 - 2.7
LA74	0.01 - 0.03
LA75	0.08 - 0.15
LA76	0.33 - 0.52
LA77	0 - 0.01
LA78	ND
LA79	0 - 0.02
LA80	0 - 0.02
LA81	4.5 - 7.8
LA82	0 - 0.02
LA83	0.01 - 0.03
LA84	0.01 - 0.03
LA85	0 - 0.02
LA86	0.01 - 0.03
LA87	0.01 - 0.03
LA88	1.8 - 2.8
LA89	0.48 -0.90
LA90	0.015 - 0.03
LA91	0.01 - 0.03
LA92	100+
LA93	100+
LA94	1.6 - 2.7
LA95	0.06 - 0.12
LA96	0.01 - 0.03
LA97	0.015 - 0.03
LA98	0.06 - 0.10
LA99	0.04 - 0.08
LA100	0 - 0.02
LA101	0.03 - 0.05
LA102	0.04 - 0.07
LA103	0.19 - 0.36
LA104	0.012 - 0.21
LA105	0.015 - 0.035
LA106	0.03 - 0.06
LA107	1.8 - 2.8
LA108	0.08 - 0.15
LA109	14 - 21
LA110	0.06 - 0.11
LA111	0.19 - 0.36

Client ID	DDT Concentration Range
LA112	41 - 65
LA113	3.8 - 6.5
LA114	100+
LA115	9 - 18
LA116	5 - 8
LA117	0.08 - 0.15
LA118	1.1 - 2.0
LA119	4 - 7.5
LA120	24 - 38
LA121	25 - 39
LA122	4.5 - 7.8
LA123	0.04 - 0.08
LA124	100+
LA125	40 - 60
LA126	50 - 80
LA127	8.5 - 16
LA128	100+
LA129	1.6 - 2.7
LA130	0.015 - 0.035
LA131	6.5 - 11
LA132	0 - 0.02
LA133	0.01 - 0.03
LA134	25 - 39
LA135	0.01 - 0.03
LA136	0.015 - 0.035
LA137	ND
LA138	2.8 - 4.5
LA139	100+
LA140	0.03 - 0.06
LA141	0 - 0.01
LA142	0.38 - 0.58
LA143	0.015 - 0.03
LA144	0.05 - 0.1
LA145	0 - 0.01
LA146	0.42 - 0.7
LA147	0.03 - 0.06
LA148	ND
LA149	0.015 - 0.03
LB1	0.8 - 1.5
LB2	26 - 41
LB3	26 - 41
LB4	0.85 - 1.9
LB4T	0.85 - 1.9
LB5	0.03 - 0.06
LB6	0.3-0.02

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

CANTEST

Client ID	Range
LB7	0.01 - 0.03
LB8	50 - 80
LB9	10 - 19
LB10	25 - 39
LB11	10 - 19
LB12	0 - 0.01
LB13	ND
LB14	ND
LB15	ND
LB16	0.03 - 0.06
LB17	0 - 0.01
LB18	0.04 - 0.08
LB19	0 - 0.02
LB20	0.04 - 0.07
LB21	0 - 0.01
LB22	ND
LB23	0.16 - 0.30
LB24	ND
LB25	0.01 - 0.03
LB25A	0.05 - 0.10
LB26	0.015 - 0.03
LB27	0.05 - 0.10
LB28	0.015 - 0.03
LB29	1.1 - 2.0
LB30	0.11 - 0.20
LB31	0.03 - 0.06
LB32	38 - 55
LB33	4 - 7.5
LB34	100+
LB35	0.22 - 0.42
LB36	100+
LB37	0.015 - 0.03
LB38	0.40 - 0.65
LB39	0.015 - 0.035
LB40	1.9 - 3.3
LB41	0.01 - 0.03
LB42	0.015 - 0.035
LB43	10 - 19
LB44	0 - 0.01
LC1	0.015 - 0.03
LC2	25 - 39
LC3	21 - 100+
LC4	20 - 34

Client ID	Range
LC5	0.12 - 0.21
LC6	0.015 - 0.03
LC7	100+
LC8	0.01 - 0.03
LC9	0.06 - 0.1
LC10	0.54 - 1
LC11	0 - 0.02
LC12	0.01 - 0.03
LC13	0.65 - 1.2
LC14	ND
LC15	0.05 - 0.1
LD1	0.01
LD2	1.1 - 2.0
LD3	0.54 - 1
LD4	1.8 - 2.8
LE1	0.01 - 0.03
LE2	0.01 - 0.03
LE3	0.01 - 0.03
T1	0.06 - 0.10
T2	0.12 - 0.2
T3	0.06 - 0.12
T4	0.16 - 0.3
T5	0.05 - 0.10
T6	0.33 - 0.52

Results are reported in micrograms per gram (ug/g) on an "as received" basis.
ND= Not Detected

Analysis Report

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4606 Canada Way
Burnaby, B.C.
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Tel: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Air Filter Samples

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Attention: Mr.Phil Scalia

PROJECT NAME: Brooks Brook
PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: Four (4)

DATE SUBMITTED: October 1, 1999

SAMPLE TYPE: Air Filter

REPORT DATE: October 27, 1999

FILE NUMBER: 0650L

RELATED WORK: 9093009

METHODS OF TESTING:

Organochlorine Pesticides in Air – were determined with methodology based on USEPA Methods 608/8080, involving extraction and analysis with GC/ECD.

RESULTS OF TESTING:

(See the following page for results)

CANTEST LTD.

Zhenyong Gao, M. Sc.
Trace Organics
bc d:\1999\organics\hem\01_0650L.doc

ORGANOCHLORIDE PESTICIDES IN FILTER

CLIENT SAMPLE IDENTIFICATION:	Sept 29'99 Inside	Sept 29'99 Outside	Sept 30'99 Inside	Sept 30'99 Outside	
DATE SAMPLED:	Sept 29/99	Sept 29/99	Sept 30/99	Sept 30/99	DETECTION
CANTEST ID:	0650L-1	0650L-2	0650L-3	0650L-4	LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

Analysis Report

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Services

4606 Canada Way
Burnaby, B.C.
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1 800 665 8566

REPORT ON: Analysis of Air Filter Samples

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Attention: Mr.Phil Scalia

PROJECT NAME: Brooks Brook
PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: Eight (8)
REPORT DATE: October 27, 1999

DATE SUBMITTED: September 29, 1999
FILE NUMBER: 0646L

SAMPLE TYPE: Air Filter
RELATED WORK: 9093009

METHODS OF TESTING:

Organochlorine Pesticides in Air – were determined with methodology based on USEPA Methods 608/8080, involving extraction and analysis with GC/ECD.

RESULTS OF TESTING:

(See the following pages for results)

CANTEST LTD.

Zhenyong Gao, M. Sc.
Trace Organics

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CANTEST

ORGANOCHLORIDE PESTICIDES IN FILTER

CLIENT SAMPLE IDENTIFICATION:	Sept 24 Outside	Sept 24 Inside	Sept 25 Inside	Sept 25 Outside	
DATE SAMPLED:	Sept 24/99	Sept 24/99	Sept 25/99	Sept 25/99	DETECTION
CANTEST ID:	0646L-1	0646L-2	0646L-3	0646L-4	LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 27, 1999

FILE NUMBER: 0646L

CANTEST

ORGANOCHLORIDE PESTICIDES IN FILTER

CLIENT SAMPLE IDENTIFICATION:	Sept 26 Inside	Sept 26 Outside	Sept 27 Inside	Sept 27 Outside	
DATE SAMPLED:	Sept 26/99	Sept 26/99	Sept 27/99	Sept 27/99	DETECTION
CANTEST ID:	0646L-5	0646L-6	0646L-7	0646L-8	LIMIT (mg/m^3)
Aldrin	<	<	<	<	0.0003
Alpha-BHC	<	<	<	<	0.0003
beta-BHC	<	<	<	<	0.0003
delta-BHC	<	<	<	<	0.0003
gamma-BHC (Lindane)	<	<	<	<	0.0003
alpha-Chlordane	<	<	<	<	0.0003
gamma-Chlordane	<	<	<	<	0.0003
p,p-DDD	<	<	<	<	0.0003
o,p-DDE	<	<	<	<	0.0003
p,p-DDE	<	<	<	<	0.0003
o,p-DDT	<	<	<	<	0.0003
p,p-DDT	<	<	<	<	0.0003
Dieldrin	<	<	<	<	0.0003
Endosulfan I	<	<	<	<	0.0003
Endosulfan II	<	<	<	<	0.0003
Endosulfan Sulphate	<	<	<	<	0.0003
Endrin	<	<	<	<	0.0003
Endrin Aldehyde	<	<	<	<	0.0003
Heptachlor	<	<	<	<	0.0003
Heptachlor Epoxide	<	<	<	<	0.0003
Methoxychlor	<	<	<	<	0.0003
Toxaphene	<	<	<	<	0.0003

Results expressed as milligrams per cubic meter (mg/m^3)
< = Less than detection limit

Analysis Report

CANTEST

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
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Fax: 604 731 2386

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1 800 665 8566

REPORT ON: Analysis of Soil Samples

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Att'n: Mr. Phil Scalia

CHAIN OF CUSTODY: 23752, 23753, 23754, 23755, 23756, 23757, 23758, 23759, 23760, 23761, 23762, 23763, 23764, 23765, 23766, 23767, 23768, 23769, 23770, 23771

PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: 100

REPORT DATE: October 26, 1999

DATE SUBMITTED: September 29, 1999

GROUP NUMBER: 9093009

SAMPLE TYPE: Soil

TEST METHODS:

Moisture in Soil - analysis was performed gravimetrically by heating a separate sample portion at 105 C and measuring the weight loss.

Organochlorine Pesticides in Water, Soil and Leachate - analysis was performed using procedures based on U.S. EPA Method 608/8080, including extraction, clean-up steps, and analysis using GC/ECD.

TEST RESULTS:

(See following pages)

CAN TEST LTD.

Zhenyong Gao, M.Sc.
Coordinator, Trace Organics

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST®

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
NP2	Sep 22/99	909300035	3.4
NP3	Sep 22/99	909300036	4.4
NLA1	Sep 22/99	909300037	4.7
NLA2	Sep 22/99	909300038	4.1
NLA3	Sep 22/99	909300039	2.8
NLA4	Sep 22/99	909300040	3.5
P6	Sep 22/99	909300042	4.0
P7	Sep 22/99	909300043	5.7
P8	Sep 22/99	909300044	2.7
P9	Sep 22/99	909300045	6.7
P14	Sep 22/99	909300046	2.2
P15	Sep 22/99	909300047	3.1
P16	Sep 22/99	909300048	2.3
P17	Sep 23/99	909300049	6.7
P22	Sep 23/99	909300050	3.9
P23	Sep 23/99	909300051	6.8
P25	Sep 23/99	909300052	9.0
P26	Sep 23/99	909300053	5.3
P27	Sep 23/99	909300054	2.7
P28	Sep 23/99	909300055	5.1
P29	Sep 23/99	909300056	5.8
P30	Sep 23/99	909300057	9.0
P33	Sep 23/99	909300058	4.6
NP5	Sep 23/99	909300059	3.6
NP6	Sep 23/99	909300060	9.4
P41	Sep 23/99	909300061	3.2
P42	Sep 23/99	909300062	9.2
P46	Sep 23/99	909300063	6.8
P47	Sep 23/99	909300064	7.4
P48	Sep 23/99	909300065	3.1
P49	Sep 23/99	909300066	8.8
P50	Sep 23/99	909300067	15.3
P52	Sep 23/99	909300068	6.7
P54	Sep 23/99	909300069	9.6
P55	Sep 23/99	909300070	6.3
P56	Sep 23/99	909300071	5.0
P57	Sep 23/99	909300072	6.0
P60	Sep 23/99	909300073	4.9

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REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
P61	Sep 23/99	909300074	5.5
P62	Sep 23/99	909300075	5.3
P64	Sep 23/99	909300076	6.9
P65	Sep 23/99	909300077	9.7
P67	Sep 23/99	909300078	10.5
P68	Sep 23/99	909300079	9.2
P69	Sep 23/99	909300080	5.5
P70	Sep 23/99	909300081	10.8
P72	Sep 23/99	909300082	6.3
P73	Sep 24/99	909300083	4.6
P74	Sep 24/99	909300084	3.1
P76	Sep 24/99	909300085	10.0
P77	Sep 24/99	909300086	5.8
P82	Sep 24/99	909300087	5.5
P86	Sep 24/99	909300088	5.6
P88	Sep 24/99	909300089	5.3
P90	Sep 24/99	909300090	6.9
P91	Sep 25/99	909300091	7.7
P94	Sep 25/99	909300092	7.5
P95	Sep 25/99	909300093	7.3
LA1	Sep 25/99	909300094	2.7
LA4	Sep 25/99	909300095	2.9
LA8	Sep 25/99	909300099	0.6
LA10	Sep 25/99	909300100	1.4
LA12	Sep 25/99	909300101	2.4
LA14	Sep 25/99	909300102	2.5
LA16	Sep 25/99	909300103	4.1
LA17	Sep 26/99	909300104	3.3
LA20	Sep 26/99	909300105	2.5
LA22	Sep 26/99	909300106	1.1
LA24	Sep 26/99	909300107	1.0
LA27	Sep 26/99	909300108	2.3
LA29	Sep 26/99	909300109	1.7
LA30	Sep 26/99	909300110	5.3
LA32	Sep 26/99	909300111	4.4
T3	Sep 26/99	909300112	5.9
T6	Sep 26/99	909300113	0.7
LA34	Sep 27/99	909300116	1.6
LA36	Sep 27/99	909300117	3.0

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REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
LA39	Sep 27/99	909300118	1.9
LA40	Sep 27/99	909300119	3.4
LA41	Sep 27/99	909300120	11.0
LA43	Sep 27/99	909300121	10.7
LA45	Sep 27/99	909300124	6.3
LA46	Sep 27/99	909300125	1.5
LA49	Sep 27/99	909300126	4.8
LA51	Sep 27/99	909300127	5.9
LA53	Sep 27/99	909300128	12.6
LA55	Sep 27/99	909300129	2.8
LA61	Sep 27/99	909300130	1.2
LA63	Sep 27/99	909300131	1.4
LA67	Sep 27/99	909300132	4.1
LA71	Sep 27/99	909300133	1.9
DUP1	Sep 27/99	909300134	5.7
DUP2	Sep 27/99	909300135	1.8
DUP3	Sep 27/99	909300136	4.0
DUP4	Sep 27/99	909300137	13.8
DUP5	Sep 27/99	909300138	2.8
DUP6	Sep 27/99	909300139	1.1
DUP7	Sep 27/99	909300140	0.6
DUP8	Sep 27/99	909300141	2.5
DUP9	Sep 27/99	909300142	1.6
DETECTION LIMIT			0.1
UNITS			%

% = percent

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	NP2	NP3	NLA1	NLA2	
DATE SAMPLED:	Sep 22/99	Sep 22/99	Sep 22/99	Sep 22/99	DETECTION LIMIT
CAN TEST ID:	909300035	909300036	909300037	909300038	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.062	0.009	<	<	0.003
o,p-DDT	0.012	<	<	<	0.003
p,p-DDT	0.14	0.030	<	<	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	NLA3	NLA4	P6	P7	
DATE SAMPLED:	Sep 22/99	Sep 22/99	Sep 22/99	Sep 22/99	DETECTION LIMIT
CAN TEST ID:	909300039	909300040	909300042	909300043	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	<	0.094	0.23	0.003
o,p-DDT	<	<	0.084	0.055	0.003
p,p-DDT	<	<	0.62	0.22	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P8	P9	P14	P15	
DATE SAMPLED:	Sep 22/99	Sep 22/99	Sep 22/99	Sep 22/99	DETECTION LIMIT
CAN TEST ID:	909300044	909300045	909300046	909300047	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.073	0.016	<	<	0.003
o,p-DDT	0.013	<	<	0.019	0.003
p,p-DDT	0.35	0.025	<	0.066	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P16	P17	P22	P23	
DATE SAMPLED:	Sep 22/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300048	909300049	909300050	909300051	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	0.015	<	<	0.003
o,p-DDT	0.065	0.009	<	0.011	0.003
p,p-DDT	0.24	0.10	0.007	0.025	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P25	P26	P27	P28	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300052	909300053	909300054	909300055	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.008	<	<	<	0.003
o,p-DDT	0.014	<	0.073	0.006	0.003
p,p-DDT	0.088	<	0.24	0.015	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P29	P30	P33	NP5	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300056	909300057	909300058	909300059	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	0.006	<	<	0.003
o,p-DDT	<	0.031	0.047	<	0.003
p,p-DDT	0.003	0.19	0.74	0.013	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	NP6	P41	P42	P46	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300060	909300061	909300062	909300063	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.037	0.022	0.008	<	0.003
o,p-DDT	0.017	0.007	<	<	0.003
p,p-DDT	0.16	0.098	0.025	0.005	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P47	P48	P49	P50	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300064	909300065	909300066	909300067	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.005	<	<	0.050	0.003
o,p-DDT	0.008	<	<	0.045	0.003
p,p-DDT	0.044	0.008	<	0.26	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P52	P54	P55	P56	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300068	909300069	909300070	909300071	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.028	0.051	0.021	0.30	0.003
o,p-DDT	0.025	0.026	0.035	0.029	0.003
p,p-DDT	0.37	0.32	0.46	0.50	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P57	P60	P61	P62	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300072	909300073	909300074	909300075	
Aldrin	<	< 0.01	<	<	0.001
alpha-BHC	<	< 0.01	<	<	0.001
beta-BHC	<	< 0.01	<	<	0.001
delta-BHC	<	< 0.01	<	<	0.001
gamma-BHC (Lindane)	<	< 0.01	<	<	0.001
alpha-Chlordane	<	< 0.05	<	<	0.005
gamma-Chlordane	<	< 0.05	<	<	0.005
p,p-DDD	<	< 0.05	<	<	0.005
o,p-DDE	<	< 0.03	<	<	0.003
p,p-DDE	0.031	< 0.03	<	0.006	0.003
o,p-DDT	0.044	< 0.03	<	<	0.003
p,p-DDT	0.55	0.11	0.006	0.12	0.003
Dieldrin	<	< 0.03	<	<	0.003
Endosulfan I	<	< 0.1	<	<	0.01
Endosulfan II	<	< 0.1	<	<	0.01
Endosulfan Sulphate	<	< 0.1	<	<	0.01
Endrin	<	< 0.1	<	<	0.01
Endrin Aldehyde	<	< 0.1	<	<	0.01
Heptachlor	<	< 0.01	<	<	0.001
Heptachlor Expoxide	<	< 0.01	<	<	0.001
Methoxychlor	<	< 0.1	<	<	0.01
Toxaphene	<	< 3	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P64	P65	P67	P68	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 23/99	DETECTION LIMIT
CAN TEST ID:	909300076	909300077	909300078	909300079	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	0.008	<	<	<	0.003
o,p-DDT	0.017	<	<	<	0.003
p,p-DDT	0.17	0.004	0.008	0.020	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P69	P70	P72	P73	
DATE SAMPLED:	Sep 23/99	Sep 23/99	Sep 23/99	Sep 24/99	DETECTION LIMIT
CAN TEST ID:	909300080	909300081	909300082	909300083	
Aldrin	< 0.01	<	<	<	0.001
alpha-BHC	< 0.01	<	<	<	0.001
beta-BHC	< 0.01	<	<	<	0.001
delta-BHC	< 0.01	<	<	<	0.001
gamma-BHC (Lindane)	< 0.01	<	<	<	0.001
alpha-Chlordane	< 0.05	<	<	<	0.005
gamma-Chlordane	< 0.05	<	<	<	0.005
p,p-DDD	< 0.05	<	<	<	0.005
o,p-DDE	< 0.03	<	<	<	0.003
p,p-DDE	< 0.03	0.005	<	0.022	0.003
o,p-DDT	0.08	0.030	<	0.020	0.003
p,p-DDT	0.67	0.26	0.007	0.13	0.003
Dieldrin	< 0.03	<	<	<	0.003
Endosulfan I	< 0.1	<	<	<	0.01
Endosulfan II	< 0.1	<	<	<	0.01
Endosulfan Sulphate	< 0.1	<	<	<	0.01
Endrin	< 0.1	<	<	<	0.01
Endrin Aldehyde	< 0.1	<	<	<	0.01
Heptachlor	< 0.01	<	<	<	0.001
Heptachlor Expoxide	< 0.01	<	<	<	0.001
Methoxychlor	< 0.1	<	<	<	0.01
Toxaphene	< 3	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P74	P76	P77	P82	
DATE SAMPLED:	Sep 24/99	Sep 24/99	Sep 24/99	Sep 24/99	DETECTION LIMIT
CAN TEST ID:	909300084	909300085	909300086	909300087	
Aldrin	<	<	< 0.01	<	0.001
alpha-BHC	<	<	< 0.01	<	0.001
beta-BHC	<	<	< 0.01	<	0.001
delta-BHC	<	<	< 0.01	<	0.001
gamma-BHC (Lindane)	<	<	< 0.01	<	0.001
alpha-Chlordane	<	<	< 0.05	<	0.005
gamma-Chlordane	<	<	< 0.05	<	0.005
p,p-DDD	<	<	< 0.05	<	0.005
o,p-DDE	<	<	< 0.03	<	0.003
p,p-DDE	<	<	0.05	0.009	0.003
o,p-DDT	<	<	< 0.03	0.007	0.003
p,p-DDT	<	0.010	0.23	0.048	0.003
Dieldrin	<	<	< 0.03	<	0.003
Endosulfan I	<	<	< 0.1	<	0.01
Endosulfan II	<	<	< 0.1	<	0.01
Endosulfan Sulphate	<	<	< 0.1	<	0.01
Endrin	<	<	< 0.1	<	0.01
Endrin Aldehyde	<	<	< 0.1	<	0.01
Heptachlor	<	<	< 0.01	<	0.001
Heptachlor Expoxide	<	<	< 0.01	<	0.001
Methoxychlor	<	<	< 0.1	<	0.01
Toxaphene	<	<	< 3	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P86	P88	P90	P91	
DATE SAMPLED:	Sep 24/99	Sep 24/99	Sep 24/99	Sep 25/99	DETECTION LIMIT
CAN TEST ID:	909300088	909300089	909300090	909300091	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	0.14	0.25	<	0.07	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	0.44	0.21	0.27	0.16	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	P94	P95	LA1	LA4	
DATE SAMPLED:	Sep 25/99	Sep 25/99	Sep 25/99	Sep 25/99	DETECTION LIMIT
CAN TEST ID:	909300092	909300093	909300094	909300095	
Aldrin	< 0.01	< 0.01	< 0.01	<	0.001
alpha-BHC	< 0.01	< 0.01	< 0.01	<	0.001
beta-BHC	< 0.01	< 0.01	< 0.01	<	0.001
delta-BHC	< 0.01	< 0.01	< 0.01	<	0.001
gamma-BHC (Lindane)	< 0.01	< 0.01	< 0.01	<	0.001
alpha-Chlordane	< 0.05	< 0.05	< 0.05	<	0.005
gamma-Chlordane	< 0.05	< 0.05	< 0.05	<	0.005
p,p-DDD	< 0.05	< 0.05	< 0.05	<	0.005
o,p-DDE	< 0.03	< 0.03	< 0.03	<	0.003
p,p-DDE	< 0.03	0.064	< 0.03	<	0.003
o,p-DDT	< 0.03	0.032	< 0.03	<	0.003
p,p-DDT	0.18	0.24	0.12	<	0.003
Dieldrin	< 0.03	< 0.03	< 0.03	<	0.003
Endosulfan I	< 0.1	< 0.1	< 0.1	<	0.01
Endosulfan II	< 0.1	< 0.1	< 0.1	<	0.01
Endosulfan Sulphate	< 0.1	< 0.1	< 0.1	<	0.01
Endrin	< 0.1	< 0.1	< 0.1	<	0.01
Endrin Aldehyde	< 0.1	< 0.1	< 0.1	<	0.01
Heptachlor	< 0.01	< 0.01	< 0.01	<	0.001
Heptachlor Expoxide	< 0.01	< 0.01	< 0.01	<	0.001
Methoxychlor	< 0.1	< 0.1	< 0.1	<	0.01
Toxaphene	< 3	< 3	< 3	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA8	LA10	LA12	LA14	
DATE SAMPLED:	Sep 25/99	Sep 25/99	Sep 25/99	Sep 25/99	DETECTION LIMIT
CAN TEST ID:	909300099	909300100	909300101	909300102	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	<	<	<	0.003
o,p-DDT	<	0.007	<	0.017	0.003
p,p-DDT	<	0.019	<	0.031	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA16	LA17	LA20	LA22	
DATE SAMPLED:	Sep 25/99	Sep 26/99	Sep 26/99	Sep 26/99	DETECTION LIMIT
CAN TEST ID:	909300103	909300104	909300105	909300106	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	<	<	<	0.003
o,p-DDT	<	<	<	<	0.003
p,p-DDT	<	<	0.004	<	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA24	LA27	LA29	LA30	
DATE SAMPLED:	Sep 26/99	Sep 26/99	Sep 26/99	Sep 26/99	DETECTION LIMIT
CAN TEST ID:	909300107	909300108	909300109	909300110	
Aldrin	<	<	<	<	0.001
alpha-BHC	<	<	<	<	0.001
beta-BHC	<	<	<	<	0.001
delta-BHC	<	<	<	<	0.001
gamma-BHC (Lindane)	<	<	<	<	0.001
alpha-Chlordane	<	<	<	<	0.005
gamma-Chlordane	<	<	<	<	0.005
p,p-DDD	<	<	<	<	0.005
o,p-DDE	<	<	<	<	0.003
p,p-DDE	<	<	<	<	0.003
o,p-DDT	<	<	<	<	0.003
p,p-DDT	<	0.013	<	0.031	0.003
Dieldrin	<	<	<	<	0.003
Endosulfan I	<	<	<	<	0.01
Endosulfan II	<	<	<	<	0.01
Endosulfan Sulphate	<	<	<	<	0.01
Endrin	<	<	<	<	0.01
Endrin Aldehyde	<	<	<	<	0.01
Heptachlor	<	<	<	<	0.001
Heptachlor Expoxide	<	<	<	<	0.001
Methoxychlor	<	<	<	<	0.01
Toxaphene	<	<	<	<	0.3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA32	T3	T6	LA34	
DATE SAMPLED:	Sep 26/99	Sep 26/99	Sep 26/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300111	909300112	909300113	909300116	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	0.07	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	0.19	0.14	0.10	0.19	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA36	LA39	LA40	LA41	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300117	909300118	909300119	909300120	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	0.08	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA43	LA45	LA46	LA49	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300121	909300124	909300125	909300126	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	0.06	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA51	LA53	LA55	LA61	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300127	909300128	909300129	909300130	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	0.19	<	<	<	0.03
p,p-DDT	0.85	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA63	LA67	LA71	DUP1	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300131	909300132	909300133	909300134	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	0.04	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	DUP2	DUP3	DUP4	DUP5	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300135	909300136	909300137	909300138	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	0.07	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 26, 1999

GROUP NUMBER: 9093009

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	DUP6	DUP7	DUP8	DUP9	
DATE SAMPLED:	Sep 27/99	Sep 27/99	Sep 27/99	Sep 27/99	DETECTION LIMIT
CAN TEST ID:	909300139	909300140	909300141	909300142	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	0.04	<	0.03
p,p-DDT	<	0.03	0.22	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

Analysis Report

CANTEST

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Soil Samples

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Att'n: Phil Scalia

CHAIN OF CUSTODY: 23773, 23774, 23775, 23776, 23777, 23778, 23779, 23780, 23781, 23782, 27609, 27610, 27611, 27612, 27613, 27614

PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: 59

REPORT DATE: October 29, 1999

DATE SUBMITTED: October 18, 1999

GROUP NUMBER: 9101939

SAMPLE TYPE: Soil

TEST METHODS:

Moisture in Soil - analysis was performed gravimetrically by heating a separate sample portion at 105 C and measuring the weight loss.

Extractable Petroleum Hydrocarbons in Water/Soil (LEPH/HEPH-GNS) - analysis was performed using a draft DCM extraction-GC/FID procedure specified by the B.C. MOELP. Compounds eluting between n-decane (n-C10) and n-nonadecane (n-C19) are defined as Light Extractable Petroleum Hydrocarbons (LEPH). Compounds eluting between n-nonadecane and n-dotriacontane (n-C32) are defined as Heavy Extractable Petroleum Hydrocarbons (HEPH). The results can be compared to Generic Numerical Standard (GNS) criteria. The report states if results were corrected for specified PAH's, & if silica gel cleanup was used.

Organochlorine Pesticides in Water, Soil and Leachate - analysis was performed using procedures based on U.S. EPA Method 608/8080, including extraction, clean-up steps, and analysis using GC/ECD.

Polynuclear Aromatic Hydrocarbons - analysis was performed using procedures based on U.S. EPA Methods 625/8270, involving extraction, clean-up steps, and analysis using GC/MS.

TEST RESULTS:

(See following pages)

CAN TEST LTD.

Zhenyong Gao, M.Sc.
Coordinator, Trace Organics

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
LA 76	Oct 5/99	910190128	1.3
LA 78	Oct 5/99	910190129	2.8
LA 80	Oct 5/99	910190130	9.6
LA 83	Oct 5/99	910190131	3.5
LA 85	Oct 5/99	910190132	1.1
LA 87	Oct 5/99	910190133	1.0
LA 89	Oct 5/99	910190134	5.1
LA 90	Oct 5/99	910190135	10.7
LA 97	Oct 5/99	910190136	11.4
LA 98	Oct 5/99	910190137	4.4
LA 100	Oct 5/99	910190138	1.2
LA 103	Oct 5/99	910190139	1.0
LA 105	Oct 6/99	910190140	4.5
LA 111	Oct 6/99	910190141	1.6
LA 117	Oct 6/99	910190142	1.5
LA 123	Oct 6/99	910190143	1.1
LA 133	Oct 6/99	910190144	10.1
LA 136	Oct 6/99	910190145	12.5
LB6	Oct 6/99	910190146	4.6
LB12	Oct 7/99	910190148	1.1
LB14	Oct 7/99	910190150	2.4
LB15	Oct 7/99	910190151	4.5
LB16	Oct 7/99	910190152	3.4
LB18	Oct 7/99	910190153	4.4
LB19	Oct 7/99	910190154	2.3
LB21	Oct 7/99	910190155	1.6
LB23	Oct 7/99	910190156	6.5
LA 140	Oct 7/99	910190157	2.5
LA 142	Oct 7/99	910190158	4.3
LA 145	Oct 7/99	910190159	1.9
LA 149	Oct 12/99	910190160	1.3
LB 27	Oct 12/99	910190161	4.1
LB 30	Oct 12/99	910190162	2.7
LB 35	Oct 13/99	910190163	4.0
LB 37	Oct 13/99	910190164	2.3
LB 38	Oct 13/99	910190165	1.4
LC 6	Oct 13/99	910190166	1.5
LC 9	Oct 13/99	910190167	2.8

(Continued on next page)

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
PAD 1	Oct 12/99	910190168	2.4
PAD 2	Oct 12/99	910190169	0.9
LB 41	Oct 14/99	910190170	2.4
LB 42	Oct 14/99	910190171	0.9
LB 44	Oct 14/99	910190172	1.4
LC 10	Oct 14/99	910190173	18.3
LC 12	Oct 14/99	910190174	1.5
LC 13	Oct 14/99	910190175	0.8
LD 4	Oct 14/99	910190176	13.7
LE 1	Oct 14/99	910190177	17.2
LE 2	Oct 14/99	910190178	18.4
DUP 10	Oct 14/99	910190179	13.1
DUP 11	Oct 14/99	910190180	2.2
DUP 12	Oct 14/99	910190181	1.1
DUP 13	Oct 14/99	910190182	0.9
DUP 14	Oct 14/99	910190183	18.0
DUP 15	Oct 14/99	910190184	19.3
DUP 17	Oct 14/99	910190185	18.9
DUP 19	Oct 14/99	910190186	2.4
DUP 20	Oct 14/99	910190187	1.1
LD5	Oct 15/99	910190188	10.2
DETECTION LIMIT			0.1
UNITS			%

% = percent

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Polycyclic Aromatic Hydrocarbons in Soil

CLIENT SAMPLE IDENTIFICATION:	PAD 1	PAD 2	
DATE SAMPLED:	Oct 12/99	Oct 12/99	
CAN TEST ID:	910190168	910190169	DETECTION LIMIT
ANALYSIS DATE:	Oct 23/99	Oct 23/99	
Naphthalene	< 0.5	<	0.05
Acenaphthylene	< 0.5	<	0.05
Acenaphthene	< 0.5	<	0.05
Fluorene	< 0.5	<	0.05
Phenanthrene	< 0.5	<	0.05
Anthracene	< 0.5	<	0.05
Total LMW-PAH's			
Fluoranthene	< 0.5	<	0.05
Pyrene	< 0.5	<	0.05
Benzo(a)anthracene	< 0.5	<	0.05
Chrysene	< 0.5	<	0.05
Benzo(b)fluoranthene	< 0.5	<	0.05
Benzo(k)fluoranthene	< 0.5	<	0.05
Benzo(a)pyrene	< 0.5	<	0.05
Indeno(1,2,3-c,d)pyrene	< 0.5	<	0.05
Dibenz(a,h)anthracene	< 0.5	<	0.05
Benzo(g,h,i)perylene	< 0.5	<	0.05
Total HMW-PAH's			
Total PAH's			

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit
Sample# 910190168 - Detection limits adjusted: Interference present in sample

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Extractable Petroleum Hydrocarbons in Soil

CLIENT SAMPLE IDENTIFICATION:	PAD 1	PAD 2	DETECTION LIMIT
DATE SAMPLED:	Oct 12/99	Oct 12/99	
CAN TEST ID:	910190168	910190169	
LEPH-uncorrected for PAH's	<	<	250
HEPH-uncorrected for PAH's	<	<	250
LEPH-corrected for PAH's	<	<	250
HEPH-corrected for PAH's	<	<	250

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 76	LA 78	LA 80	LA 83	
DATE SAMPLED:	Oct 5/99	Oct 5/99	Oct 5/99	Oct 5/99	DETECTION LIMIT
CAN TEST ID:	910190128	910190129	910190130	910190131	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 85	LA 87	LA 89	LA 90	
DATE SAMPLED:	Oct 5/99	Oct 5/99	Oct 5/99	Oct 5/99	DETECTION LIMIT
CAN TEST ID:	910190132	910190133	910190134	910190135	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	0.08	<	0.03
o,p-DDT	<	<	0.05	<	0.03
p,p-DDT	<	<	0.35	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (µg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 97	LA 98	LA 100	LA 103	
DATE SAMPLED:	Oct 5/99	Oct 5/99	Oct 5/99	Oct 5/99	DETECTION LIMIT
CAN TEST ID:	910190136	910190137	910190138	910190139	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	0.04	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 105	LA 111	LA 117	LA 123	
DATE SAMPLED:	Oct 6/99	Oct 6/99	Oct 6/99	Oct 6/99	DETECTION LIMIT
CAN TEST ID:	910190140	910190141	910190142	910190143	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 133	LA 136	LB6	LB12	
DATE SAMPLED:	Oct 6/99	Oct 6/99	Oct 6/99	Oct 7/99	DETECTION LIMIT
CAN TEST ID:	910190144	910190145	910190146	910190148	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LB14	LB15	LB16	LB18	
DATE SAMPLED:	Oct 7/99	Oct 7/99	Oct 7/99	Oct 7/99	DETECTION LIMIT
CAN TEST ID:	910190150	910190151	910190152	910190153	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	0.03	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LB19	LB21	LB23	LA 140	
DATE SAMPLED:	Oct 7/99	Oct 7/99	Oct 7/99	Oct 7/99	DETECTION LIMIT
CAN TEST ID:	910190154	910190155	910190156	910190157	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	0.07	<	0.03
p,p-DDT	<	<	0.29	0.06	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LA 142	LA 145	LA 149	LB 27	
DATE SAMPLED:	Oct 7/99	Oct 7/99	Oct 12/99	Oct 12/99	DETECTION LIMIT
CAN TEST ID:	910190158	910190159	910190160	910190161	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	0.10	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LB 30	LB 35	LB 37	LB 38	
DATE SAMPLED:	Oct 12/99	Oct 13/99	Oct 13/99	Oct 13/99	DETECTION LIMIT
CAN TEST ID:	910190162	910190163	910190164	910190165	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	0.07	0.03
p,p-DDT	<	0.11	<	0.47	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LC 6	LC 9	LB 41	LB 42	
DATE SAMPLED:	Oct 13/99	Oct 13/99	Oct 14/99	Oct 14/99	DETECTION LIMIT
CAN TEST ID:	910190166	910190167	910190170	910190171	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LB 44	LC 10	LC 12	LC 13	
DATE SAMPLED:	Oct 14/99	Oct 14/99	Oct 14/99	Oct 14/99	DETECTION LIMIT
CAN TEST ID:	910190172	910190173	910190174	910190175	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	0.14	0.03
p,p-DDT	<	<	<	0.26	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LD 4	LE 1	LE 2	DUP 10	
DATE SAMPLED:	Oct 14/99	Oct 14/99	Oct 14/99	Oct 14/99	DETECTION LIMIT
CAN TEST ID:	910190176	910190177	910190178	910190179	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	DUP 11	DUP 12	DUP 13	DUP 14	
DATE SAMPLED:	Oct 14/99	Oct 14/99	Oct 14/99	Oct 14/99	DETECTION LIMIT
CAN TEST ID:	910190180	910190181	910190182	910190183	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	<	0.03
p,p-DDT	<	<	<	<	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST

Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	DUP 15	DUP 17	DUP 19	DUP 20	
DATE SAMPLED:	Oct 14/99	Oct 14/99	Oct 14/99	Oct 14/99	DETECTION LIMIT
CAN TEST ID:	910190184	910190185	910190186	910190187	
Aldrin	<	<	<	<	0.01
alpha-BHC	<	<	<	<	0.01
beta-BHC	<	<	<	<	0.01
delta-BHC	<	<	<	<	0.01
gamma-BHC (Lindane)	<	<	<	<	0.01
alpha-Chlordane	<	<	<	<	0.05
gamma-Chlordane	<	<	<	<	0.05
p,p-DDD	<	<	<	<	0.05
o,p-DDE	<	<	<	<	0.03
p,p-DDE	<	<	<	<	0.03
o,p-DDT	<	<	<	0.10	0.03
p,p-DDT	<	<	<	0.21	0.03
Dieldrin	<	<	<	<	0.03
Endosulfan I	<	<	<	<	0.1
Endosulfan II	<	<	<	<	0.1
Endosulfan Sulphate	<	<	<	<	0.1
Endrin	<	<	<	<	0.1
Endrin Aldehyde	<	<	<	<	0.1
Heptachlor	<	<	<	<	0.01
Heptachlor Expoxide	<	<	<	<	0.01
Methoxychlor	<	<	<	<	0.1
Toxaphene	<	<	<	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

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Organochlorine Pesticides in Soil

CLIENT SAMPLE IDENTIFICATION:	LD5	
DATE SAMPLED:	Oct 15/99	DETECTION LIMIT
CAN TEST ID:	910190188	
Aldrin	<	0.01
alpha-BHC	<	0.01
beta-BHC	<	0.01
delta-BHC	<	0.01
gamma-BHC (Lindane)	<	0.01
alpha-Chlordane	<	0.05
gamma-Chlordane	<	0.05
p,p-DDD	<	0.05
o,p-DDE	<	0.03
p,p-DDE	<	0.03
o,p-DDT	<	0.03
p,p-DDT	<	0.03
Dieldrin	<	0.03
Endosulfan I	<	0.1
Endosulfan II	<	0.1
Endosulfan Sulphate	<	0.1
Endrin	<	0.1
Endrin Aldehyde	<	0.1
Heptachlor	<	0.01
Heptachlor Expoxide	<	0.01
Methoxychlor	<	0.1
Toxaphene	<	3

Results expressed as micrograms per gram, on a dry weight basis. (μg/g)
< = Less than detection limit

CANTEST®

Batch Quality Control for Extractable Petroleum Hydrocarbons in Soil (QC# 12884)

Parameter	Blank (ug/g)	Blank Limits	Duplicate (R.P.D.) 910140145	Duplicate Limits
LEPH-uncorrected for PAH's	< 250	250	NC	20
HEPH-uncorrected for PAH's	< 250	250	NC	20

ug/g = micrograms per gram
R.P.D. = Relative Percent Difference
NC = Not Calculated. Duplicate sample results were less than the detection limit. Relative Percent Difference calculation is not defined for analyte levels of less than detection limit.

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9101939

CANTEST®

Batch Quality Control for Polycyclic Aromatic Hydrocarbons in Soil (QC# 12880)

Parameter	Blank (ug/g)	Blank Limits	Duplicate (R.P.D.) 910180052	Duplicate Limits	NRC HS-5 Cert. Ref. Material (% Recovery)	NRC HS-5 Cert. Ref. Material Limits
Naphthalene	< 0.05	0.05	NC	40	76	57 - 111
Acenaphthylene	< 0.05	0.05	NC	40	87	45 - 135
Acenaphthene	< 0.05	0.05	NC	40	-	-
Fluorene	< 0.05	0.05	NC	40	-	-
Phenanthrene	< 0.05	0.05	-	-	69	49 - 97
Anthracene	< 0.05	0.05	NC	40	66	54 - 129
Fluoranthene	< 0.05	0.05	-	-	81	59 - 124
Pyrene	< 0.05	0.05	-	-	64	46 - 84
Benzo(a)anthracene	< 0.05	0.05	-	-	-	-
Chrysene	< 0.05	0.05	-	-	75	53 - 114
Benzo(b)fluoranthene	< 0.05	0.05	-	-	-	-
Benzo(a)pyrene	< 0.05	0.05	-	-	-	-
Indeno(1,2,3-c,d)pyrene	< 0.05	0.05	-	-	59	49 - 102
Dibenz(a,h)anthracene	< 0.05	0.05	NC	40	80	61 - 126
Benzo(g,h,i)perylene	< 0.05	0.05	NC	40	-	-

ug/g = micrograms per gram
R.P.D. = Relative Percent Difference
NC = Not Calculated. Duplicate sample results were less than the detection limit. Relative Percent Difference calculation is not defined for analyte levels of less than detection limit.

Batch Quality Control Frequency Summary

PAH's in Soil Sample Prep (Batch# 12880)

QC Type	No. Samples
Blank	1
Duplicate	1
NRC HS-5 Cert. Ref. Material	2
Batch Size	20

EPH (LEPH/HEPH)- Soil Prep (Batch# 12884)

QC Type	No. Samples
Blank	1
Duplicate	1
Spike	1
Batch Size	17

Analysis Report

CANTEST

CANTEST LTD.
Professional
Analytical
Services

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1 800 665 8566

REPORT ON: Analysis of Soil Samples

REPORTED TO: Hemmera Resource Consultants Ltd.
Suite 410
1190 Hornby Street
Vancouver, B.C.
V6Z 2K5

Att'n: Phil Scalia

CHAIN OF CUSTODY: 27612, 27610, 27614, 27613, 23780, 27609, 27611, 23763
PROJECT NAME: Brooks Brook Remediation
PROJECT NUMBER: 316-003.02

NUMBER OF SAMPLES: 15 **REPORT DATE:** October 29, 1999

DATE SUBMITTED: September 29, 1999 - October 18, 1999 **GROUP NUMBER:** 9102647

SAMPLE TYPE: Soil

TEST METHODS:

Moisture in Soil - analysis was performed gravimetrically by heating a separate sample portion at 105 C and measuring the weight loss.

Extractable Petroleum Hydrocarbons (EPH) and Light and Heavy Extractable Petroleum Hydrocarbons (LEPH & HEPH) in Soil - analysis was performed using B.C. MOELP CSR-Analytical Method 3 "Extractable Petroleum Hydrocarbons in Solids by GC/FID" and CSR-Analytical Method 6 "Calculation of Light and HeavyExtractable Petroleum Hydrocarbons in Solids or Water (LEPH & HEPH)". The method involves acetone/hexane extraction and GC/FID analysis. Components ranging from C10 to C19 and C19 to C32 are quantified against eicosane (n-C20). LEPH & HEPH are calculated by subtraction of specified PAH's.

TEST RESULTS:

(See following pages)

CAN TEST LTD.

Zhenyong Gao, M.Sc.
Coordinator, Trace Organics

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9102647

CANTEST®

Conventional Parameters in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	Moisture
LB 13	Oct 7/99	910260229	0.9
LB 28	Oct 12/99	910260233	1.6
DETECTION LIMIT			0.1
UNITS			%

% = percent

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9102647

CANTEST®

Extractable Petroleum Hydrocarbons in Soil

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CAN TEST ID	EPH - nC10 to nC19	EPH - nC19 to nC32
LB 41	Oct 14/99	910260208	<	<
LB 35	Oct 13/99	910260211	<	<
LB 44	Oct 14/99	910260217	<	<
LD 5	Oct 15/99	910260223	<	<
LB 37	Oct 13/99	910260224	<	<
LC 12	Oct 14/99	910260225	<	<
LB 38	Oct 13/99	910260226	<	<
LB 42	Oct 14/99	910260227	<	<
LE 2	Oct 14/99	910260228	<	<
LB 13	Oct 7/99	910260229	<	<
LA 149	Oct 12/99	910260230	<	<
LC 9	Oct 13/99	910260231	<	<
LC 6	Oct 13/99	910260232	<	<
LB 28	Oct 12/99	910260233	<	<
LA 8	Sep 25/99	910270031	<	<
DETECTION LIMIT			250	250
UNITS			µg/g	µg/g

µg/g = micrograms per gram, on a dry weight basis.
< = Less than detection limit

REPORTED TO: Hemmera Resource Consultants Ltd.

REPORT DATE: October 29, 1999

GROUP NUMBER: 9102647

Batch Quality Control for Extractable Petroleum Hydrocarbons in Soil (QC# 13023)

Parameter	Blank (ug/g)	Blank Limits	Duplicate (R.P.D.) 910270019	Duplicate Limits
EPH - nC10 to nC19	< 250	250	NC	20
EPH - nC19 to nC32	< 250	250	NC	20

ug/g = micrograms per gram
R.P.D. = Relative Percent Difference
NC = Not Calculated. Duplicate sample results were less than the detection limit. Relative Percent Difference calculation is not defined for analyte levels of less than detection limit.

CANTEST

Batch Quality Control Frequency Summary

EPH (LEPH/HEPH)- Soil Prep (Batch# 13023)

QC Type	No. Samples
Blank	1
Cert Ref Material RTC CRM355	1
Duplicate	1
Method Performance Check Spike	1
Batch Size	16