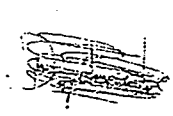

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Municipal Brownfields - B
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Spills - SP
ERP - E
VCP - V
BCP - C

932006

# TEST PIT SAMPLING SUMMARY REPORT
# 42-INCH RAW WATERLINE ROUTE

NIAGARA COUNTY WATER DISTRICT

RIVER ROAD SITE

# TEST PIT SAMPLING SUMMARY REPORT
# 42-INCH RAW WATERLINE ROUTE

NIAGARA COUNTY WATER DISTRICT

RIVER ROAD SITE

JUNE 1992

REFERENCE NO. 4687 (2)



CONESTOGA-ROVERS & ASSOCIATES

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## 1.0 INTRODUCTION

The County of Niagara has proposed the installation of a new 42-inch diameter raw waterline from the Niagara River to a water treatment plant. A section of the proposed alignment runs along an existing right-of-way owned by Niagara County (referred to herein as the Site), which extends from the Niagara River to the corner of River Road and Williams Road. Numerous utilities currently exist within the boundaries of the right-of-way. The west boundary of the right-of-way is adjacent to the Bryzinski property. The location of the Site is as shown on Figure 1.1.

Soil borings were previously installed along the west boundary of the right-of-way and soil samples collected for chemical analysis. Analysis of the soil samples indicated the presence of polychlorinated biphenyls (PCBs) at two of the borehole locations. In addition to the detected presence of PCBs, the New York State Department of Environmental Conservation (NYSDEC) has indicated the potential for the migration of trichloroethylene (TCE) from the site adjacent to the west boundary of the right-of-way. This being the case, the NYSDEC and New York State Department of Health (NYSDOH) requested additional subsurface investigation work be performed prior to installation of the waterline.

On April 28-29, 1992, 10 test pits were installed along the proposed alignment of the 42-inch diameter raw waterline in accordance with the document entitled, "Work Plan, Site Assessment, River Road and Williams Road, Niagara County" dated April 1992 (referred to herein as "Work Plan"). The test pits were installed in order to investigate the

potential presence of chemicals along the proposed waterline route. Soil and/or groundwater samples were collected from these test pits for analysis of Target Compound List (TCL) volatile organic compounds (VOCs), TCL base/neutral/acid extractable compounds (BNAs) and TCL pesticides and PCBs (P/P).

This report summarizes the field work conducted during this investigation and presents the analytical results obtained for the samples collected.

## 2.0 SITE HISTORY AND DESCRIPTION

The parcel on which the proposed pipeline will be installed lies due south of the intersection of Williams Road and River Road in the Town of Wheatfield, New York, as shown on Figure 1.1. The parcel lies between a mobile home park (Lynch Park), located to the east of the Site, and a vacant parcel of land which is reported to be a delisted hazardous waste site (the Bryzinski landfill, currently owned by Stanley Bryzinski). The route of the proposed waterline is along a county-owned utility right-of-way which is also used as an unimproved roadway for access to the trailer park. The area adjacent to the roadway consists of a grass lawn, which appears to be well maintained. Several existing underground utilities are in place on this Site, including a storm sewer system which discharges to the Niagara River, a 16-inch waterline and a 42-inch raw waterline.

## 3.0 FIELD PROCEDURES

### 3.1 TEST PIT EXCAVATION

Excavation of the test pits was completed using a John Deere 310D extendable backhoe. The test pits were excavated at the locations shown on Figure 3.1 to a depth of approximately 1 foot below the proposed invert of the waterline.

The following procedures were used during excavation activities at each test pit location:

i) prior to excavating, the backhoe bucket and boom and shovels were decontaminated using a high-pressure, low-volume water wash with brushes used to remove visible soil;

ii) a polyethylene liner was placed on the ground adjacent to each test pit location;

iii) the top 1 foot of soil was excavated and placed adjacent to the test pit; this layer of soil was kept segregated from the underlying excavated soils; and

iv) the soil material beneath the upper 1.0 foot soil layer was excavated and placed on the polyethylene liner.

The stratigraphy encountered was described by measuring and observing the walls of the test pit. Where groundwater flooded the test pits, the stratigraphy was approximated below the water table by examining the material in each backhoe bucket as it was brought to the surface. Where excavation continued beneath the water table (test pits 7, 8 and 9), any excess water collected in the backhoe bucket was allowed to drain from the bucket into the test pit before dumping the contents of the bucket on the plastic. The edges of the plastic were bermed slightly to contain any runoff from the wet soils.

## 3.2 SAMPLE COLLECTION

Soil samples and groundwater samples were collected from the test pits using the procedures described in the following sections.

### 3.2.1 Soil Samples

Soil samples were collected from each test pit for analysis of PCBs and/or TCL parameters using the following procedures:

i) all soil sampling equipment was precleaned using a low phosphate detergent wash followed by a tap water rinse. The stainless steel knives used for sample collection/preparation were air dried and wrapped in aluminum foil. A sufficient number of knives were precleaned to allow a knife to be dedicated for the collection of each soil sample.

Knives were not reused at the Site in order to prevent potential cross-contamination of the samples;

ii) after each test pit was completed to the desired depth, the backhoe bucket was used to scrape a soil sample from the sidewall of the test pit. Soil samples for PCB analyses were composited over the entire depth of the test pit. The soil samples collected for TCL analyses were composited from the lower 54-inch soil layer of the test pit. Where the sample interval for collection of TCL samples included both the surficial fill and the native soils, a separate sample of the fill material and the native material was collected for TCL analysis;

iii) soil samples for chemical analysis were collected from the backhoe bucket using a precleaned stainless steel knife. Stockpiled soil excavated from the test pit was also sampled when the bucket did not or could not obtain material from all stratigraphic horizons due to the nature of the fill material; and

iv) all soil samples collected were placed directly into laboratory supplied 4 ounce jars and immediately stored in a cooler with ice pending shipment to the analytical laboratory.

3.2.2 Groundwater Samples

Groundwater samples were collected from three test pits for analysis of VOCs after completing excavation of each test pit to the desired

depth and collection of the appropriate soil samples. Samples of groundwater were obtained from test pits 4, 7 and 9. Groundwater samples were collected using the following procedure:

i) a length of nylon rope was tied around the neck of a clean 1 liter bottle. This bottle was then lowered into the test pit until it filled with water which had collected in the excavation. The bottle was pulled up to the surface and the groundwater was poured off into the 40 ml septa sealed vials for analysis of VOCs. The 40 ml vials were prepared with hydrochloric acid, to act as a preservative, by the analytical laboratory;

ii) a separate clean 1 liter bottle was used to collect each groundwater sample; and

iii) all groundwater samples were immediately placed into a cooler with ice packs to cool the samples.

## 3.3 SAMPLE SUMMARY

Eleven (11) soil and three (3) groundwater samples were collected from the test pits as shown in Table 3.1. All of the samples were analyzed by Wadsworth/Alert Laboratory (WAL) in North Canton, Ohio. The soil samples were analyzed for PCBs (USEPA Method 3540/3550) or TCL VOCs (USEPA Method 8240), TCL BNAs (USEPA Method 8270), and TCL pesticides/PCBs (USEPA Method 3540/3550). Groundwater samples were analyzed for VOCs (USEPA Method 5030). Additionally, groundwater pH was

checked in the field with a pH test strip. Field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples were also collected for each sample matrix and parameter group. The fourth groundwater sample and the groundwater MS/MSD sample were not collected; it was planned to collect these samples from TP-10 and no groundwater was encountered at this location. Samples were placed directly into precleaned sample containers provided by WAL. Sample containers were labelled with a unique sample identification number, date, time and required analysis. Samples collected on the first day of field activities were stored overnight under refrigeration. All samples were placed in one cooler, packed with ice packs, and shipped to the analytical laboratory by overnight courier under standard chain of custody procedures.

## 3.4 BACKFILLING OF TEST PITS

After collection of the appropriate samples the test pit was backfilled with the soil excavated from the hole. All soil, except the soil removed from the top one foot, was placed into the hole and compacted using the bucket on the backhoe. After placing the underlying soils, the bucket and boom were cleaned over the test pit using a low-volume, high-pressure water wash. The top one foot of soil was then spread over the disturbed soils in the pit and compacted; the bucket was then recleaned over the backfilled test pit.

## 3.5 WASTE DISPOSAL

All plastic, tyveks and disposable sampling material generated during excavation of a test pit was placed into a plastic bag, which was labelled with the appropriate test pit number. These bags were placed into three sealed drums at the completion of the on-site work for appropriate disposal at a later date pending receipt of analytical results.

## 4.0 SITE STRATIGRAPHY

The stratigraphy of the Site, in general, consists of a thin topsoil or roadbed horizon overlying a very heterogeneous, mixed, fill layer over a native clay zone. The topsoil/roadbed layer, varies between 0.9 and 1.8 feet thick and consists of a brown, moist, sand with varying amounts of silt, clay and gravel. Beneath this topsoil/roadbed layer is a fill zone, which was found to be very inconsistent across the Site. This fill zone varies in thickness from 2.5 to 6.0 feet, with a thicker zone toward the river and at the north end of the Site near River Road. At test pit 10, which extended to 7.5 feet below ground surface (BGS), the fill was a moist, brown, fine to medium sand containing trace brick fragments and grinding wheels. This sand was soft and loose. In test pits 7, 8 and 9 the fill contained small to very large reinforced concrete rubble, numerous small to very large grinding wheels and abrasive material, whole and partial concrete vaults (typically 4 feet by 4 feet by 3 feet) brick, vitreous tile, sand, gravel, traces of white fibrous material, coal, ash, clinkers, clay, rubber hose, tires, graphite electrodes, metal and wood. These three test pits filled with water during excavation to a depth of between 3 and 4.3 feet BGS, indicating a high perched water table in the area of these test pits. In test pits 5 and 6, the fill zone consisted of smaller debris: mainly brick, vitreous tile, sand, gravel, cinders, coal, clinkers, clay, wood, slag, concrete, and trace amounts of a white to blue-white soft pasty material. The fill in TP-5 and TP-6 was moist, with no water accumulation observed in the excavation.

The fill zone in test pits 1, 2, 3 and 4 consisted primarily of clean soil material containing no apparent construction/demolition debris.

The soil was found to be a brown, fine to medium sand with trace gravel, silt and/or clay. An isolated gray/black silty sand zone overlying the sand was present in test pits 3 and 4 and a brown silty clay zone was found above the sand in test pits 1 and 2. The brown sand in these four test pits was observed to be saturated, with seepage into the test pits occurring. Below the fill, a moist, soft, gray clay (alluvial) or a red-brown and gray clay or silt, with little sand (glacial lacustrine) was encountered in all test pits except test pit 7. This horizon was found at a depth ranging from 4.5 to 7 feet BGS. Test pit 7, which could not be advanced deeper than 8 feet due to the collapse of the sidewalls, showed only traces of a gray clay layer between 7 and 8 feet BGS. The gray clay was observed nearest the river and is believed to be an alluvial deposit.

The test pits on the north end of the Site did not contain this gray clay, but had a red-brown and gray silty clay or clayey-silt with varying amounts of sand. This red-brown layer is typically hard, dense and moist. This layer was stiff and difficult to excavate with a smooth-edged backhoe bucket consequently, a toothed bucket had to be used to complete the excavation.

Table 4.1 provides a summary of the stratigraphy of the Site. Figure 4.1 shows a stratigraphic cross-section of the Site based on data collected during excavation of the test pits.

## 5.0 AIR MONITORING AND ON-SITE HEALTH AND SAFETY

### 5.1 SITE ORIENTATION

Prior to any excavation activities at the Site, a Health and Safety Meeting was held to inform the subcontractor's personnel of potential Site hazards, the levels of personal protective equipment which were to be used, an overview of the investigation to be conducted and procedures to be used during on-Site activities. All personnel who attended this meeting signed a Training Acknowledgement Form stating they understood what was discussed, have completed the 40 hour hazardous worker training program in compliance with 29 CFR 1910.120, and have been fit-tested for the respirator they will be wearing.

### 5.2 SITE CONTROL

Each test pit, the area immediately surrounding each open test pit and the soil stockpile area were designated as temporary Exclusion Zones (EZ). Access to these areas was restricted to personnel wearing a poly-coated tyvek suit, rubber boots, rubber gloves, and a respirator, as appropriate, based upon the air monitoring readings. Test pits deeper than 3.0 feet were not entered at any time. Hardhat, safety glasses and appropriate work boots were required at all times for any on-Site activity.

## 5.3 AIR MONITORING

During all ground invasive activities, air monitoring for organic vapors and for respirable dust emissions was performed directly over the test pit, around the stockpile and downwind of the excavation area. An MSA Photon Organic Vapor Monitor was used to detect organic vapor emissions; a Sibata Model P-5H2 Digital Dust Indicator was used to measure the levels of respirable dust particles generated during Site activities. The results of this air monitoring program are summarized on Table 5.1. No excessive organic vapor emissions or excessive levels of respirable dust particles were detected during on-Site activities.

## 6.0 ANALYTICAL RESULTS

A data validation was performed on the analytical results and is included as Appendix A.

A review of the analytical data shows PCBs to be present in samples from TP-7 and TP-9. PCB Aroclor 1242 was reported in the TP-7 duplicate sample at 120 parts per billion (ppb) but was not found in the TP-7 investigative sample. PCB Aroclor 1254 was reported in TP-7 at 39 ppb, in the TP-7 duplicate at 130 ppb, and in TP-9 at 570 ppb. The only VOCs detected above their respective detection limits were acetone and 2-butanone. Acetone was reported in the samples from TP-9 and TP-10 at concentrations of 140 ppb in TP-9 and 75 ppb in TP-10. Also, 2-butanone (also known as methyl ethyl ketone) was reported in samples from TP-9 (51 ppb) and TP-10 (22 ppb).

Semi-volatile organics consisting of polynuclear aromatic hydrocarbons (PAHs) were identified in test pits TP-5, TP-7, TP-9 and TP-10. All PAHs reported were qualified as estimated and are below their respective detection limits. Di-n-butyl phthalate was reported as estimated in all four sample locations ranging from 180 ppb at TP-10 to 250 ppb at TP-5. Benzo(b)fluoranthene ranging from 47 ppb at TP-7 to 300 ppb at TP-10 and pyrene ranging from 47 ppb at TP-7 to 310 ppb at TP-10 were identified at sample locations TP-7, TP-9 and TP-10. Benzo(a)anthracene at 290 ppb and 220 ppb, benzo(a)pyrene at 65 ppb and 160 ppb, chrysene at 380 ppb and 310 ppb, fluoranthene at 270 ppb and 380 ppb and phenanthrene at 140 ppb and 160 ppb were identified in sample locations TP-9 and TP-10, respectively. Benzo(k)fluoranthene (65 ppb), benzo(g,h,i)perylene (87 ppb), diethyphthalate

(250 ppb), and indeno(1,2,3-cd)pyrene (61 ppb) were identified at sample location TP-9. Acenapthacene (52 ppb) and anthracene (49 ppb) were identified at sample location TP-10.

Trichloroethylene was not detected in any of the samples collected from the Site. Table 6.1 summarizes the compounds which were detected in the soil samples from the Site. No analytes were detected in the groundwater samples. A copy of all the analytical results from the test pit samples are included in Appendix B.

## 7.0 CONCLUSIONS AND DISCUSSION

The presence of PCBs in test pits 7 and 9 at concentrations of 39 ppb and 570 ppb, respectively, appear to confirm the results of analysis of soil samples from boreholes which were previously installed at the Site. The recommended cleanup goals for a residential area, as set forth in the EPA document "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" is 1,000 ppb. Based on this standard, no further action, with respect to PCBs, is warranted at the Site.

PAHs reported in test pit locations TP-5, TP-7, TP-9 and TP-10 were identified below the detection limit of the analytical methods so the concentrations of PAHs as listed in Table 7.1 are estimated. These estimated concentrations are below typical background concentrations for PAHs (refer to Table 7.1) and do not warrant further action.

In summary, the chemical presence identified in the test pit locations will not adversely affect the proposed waterline installation. The installation of the waterline should therefore be performed using standard construction health and safety and personal hygiene protocols for the entry of excavations by personnel involved in the construction activities. In addition, the plastic tyveks and disposable sampling material presently stored in drums on Site may be disposed of in a sanitary landfill.

# FIGURES

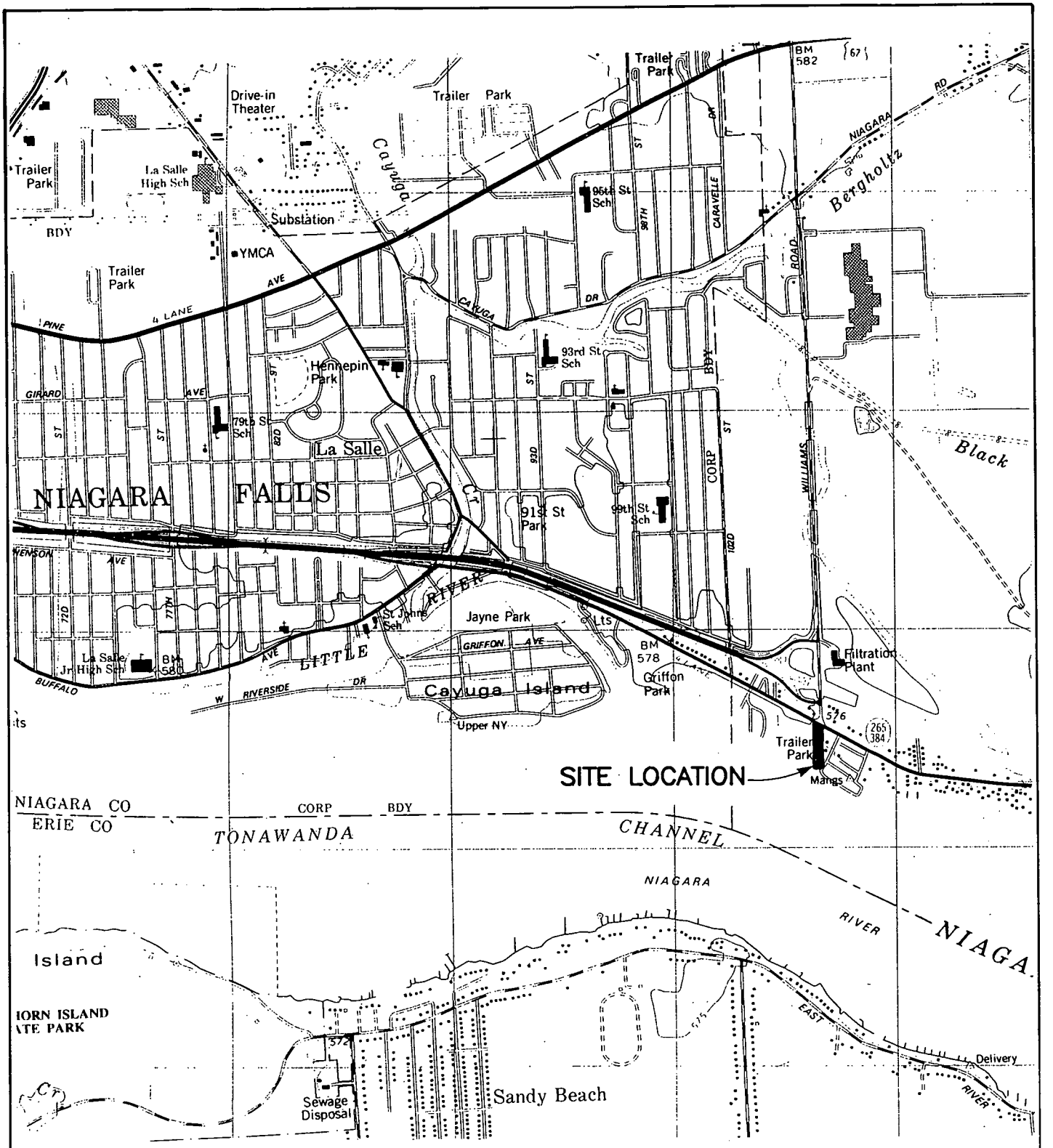


**figure 1.1**

SITE LOCATION
NIAGARA COUNTY WATER DISTRICT
RIVER ROAD SITE
*Niagara County, New York*

**CRA**

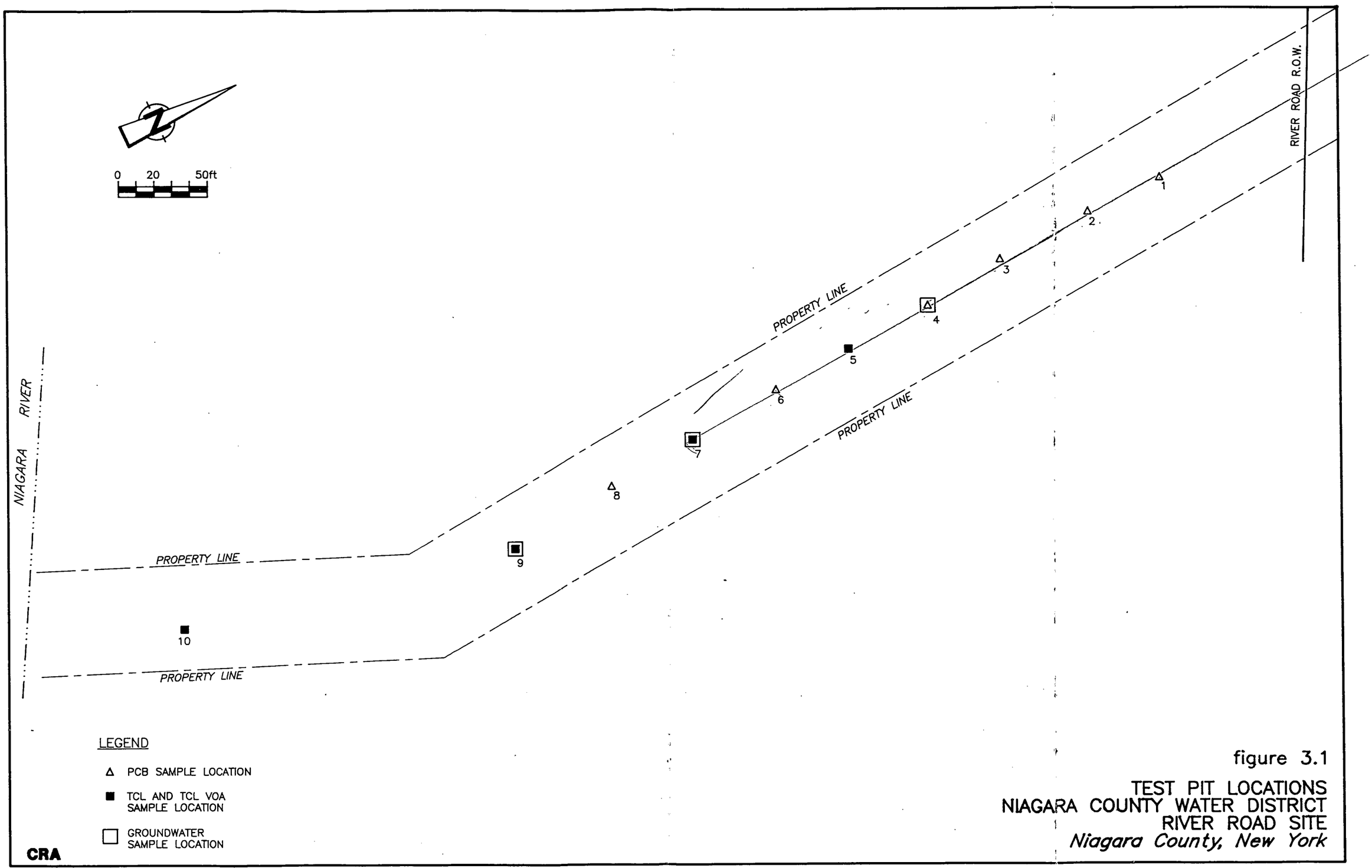


figure 3.1

TEST PIT LOCATIONS
NIAGARA COUNTY WATER DISTRICT
RIVER ROAD SITE
*Niagara County, New York*

4687(2)–01JUN/92–REV.0 (NF) (P–01)

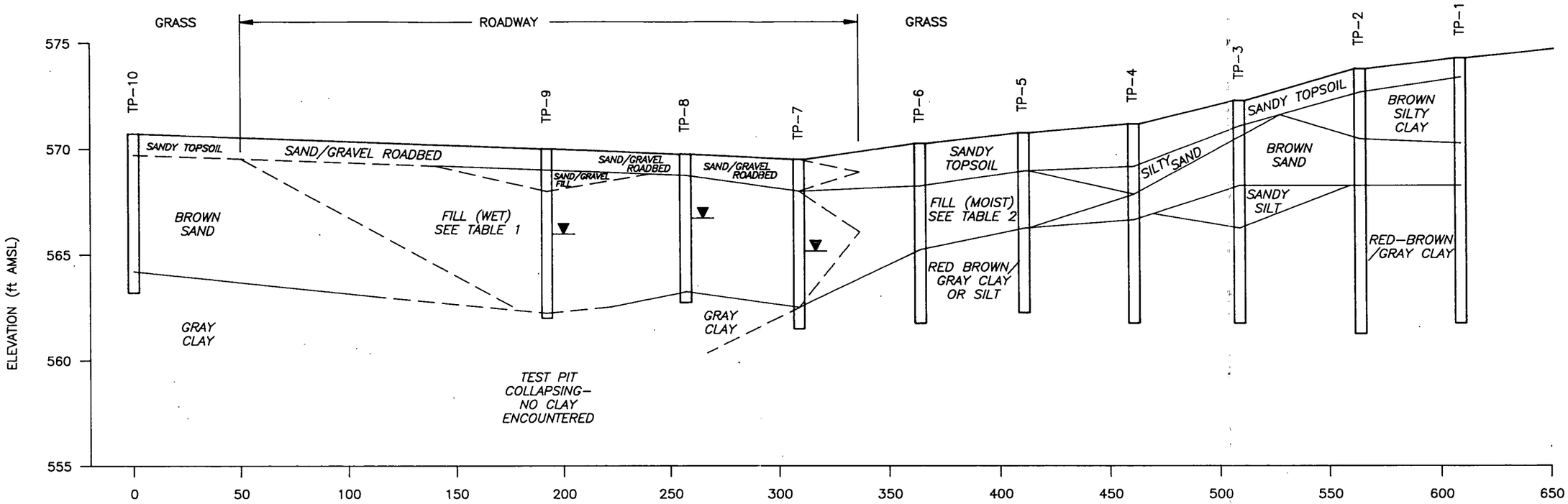


TABLE 1

- –SAND
- –GRAVEL
- –GRINDING WHEELS
- –C&D DEBRIS
- –CONCRETE
- –"HOOKER" CELLS
- –ABRASIVE MAT'LS
- –CINDERS
- –COAL
- –BRICK
- –VITREOUS TILE

TABLE 2

- –SAND
- –CLINKERS
- –WOOD
- –SLAG
- –CONCRETE
- –CINDERS
- –COAL
- –BRICK
- –VITREOUS TILE

SCALE: HORIZ. 1"=50'
VERT. 1"=5'

LEGEND

▼ STATIC WATER LEVEL

figure 4.1

CROSS SECTION
NIAGARA COUNTY WATER DISTRICT
RIVER ROAD SITE
*Niagara County, New York*

**CRA**

4687(2)–01JUN/92–REV.0 (NF) (X–01)

# TABLES

TABLE 3.1
SAMPLE SUMMARY
NIAGARA COUNTY WATER DISTRICT
RIVER ROAD SITE

| *Sample Location* | *Date Sampled* | *Sample Type* | *Sample Depth (feet)* | *Analytical Parameters* | *Comments* |
|---|---|---|---|---|---|
| TP-1 | 4/29/92 | Soil | 0.0 - 12.5 | PCBs | |
| TP-2 | 4/29/92 | Soil | 0.0 - 12.0 | PCBs | |
| TP-3 | 4/28/92 | Soil | 0.0 - 10.5 | PCBs | Duplicate as TP-15. |
| TP-4 | 4/28/92 | Soil | 0.0 - 9.5 | PCBs | |
| TP-4 | 4/28/92 | Groundwater | - | VOCs | Alternate for TP-5, which was dry. |
| TP-5 | 4/28/92 | Soil | 0.0 - 4.5 | TCL VOCs<br>TCL BNAs<br>TCL Pesticide/PCBs | Fill material. |
| TP-5 | 4/28/92 | Soil | 4.5 - 8.5 | TCL VOCs<br>TCL BNAs<br>TCL Pesticide/PCBs | Native soil. |
| TP-6 | 4/28/92 | Soil | 0.0 - 8.5 | PCBs | |
| TP-7 | 4/29/92 | Soil | 3.0 - 8.0 | TCL VOCs<br>TCL BNAs<br>TCL Pesticide/PCBs | Duplicate as TP-16. |
| TP-7 | 4/29/92 | Groundwater | - | VOCs | Duplicate as TP-16. |
| TP-8 | 4/29/92 | Soil | 2.5 - 7.0 | PCBs | MS/MSD |
| TP-9 | 4/29/92 | Soil | 4.0 - 8.5 | TCL VOCs<br>TCL BNAs<br>TCL Pesticide/PCBs | |
| TP-9 | 4/29/92 | Groundwater | - | VOCs | |
| TP-10 | 4/29/92 | Soil | 3.0 - 7.5 | TCL VOCs<br>TCL BNAs<br>TCL Pesticide/PCBs | MS/MSD |
| Trip Blank | 4/29/92 | Lab Water | - | VOCs | |

**TABLE 4.1**
**STRATIGRAPHIC SUMMARY**
**NIAGARA COUNTY WATER DISTRICT**
**RIVER ROAD SITE**

| *Test Pit No.:* | *TP-10* | *TP-9* | *TP-8* | *TP-7* | *TP-6* | *TP-5* | *TP-4* | *TP-3* | *TP-2* | *TP-1* |
|---|---|---|---|---|---|---|---|---|---|---|
| *Ground Elevation:* | *570.71 (Ft. BGS)* | *570.03 (Ft. BGS)* | *569.80 (Ft. BGS)* | *569.61 (Ft. BGS)* | *570.18 (Ft. BGS)* | *570.74 (Ft. BGS)* | *571.09 (Ft. BGS)* | *572.24 (Ft. BGS)* | *573.74 (Ft. BGS)* | *574.28 (Ft. BGS)* |
| **SOIL TYPE** | | | | | | | | | | |
| Roadbed | | 0 - 1.0 | 0 - 1.0 | 0 - 1.5 | | | | | | |
| Topsoil | 0 - 1.0 | | | | 0 - 2.0 | 0 - 1.8 | 0 - 2.0 | 0 - 1.2 | 0 - 1.1 | 0 - 0.9 |
| Silty Clay | | | | | | | | | 1.1 - 3.3 | 0.9 - 4.0 |
| Silty Sand | | | | | | | 2.0 - 3.3 | 1.2 - 1.7 | | |
| Sand/Gravel | | 1.0 - 2.0 | | | | | | | | |
| Sand | 1.0 - 6.5 | | | | | | 3.3 - 4.5 | 1.7 - 4.0 | 3.3 - 5.5 | 4.0 - 6.0 |
| Coarse Fill | | 2.0 - 8.0 | 1.0 - 6.5 | 1.5 - 8.0 | | | | | | |
| Medium Fill | | | | | 2.0 - 5.0 | 1.8 - 4.5 | | | | |
| Sandy Silt | | | | | | | | 4.0 - 6.0 | | |
| Gray Clay | 6.5 - 7.5 | - | 6.5 - 7.0 | 7.0 - 8.0 | | | | | | |
| Red Brown Clay | | - | | | 5.0 - 8.5 | 4.5 - 8.5 | 4.5 - 9.4 | 6.0 - 10.5 | 5.5 - 12.5 | 6.0 - 12.5 |
| Water in Pit* | Dry | 4.0 | 3.0 | 4.3 | Dry | Dry | (3.3-4.5) | (1.7-4.0) | (3.3-5.5) | (4-6) |
| End of Hole | 7.5 | 8.0 | 7.0 | 8.0 | 8.5 | 8.5 | 9.4 | 10.5 | 12.5 | 12.5 |

Notes:
* ( ) indicates wet zone with seepage.

**TABLE 5.1**
**AIR MONITORING READINGS**
**NIAGARA COUNTY WATER DISTRICT**
**RIVER ROAD SITE**

| Date | Time | Test Pit Number | Site Activity | OVM Readings (ppm) | | | Sibata Readings | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Background | Reading* | Downwind | Counts | Duration | Mg/M3** | |
| 4/28/92 | 1000 | TP-6 | Excavating | 0.0 | 0.0 | - | 183 | 15 | .006 | OVM in BZ |
| | | | | 0.0 | 0.0 | - | - | - | - | OVM over soil |
| | 1015 | | Excavating | 0.0 | 0.0 | - | 183 | 15 | .006 | OVM in BZ |
| | | | | 0.0 | 0.0 | - | - | - | - | OVM over soil |
| | 1115 | | Backfilling | 0.0 | - | 0.0 | 36 | 5 | .001 | OVM downwind |
| | 1232 | TP-5 | Before Digging | 0.0 | 0.0 | - | 39 | 5 | .002 | OVM of TP area |
| | 1320 | | Excavating - 5 ft. | 0.0 | 0.0 | - | 61 | 5 | .006 | OVM over hole |
| | 1350 | | Excavating - 8.5 ft. | 0.0 | 0.0 | - | 61 | 5 | .006 | OVM over hole |
| | 1400 | | Backfilling | 0.0 | - | 0.0 | 56 | 5 | .005 | OVM downwind |
| | 1415 | TP-4 | Excavating | 0.0 | 0.0 | - | 67 | 5 | .007 | OVM in BZ |
| | 1430 | | Excavating | 0.0 | 0.0 | - | 62 | 5 | .006 | OVM over soil |
| | 1455 | | None | 0.0 | 0.0 | - | 59 | 5 | .006 | OVM over hole |
| | 1459 | | None | 0.0 | 0.0 | - | - | - | - | OVM liquid sample |
| | 1607 | TP-3 | Excavating | 0.0 | 0.0 | - | 59 | 5 | .006 | OVM over soil |
| | 1612 | | Excavating | 0.0 | 0.0 | - | 63 | 5 | .007 | OVM over soil |
| | 1620 | | None | 0.0 | 0.0 | - | 49 | 5 | .004 | OVM over hole |
| | 1620 | | None | 0.0 | 0.0 | - | - | - | - | OVM soil 1.2-1.7 ft. |
| | 1620 | | None | 0.0 | 0.0 | - | - | - | - | OVM soil 1.7-4.0 ft. |
| | 1640 | | Backfilling | 0.0 | - | 0.0 | 64 | 5 | .007 | OVM downwind |
| 4/29/92 | 0725 | TP-2 | Before Digging | 1.7 | 2.6 | - | | Inoperative**** | | With OVM probe |
| | 0725 | | Before Digging | 0.0 | 0.0 | - | | Inoperative | | With probe removed |
| | 0745 | | Excavating - 12 ft. | 0.0 | 0.0 | - | | Inoperative | | OVM over hole |
| | 0850 | TP-1 | Before Digging | 0.0 | 0.0 | - | | Inoperative | | OVM at TP area |
| | 0903 | | None | 0.0 | 0.0 | - | | Inoperative | | OVM over hole |
| | 1007 | TP-7 | Excavating | 0.0 | 0.0 | - | | Inoperative | | OVM over hole |
| | 1016 | | Excavating | 0.0 | 0.0 | - | | Inoperative | | OVM over hole |
| | 1040 | | None | 0.0 | 0.0 | - | | Inoperative | | OVM liquid sample |
| | 1110 | TP-8 | Excavating | Inoperative *** | | | | Inoperative | | - |
| | 1430 | TP-9 | Excavating - 1 ft. | 0.0 | 0.5 | - | 560 | 5 | .106 | OVM over soil |
| | | | | 0.0 | 0.1 | 0.0 | - | - | - | OVM in BZ |
| | 1445 | | Excavating - 3 ft. | 0.0 | 0.3 | 0.0 | 367 | 5 | .07 | OVM over soil |
| | | | | 0.0 | 0.0 | 0.0 | - | - | - | OVM in BZ |

TABLE 5.1
AIR MONITORING READINGS
NIAGARA COUNTY WATER DISTRICT
RIVER ROAD SITE

| Date | Time | Test Pit Number | Site Activity | OVM Readings (ppm) | | | Sibata Readings | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Background | Reading* | Downwind | Counts | Duration | Mg/M3** | |
| | 1450 | TP-9 | Backfilling | 0.0 | 0.3 | 0.0 | 387 | 5 | .07 | OVM over soil |
| | | | | 0.0 | 0.0 | 0.0 | - | - | - | OVM in BZ |
| | 1500 | TP-9A | Excavating | 0.5 | 0.5 | 0.5 | 301 | 5 | .05 | OVM over hole |
| | 1508 | | Excavating | 0.0 | 0.0 | 0.0 | 321 | 5 | .06 | OVM in BZ |
| | 1515 | | Backfilling | 0.0 | 0.0 | 0.0 | 299 | 5 | .05 | OVM in BZ |
| | 1525 | TP-9B | Excavating | 0.0 | 0.5 | 0.0 | 100 | 5 | .01 | OVM over soil |
| | | | | 0.0 | 0.0 | 0.0 | - | - | - | OVM in BZ |
| | 1537 | | Excavating | 0.0 | 0.5 | 0.0 | 112 | 5 | .02 | OVM over soil |
| | 1557 | | Backfilling | 0.5 | 0.7 | 0.5 | - | - | - | OVM over soil |
| | 1700 | TP-10 | Before Digging | 0.0 | 0.0 | 0.0 | - | - | - | |
| | 1711 | | Excavating | 0.0 | 0.0 | 0.0 | 120 | 5 | .02 | OVM over soil |
| | 1720 | | Excavating | 0.3 | 0.5 | 0.3 | 131 | 5 | .02 | OVM over soil |

Notes:

* Actual reading of OVM - location of reading shown in comments column.

** mg/m3 calculated from digital readout of Sibata
Duration (T) of time setting for Sibata.
K=n factor of 0.001 mg/m3 per CPM.
B=nt in CPM from factory calibration.

$$mg/m3 = (R/T - B) \times K$$

*** At 1110 on April 29, 1992, the OVM was found to be inoperative due to loose wire; unit was repaired and recalibrated after TP-8 was completed. 4/29/92 morning readings may not be valid.

**** At 0725 on April 29, 1992, the Sibata digital dust indicator was found to be inoperative due to a blown fuse. This fuse was replaced and the meter operated normally.

BZ= Breathing Zone - 3 to 5 feet above ground.

ppm= parts per million.

mg/m3= milligrams per cubic meter.

**TABLE 6.1**
**SUMMARY OF DETECTED COMPOUNDS**
**SOIL SAMPLES (µg/kg)**
**NIAGARA COUNTY WATER DISTRICT**
**RIVER ROAD WATERLINE SITE**

| *Test Pit No.:* | *TP-1* | *TP-2* | *TP-3* | *TP-3 Dup* | *TP-4* | *TP-5* | *TP-5* | *TP-6* | *TP-7* | *TP-7 Dup* | *TP-8* | *TP-9* | *TP-10* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Ft. Below Ground Surface:* | *(0.0-12.5)* | *(0.0-12.0)* | *(0.0-10.5)* | *(0.0-10.5)* | *(0.0-9.5)* | *(0.0-4.5)* | *(4.5-8.5)* | *(0.0-8.5)* | *(3.0-8.5)* | *(3.0-8.5)* | *(2.5-7.0)* | *(4.0-8.5)* | *(3.0-7.5)* |
| *Units:* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* | *µg/kg* |
| **PCBs** | | | | | | | | | | | | | |
| Aroclor 1242 | ND(93) | ND(98) | ND(100) | ND(110) | ND(91) | ND(40) | ND(40) | ND(94) | ND(39) | 120 | ND(110) | ND(220) | ND(220) |
| Aroclor 1254 | ND(93) | ND(98) | ND(100) | ND(110) | ND(91) | ND(40) | ND(40) | ND(94) | 39J | 130 | ND(110) | 570 | ND(220) |
| **VOLATILES** | | | | | | | | | | | | | |
| Acetone | NA | NA | NA | NA | NA | ND(26U) | ND(11U) | NA | ND(12) | ND(15U) | NA | 140B | 75B |
| 2-Butanone | NA | NA | NA | NA | NA | 9J(12) | ND(12) | NA | ND(12) | ND(12) | NA | 51 | 22 |
| Carbon Disulfide | NA | NA | NA | NA | NA | ND(6) | ND(6) | NA | ND(6) | ND(6) | NA | 5J(6) | ND(6) |
| Methylene Chloride | NA | NA | NA | NA | NA | ND(6) | 3J(6) | NA | ND(6) | 3J(6) | NA | 4J(6) | 5J(6) |
| **SEMI-VOLATILES** | | | | | | | | | | | | | |
| Acenapthacene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | ND(430) | 52J(430) |
| Anthracene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | ND(430) | 49J(430) |
| Benzo(a)anthracene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 290J(430) | 220J(430) |
| Benzo(b)fluoranthene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | 47J(390) | ND(400) | NA | 210J(430) | 300J(430) |
| Benzo(k)fluoranthene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 65J(430) | ND(430) |
| Benzo(g,h,i)perylene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 87J(430) | ND(430) |
| Benzo(a)pyrene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 65J(430) | 160J(430) |
| Chrysene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 380J(430) | 310J(430) |
| Di-n-butyl phthalate | NA | NA | NA | NA | NA | 250J(390) | 65J(410) | NA | 270J(390) | 180J(400) | NA | 240J(430) | 180J(430) |
| Diethyl phthalate | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 250J(430) | ND(430) |
| Fluoranthene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 270J(430) | 380J(430) |
| Indeno(1,2,3-cd)pyrene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 61J(430) | ND(430) |
| Phenanthrene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | ND(390) | ND(400) | NA | 140J(430) | 160J(430) |
| Pyrene | NA | NA | NA | NA | NA | ND(390) | ND(410) | NA | 47J(390) | ND(400) | NA | 210J(430) | 310J(430) |
| Total Solids (%) | 86 | 82 | 80 | 75 | 88 | 85 | 82 | 85 | 85 | 84 | 70 | 77 | 77 |

Notes:
ND(x) - Non-detect at detection limit x.
J Estimated
B The compound was also detected in the associated laboratory blank.
U Non-detected due to laboratory blank contamination.

## TABLE 7.1
## BACKGROUND SOIL CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) (1)

| | *Concentration (µg/kg)* | | |
|---|---|---|---|
| | *Rural Soil* | *Agricultural Soil* | *Urban Soil* |
| Acenaphthene | 1.7 | 6 | |
| Acenaphthylene | | 5 | |
| Anthracene | | 11 - 13 | |
| Benzo(a) anthracene | 5 - 20 | 56 - 110 | 169 - 59000 |
| Benzo(a) pyrene | 2 - 1300 | 4.6 - 900 | 165 - 220 |
| Benzo(b) fluoranthene | 20 - 30 | 58 - 220 | 15000 - 62000 |
| Benzo(a) pyrene | | 53 - 130 | 60 - 4000 |
| Benzo(g,h,i) perylene | 10 - 70 | 66 | 900 - 47000 |
| Benzo(k) fluoranthene | 10 - 110 | 58 - 250 | 300 - 26000 |
| Chrysene | 38.3 | 78 - 120 | 251 - 640 |
| Fluoranthene | 0.3 - 40 | 120 - 210 | 200 - 66000 |
| Fluorene | | 9.7 | |
| Indeno(1,2,3-cd) pyrene | 10 - 15 | 63 - 100 | 8000 - 61000 |
| Phenanthrene | 30.0 | 48 - 100 | |
| Pyrene | 1 - 19.7 | 99 - 150 | 145 - 147000 |

Sources:

IARC (1973)
White and Vanderslice (1980)
Windsor and Hites (1979)
Edwards (1983)
Butler et al. (1984)
Vogt et al. (1987)
Jones et al. (1987)

(1) Reference:
Toxicological Profile for Polycyclic Aromatic Hydrocarbons. Agency for Toxic Substances and Disease Registry. October 1990.

A

# APPENDIX A

# DATA VALIDATION

# MEMO

To: Rich Snyder

From: Bill Hamel/js

Reference No.: 4687

Date: 6/17/92

Re: Analytical Data Assessment and Validation
R&D Engineering
River Road and Williams Road Site - April 1992

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The following memo details the analytical data assessment and validation for results obtained by Wadsworth/Alert Laboratories (WAL) on environmental samples collected during April 1992 at the River Road and Williams Road site located in Tonawanda, New York.

Evaluation of the data was based on information derived from the finished data sheets, chain of custody forms, blank data, and recovery data for matrix and surrogate spikes. The assessment and analytical and in-house data included checks for: adherence to accuracy and precision criteria; transmittal errors; and anomalously high and low parameter values. The samples submitted for analyses consisted of the following:

| *Matrix* | *Investigative Samples* | *Field Duplicates* | *Trip Blanks* | *Total* |
|---|---|---|---|---|
| Soil | 11 | 2 | - | 13 |
| Groundwater | 3 | 1 | 1 | 5 |
| **Total** | | | | 18 |

A summary of the analytical methods and parameters for which the samples were submitted is presented in Table 1. The QA/QC criteria by which these data have been assessed are outlined in the methods referenced in Table 1 and the documents entitled:

i) "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (February 1, 1988), Prepared by the USEPA Data Validation Work Group; and

ii) "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (July 1, 1988), Prepared by the USEPA Data Review Work Group.

These documents will hereinafter be referred to as the "Guidelines". The data quality assessment and validation is presented in the subsections which follow.

1. SAMPLE HOLDING TIMES - Based on the criteria outlined in the New York State Department of Environmental Conservation (NYSDEC) sample holding time protocols, the following sample holding time requirements have been established for groundwater and soil matrices:

| | |
|---|---|
| TCL VOCs | 7 days from VTSR[1] to analysis |
| TCL BNAs | 5 days from VTSR to extraction<br>40 days from VTSR to analysis |
| TCL Pesticides/PCBs | 5 days from VTSR to extraction<br>40 days from VTSR to analysis |
| TCL PCBs | 5 days from VTSR to extraction<br>40 days from VTSR to analysis |

Comparison of the sampling dates and VTSR of all samples (from the notation appearing on the chain of custody documents) with the reported dates of extraction and/or analysis indicated that all samples submitted for volatile organic compounds (VOCs), pesticides/PCBs, and PCBs were extracted and/or analyzed prior to expiration of their requisite holding times. However, one sample submitted for base/neutral and acid extractable (BNA) determinations was extracted outside of the NYSDEC holding times as shown below:

| *Sample I.D.* | *Parameter* | *Prescribed(1) Holding Time* | *Actual(1) Holding Time* | *Holding Time Exceedance* |
|---|---|---|---|---|
| TP-10 (3.0 to 7.5 ft.) | BNAs | 5 days | 6 days | 1 day |

(1) Holding time as measured from VTSR to extraction.

However, this sample was extracted within the method holding times for soils (14 days from collection to extraction). Therefore, qualification of the affected sample data was not required on this basis. All remaining BNA samples were extracted and analyzed prior to expiration of the NYSDEC holding times.

2.0 SURROGATE SPIKE RECOVERIES - Laboratory performance on individual samples is assessed on the basis of surrogate spike recoveries. When properly

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1 VTSR - Verified Time of Sample Receipt

employed in conjunction with sample preparation, surrogates can be used to determine the effectiveness of sample cleanup or matrix modifying techniques. In addition, fortifying the sample with a known amount of the surrogate compound prior to sample preparation serves as an indicator of the efficiency of analyte extraction, dissolution, or other analyte-matrix separation techniques. Based on the surrogate spike recoveries reported, the following observations were noted:

A. TCL VOCs - In accordance with Method 8240, all samples submitted for VOC determinations were spiked with the surrogate compounds 4-bromofluorobenzene, toluene-$d_8$, and 1,2-dichloroethane-$d_4$ prior to sample analysis. All samples submitted for VOC determinations yielded surrogate spike recoveries within the method control limits.

B. TCL BNAs - In accordance with Method 8270, all samples submitted for BNA determinations were spiked with the surrogate compounds 2,4,6-tribromophenol, 2-fluorobiphenyl, phenol-$d_5$, nitrobenzene-$d_5$, 2-fluorophenol, and terphenyl-$d_{14}$. As stipulated by the method, only one surrogate compound may show an outlying recovery in the base neutral and acid fractions, and all surrogate compounds must demonstrate recoveries greater than 10 percent. All investigative samples submitted for TCL BNA determinations yielded acceptable surrogate spike recovery data.

C. TCL Pesticides/PCBs - All samples submitted for TCL pesticides/PCBs were spiked with the surrogate compounds di-n-butylchlorendate (DBC) and tetrachlorometaxylene (TCMX). Due to matrix interferences and/or high concentrations of the analytes of interest, the following samples had surrogate compounds diluted out of quantitation range:

| *Sample I.D.* | *Surrogate* |
|---|---|
| TP-7 (3.0 to 8.5 ft.) | DBC |
| TP-9 (4.0 to 8.5 ft.) | DBC/TCMX |
| TP-10 (3.0 to 7.5 ft.) | DBC/TCMX |
| TP-16 (3.5 to 8.5 ft.) | DBC |

All remaining samples yielded surrogate recoveries within the laboratory and/or method control limits.

D. TCL PCBs - All samples submitted for PCB determinations were spiked with the surrogate compound TCMX. All samples yielded TCMX recoveries within the laboratory control limits.

3. LABORATORY BLANK ANALYSES - The purpose of assessing the results of laboratory blank analyses was to determine the existence and magnitude of sample contamination problems. Laboratory blanks were analyzed at the

frequency of one per 20 investigative samples per matrix. Based on the laboratory blank data reported, the following were noted:

A. TCL VOCs - Two laboratory blanks yielded positive concentrations of acetone as shown in the following:

| *Blank I.D.* | *Matrix* | *Parameter* | *Compound* | *Blank Concentration* |
|---|---|---|---|---|
| A2E050000-018 | Solid | VOCs | Acetone | 9J µg/kg |
| A2E060000-024 | Solid | VOCs | Acetone | 4J µg/kg |

J The associated value is below the PQL and therefore estimated.

The "Guidelines" stipulate qualification of the associated sample data if the sample concentration of acetone is less than ten times the concentration found in the blank.

Qualification of sample data associated with laboratory blanks containing contamination was performed by elevating the practical quantitation limits (PQLs) of the analytes of interest to the level found in the sample and reporting the sample results as non-detected (data qualifier U). In those cases where the sample concentration is less than the PQL, the sample concentration was adjusted to the PQL and reported as non-detected (data qualifier U). Qualification of the affected sample data is presented as follows:

| *Sample I.D.* | *Matrix* | *VOC* | *Sample Dilution* | *Associated Blank Conc. (µg/L)* | *Sample Conc. (µg/L)* | *Qualified Sample Conc. (µg/L)* |
|---|---|---|---|---|---|---|
| TP-5 (4.5-8.5 ft.) | Soil | Acetone | 1.00 | 9J | 11B | 11U |
| TP-5 (0.0-4.5 ft.) | Soil | Acetone | 1.00 | 9J | 26B | 26U |
| TP-16 (3.0-8.5 ft.) | Soil | Acetone | 1.00 | 9J | 15B | 15U |

B Compound detected in associated laboratory blank.
J Associated concentration is below the practical quantitation limit, and therefore estimated.
U Non-detected due to laboratory blank contamination.

B. TCL BNAs, Pesticides/PCBs, and PCBs - All laboratory blanks submitted for TCL BNA, pesticide/PCB, and PCB determinations yielded non-detected quantities of the same. This indicated that the potential for contamination attributable to laboratory conditions and/or procedures was minimal during these analyses.

4. BLANK SPIKE ANALYSES - The recoveries of blank spike analyses are used to assess the analytical accuracy achieved by the laboratory. Blank spike analyses are independent of potential matrix effects, thereby providing a true indication of the analytical accuracy achieved by the laboratory for the

respective analyses performed. Blank spike analyses were performed for TCL VOC, TCL BNA, TCL pesticide/PCB, and PCB determinations at a frequency of one per 20 investigative samples per matrix. Based upon review of the blank spike data provided by WAL, the following were noted:

A. TCL VOCs - In accordance with Method 8240, blank spike samples were spiked with VOCs benzene, chlorobenzene, 1,1-dichloroethene, toluene, and trichloroethene. All VOC blank spike analyses yielded recoveries within the established control limits, indicating that acceptable laboratory accuracy was achieved during the VOC analyses of the associated investigative samples.

B. TCL BNAs - In accordance with Method 8270, blank spike samples were spiked with the following BNAs:

| *Acid Fraction* | *Base/Neutral Fraction* |
|---|---|
| 1-Chlorophenol | Acenaphthene |
| 4-Chloro-3-methyl phenol | 1,4-Dichlorobenzene |
| Nitrophenol | 2,4-Dinitrotoluene |
| Pentachlorophenol | n-Nitroso-di-n-propylamine |
| Phenol | 1,2,4-Trichlorobenzene |
| | Pyrene |

All BNA blank spike analyses yielded recoveries within the established control limits, indicating that acceptable laboratory accuracy was achieved during the VOC analyses of the associated investigative samples.

C. Pesticides/PCBs - In accordance with Method 8080, blank spike samples were spiked with the pesticides aldrin, dieldrin, endrin, 4,4-DDT, heptachlor, and lindane (gamma-BHC). All pesticide/PCB blank spike analyses yielded recoveries within the established control limits, indicating that acceptable laboratory accuracy was achieved during the pesticide/PCB analyses of the associated samples.

D. TCL PCBs - All blank samples submitted for PCBs were spiked with arochlor 1248. All PCB blank spike analyses yielded arochlor 1248 recoveries within the established control limits, indicating acceptable laboratory accuracy was achieved during the pesticide/PCB analyses of the associated samples.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES - The recoveries of MS/MSD analyses are used to assess the analytical accuracy on an individual sample basis, while the percent reproducibility (RPD) between the MS and MSD indicated the analytical precision achieved for that sample. MS/MSD analyses were performed for TP-10 (VOCs) and TP-8 (PCBs).

A. TCL VOCs - In accordance with Method 8240, TP-10 was spiked with the VOCs benzene, chlorobenzene, 1,1-dichloroethane, toluene, and trichloroethene. TP-8 yielded VOC recoveries and RPD values within the method control limits. This indicated that acceptable accuracy and precision were achieved for VOC analyses in TP-10.

B. TCL PCBs - Sample TP-8 was spiked with arochlor 1248. TP-8 yielded MS/MSD recoveries and an RPD value with the laboratory control limits. This indicated acceptable accuracy and precision were achieved for PCB analyses in TP-8.

6. FIELD QA/QC - The field QA/QC for this sampling event consisted of three field duplicates and one trip blank.

A. Field Duplicates- In order to assess the aggregate analytical and sampling protocol precision, three field duplicates were collected and submitted "blind" to the laboratory. The field duplicates consisted of the following:

| *Matrix* | *Sample I.D.* | *Field Duplicate I.D.* |
|---|---|---|
| Soil | TP-3 (0 - 10.5 ft.) | TP-15 (0 - 10.5 ft.) |
| Soil | TP-7 (3.0 - 8.5 ft.) | TP-16 (3.0 - 8.5 ft.) |
| Groundwater | TP-7 | TP-16 |

Generally, most field duplicate results showed adequate reproducibility, indicating satisfactory laboratory and sampling protocol precision was achieved for this sampling event. However, some discrepancies were noted among the field duplicate data as shown in the following:

| PCBs | TP-7 (3.0 to 8.5 ft.) (µg/kg) | TP-16 (3.0 to 8.5 ft.) (µg/kg) | RPD(1) |
|---|---|---|---|
| Arochlor 1242 | ND(39) | 120 | * |
| Arochlor 1254 | 39 | 130 | 108 |

* No RPD calculation possible if one or more of the values are non-detected.
(1) RPD control limits of ±35 percent established for soils.

It was recommended that these sample results showing RPDs which exceeded the established control limits be qualified as estimated (J) due to a variability among the sample data.

To evaluate the possibility of contamination arising from sample transport, the environment, and/or shipping, trip blank was submitted for TCL VOC determinations. The results of the trip blank analyses yielded a positive concentration of acetone as shown in the following:

| *Sample I.D.* | *Acetone Concentration (µg/L)* | *Associated Samples (µg/L)* |
|---|---|---|
| Trip Blank 4/29/92 | 5 | TP-4<br>TP-7<br>TP-9<br>TP-16 |

A review of the groundwater samples associated with the trip blank showing acetone contamination showed the following samples required qualification due to potential cross-contamination as shown in the following:

| *Sample I.D.* | *Acetone Concentration* | | *Qualified Sample Concentration (µg/L)* |
|---|---|---|---|
| | *Trip Blank (µg/L)* | *Sample (µg/L)* | |
| TP-4 | 5 | 14 | 14U |
| TP-7 | 5 | 7 | 7U |
| TP-16 | 5 | 8 | 8U |

U The associated compound is non-detected due to potential cross-contamination attributable to sample transport, the environment and/or shipping.

All remaining samples associated with the trip blank showing acetone contamination yielded non-detected concentrations of acetone. Therefore, further qualification of the affected sample data was not required on this basis.

7. CONCLUSION - Based on the assessment detailed in the foregoing, the data produced by WAL are acceptable for use with the specific qualifications noted herein.

# TABLE 1
## SUMMARY OF ANALYTICAL AND SAMPLING PROGRAM
## R&D ENGINEERING
## RIVER ROAD AND WILLIAMS ROAD
## APRIL 1992

| *Matrix* | *Analytical Parameters* | *Analytical[1] Methods* | *Associated Samples* |
|---|---|---|---|
| Groundwater (4 samples) | TCL VOCs | 8240 | TP-4<br>TP-7<br>TP-9<br>TP-16 |
| Soil (6 samples) | TCL VOCs<br>TCL BNAs<br>TCL Pesticides/PCBs | 8240<br>8270<br>8080 | TP-5 (0.0 - 4.5 ft.)<br>TP-5 (4.5 - 8.5 ft.)<br>TP-7 (3.0 - 8.5 ft.)<br>TP-9 (4.0 - 8.5 ft.)<br>TP-10 (3.0 - 7.5 ft.)<br>TP-16 (3.5 - 8.5 ft.) |
| Soil (7 samples) | TCL PCBs | 8080 | TP-1 (0.0 - 12.5 ft.)<br>TP-2 (0.0 - 12.0 ft.)<br>TP-3 (0.0 - 10.5 ft.)<br>TP-4 (0.0 - 9.5 ft.)<br>TP-6 (0.0 - 8.5 ft.)<br>TP-8 (2.5 - 7.0 ft.)<br>TP-15 (0.0 - 8.5 ft.) |

(1) All methods referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA SW-846, 3rd Edition.

# APPENDIX B

# ANALYTICAL RESULTS

WADSWORTH/ALERT Laboratories
*Division of Fisher Scientific Incorporated*

**Corporate and Laboratory:**
4101 Shuffel Drive, NW
North Canton, OH 44720
216-497-9396
FAX 216-497-0772

# ANALYTICAL REPORT

PROJECT NO. 4687

R&D ENG. NCWD 42" WATER LINE

Presented to:

BILL HAMEL

CONESTOGA ROVERS & ASSOCIATES, LTD.

WADSWORTH/ALERT LABORATORIES

Jay Bernardini for
Thomas M. Himes
Project Manager

Mark P. Nebiolo
Mark P. Nebiolo
Laboratory Manager

May 26, 1992



***Laboratories:***
Pittsburgh, PA
412-826-5477

Tampa, FL
813-621-0784

# PROJECT NARRATIVE

The following report contains the analytical results for thirteen solid samples, four water samples, and one quality control sample submitted to WADSWORTH/ALERT Laboratories by Conestoga-Rovers and Associates, LTD. from the R&D Eng. NCWD 42" Water Line Site, project number 4687. The samples were received April 30, 1992, according to documented sample acceptance procedures.

WADSWORTH/ALERT Laboratories utilizes only USEPA approved methods and instrumentation in all analytical work. The samples presented in this report were analyzed for the parameters listed on the following page in accordance with the methods indicated. Preliminary results were provided by facsimile transmission to Bill Hamel on May 15, 1992. A summary of QC data for these analyses is included at the rear of the report.

# ANALYTICAL METHODS SUMMARY

Wadsworth/ALERT Laboratories utilizes only USEPA approved methods in analytical work. The methods used for the analyses presented in the following report are listed below.

| Parameters | Methods |
|---|---|
| Polychlorinated Biphenyls | SW846 8080 |
| Pesticides/PCBs | SW846 8080 |
| TCL Volatile Organics | SW846 8240 |
| TCL Semivolatile Organics | SW846 8270 |
| Solids, Total (TS) | USEPA 160.3 MODIFIED |

References:


SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986.

USEPA 600/4-79-02, "Methods for Chemical Analysis of Water and Wastes", March, 1983.

# SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

| WO # | LABORATORY ID | SAMPLE IDENTIFICATION |
|---|---|---|
| 60470 | A2D300039-001 | TP-6 0.0-8.5' 4-28-92 1045 |
| 60472 | A2D300039-002 | TP-5 4.5-8.5' 4-28-92 1355 |
| 60474 | A2D300039-003 | TP-5 0.0-4.5' 4-28-92 1400 |
| 60476 | A2D300039-004 | TP-4 0.0-9.5' 4-28-92 1500 |
| 60479 | A2D300039-005 | TP-4 4-28-92 1500 |
| 60482 | A2D300039-006 | TP-3 0.0-10.5' 4-28-92 1620 |
| 60485 | A2D300039-007 | TP-15 0.0-8.5 4-28-92 1645 |
| 60486 | A2D300039-008 | TP-2 0.0-12.0' 4-29-92 0800 |
| 60487 | A2D300039-009 | TP-1 0.0-12.5' 4-29-92 0900 |
| 60488 | A2D300039-010 | TP-7 3.0-8.5' 4-29-92 1030 |
| 60489 | A2D300039-011 | TP-8 2.5-7.0' 4-29-92 1200 |
| 60490 | A2D300039-012 | TP-9 4.0-8.5' 4-29-92 1500 |
| 60491 | A2D300039-013 | TP-9 4-29-92 1500 |
| 60492 | A2D300039-014 | TP-16 4-29-92 1000 |
| 60493 | A2D300039-015 | TP-16 3.5-8.0' 4-29-92 1000 |
| 60495 | A2D300039-016 | TP-10 3.0-7.5' 4-29-92 1730 |
| 60496 | A2D300039-017 | TRIP BLANK 4-29-92 |
| 00000 | A2D300039-018 | TP-7 4-29-92 1030 |

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-6 0.0-8.5' 4-28-92 1045

WO #: 60470101
LAB #: A2D300039-001
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 94 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 108 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-6 0.0-8.5' 4-28-92 1045

WO #: 60470
LAB #: A2D300039-001
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 85 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472104
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 11 JB | 12 | SW846 8240 | 5/04/92 | 126018 |
| Benzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromoform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromomethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| 2-Butanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Carbon disulfide | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloroethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Chloroform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloromethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Methylene chloride | 3 J | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Pentanone, 4-methyl- | ND | 12 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 107 | ( 81 - 117) |
| Bromofluorobenzene | 95 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472104
LAB #: A2D300039-002 DATE RECEIVED: 4/30/92
MATRIX: SOLID

TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Toluene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 107 | ( 81 - 117) |
| Bromofluorobenzene | 95 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472101
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Acenaphthylene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Anthracene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)anthracene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(b)fluoranthene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(k)fluoranthene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(ghi)perylene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)pyrene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzyl alcohol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Butyl benzyl phthalate | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloroaniline | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chloronaphthalene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Chrysene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzofuran | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-butyl phthalate | 65 J | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 41 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 69 | ( 18 - 137) |
| 2-Fluorophenol | 52 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 63 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472101
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3,3-Dichlorobenzidine | ND | 820 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Diethyl phthalate | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dimethyl phthalate | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-octyl phthalate | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluoranthene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluorene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobutadiene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachloroethane | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Isophorone | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylnaphthalene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Naphthalene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Nitrobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitroaniline | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3-Nitroaniline | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitroaniline | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenanthrene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 41 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 69 | ( 18 - 137) |
| 2-Fluorophenol | 52 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 63 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472101
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 41 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 69 | ( 18 - 137) |
| 2-Fluorophenol | 52 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 63 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472101
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS

| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chlorophenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dichlorophenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dimethylphenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrophenol | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylphenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Methylphenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitrophenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitrophenol | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Pentachlorophenol | ND | 2,000 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 410 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 41 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 69 | ( 18 - 137) |
| 2-Fluorophenol | 52 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 63 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472107
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| beta-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| delta-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Lindane | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aldrin | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor epoxide | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan I | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Dieldrin | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDE | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan II | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDD | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin aldehyde | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan sulfate | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDT | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Methoxychlor | ND | 20 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Chlordane | ND | 20 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Toxaphene | ND | 210 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 106 | ( 20 - 150) |
| Tetrachloro-m-xylene | 74 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472107
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1221 | ND | 82 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1232 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1242 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1248 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1254 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1260 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 106 | ( 20 - 150) |
| Tetrachloro-m-xylene | 74 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 4.5-8.5' 4-28-92 1355

WO #: 60472
LAB #: A2D300039-002
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 82 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474102
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 26 B | 12 | SW846 8240 | 5/04/92 | 126018 |
| Benzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromoform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromomethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| 2-Butanone | 9 J | 12 | SW846 8240 | 5/04/92 | 126018 |
| Carbon disulfide | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloroethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Chloroform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloromethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Methylene chloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 4-Methyl-2-pentanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 107 | ( 81 - 117) |
| Bromofluorobenzene | 97 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474102
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS

2 OF 2

| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Toluene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 107 | ( 81 - 117) |
| Bromofluorobenzene | 97 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474101
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Acenaphthylene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(b)fluoranthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(k)fluoranthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(ghi)perylene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)pyrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzyl alcohol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Butyl benzyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloroaniline | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chloronaphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Chrysene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzofuran | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-butyl phthalate | 250 J | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 83 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 43 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 71 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474101
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3,3-Dichlorobenzidine | ND | 780 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Diethyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dimethyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-octyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluoranthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluorene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobutadiene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachloroethane | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Isophorone | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylnaphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Naphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Nitrobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenanthrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 83 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 43 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 71 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474101
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 83 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 43 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 71 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474101
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dimethylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitrophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Pentachlorophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 49 | ( 30 - 115) |
| Terphenyl-d14 | 83 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 43 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 71 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474103
LAB #: A2D300039-003 DATE RECEIVED: 4/30/92
MATRIX: SOLID

PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| beta-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| delta-BHC | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Lindane | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aldrin | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor epoxide | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan I | ND | 2 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Dieldrin | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDE | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan II | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDD | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin aldehyde | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan sulfate | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDT | ND | 4 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Methoxychlor | ND | 20 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Chlordane | ND | 20 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Toxaphene | ND | 210 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 114 | ( 20 - 150) |
| Tetrachloro-m-xylene | 84 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474103
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1221 | ND | 82 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1232 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1242 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1248 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1254 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1260 | ND | 40 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 114 | ( 20 - 150) |
| Tetrachloro-m-xylene | 84 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-5 0.0-4.5' 4-28-92 1400

WO #: 60474
LAB #: A2D300039-003
MATRIX: SOLID

DATE RECEIVED: 4/30/92

INORGANIC ANALYTICAL REPORT

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 85 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-4 0.0-9.5' 4-28-92 1500

WO #: 60476101
LAB #: A2D300039-004
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 91 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 106 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-4 0.0-9.5' 4-28-92 1500

WO #: 60476
LAB #: A2D300039-004
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 88 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-4 4-28-92 1500

WO #: 60479101
LAB #: A2D300039-005
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 14 | 10 | SW846 8240 | 5/05/92 | 127028 |
| Benzene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Bromodichloromethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Bromoform | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Bromomethane | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| 2-Butanone | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Carbon disulfide | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Carbon tetrachloride | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Chlorobenzene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Chloroethane | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Chloroform | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Chloromethane | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Dibromochloromethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,1-Dichloroethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,2-Dichloroethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,1-Dichloroethene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,2-Dichloroethene, Total | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,2-Dichloropropane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| cis-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| trans-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Ethylbenzene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 2-Hexanone | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Methylene chloride | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 2-Pentanone, 4-methyl- | ND | 10 | SW846 8240 | 5/05/92 | 127028 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 99 | ( 88 - 110) |
| Bromofluorobenzene | 97 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-4 4-28-92 1500

WO #: 60479101
LAB #: A2D300039-005
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Tetrachloroethene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Toluene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,1,1-Trichloroethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| 1,1,2-Trichloroethane | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Trichloroethene | ND | 5 | SW846 8240 | 5/05/92 | 127028 |
| Vinyl acetate | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Vinyl chloride | ND | 10 | SW846 8240 | 5/05/92 | 127028 |
| Xylenes, Total | ND | 5 | SW846 8240 | 5/05/92 | 127028 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 99 | ( 88 - 110) |
| Bromofluorobenzene | 97 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-3 0.0-10.5' 4-28-92 1620

WO #: 60482102
LAB #: A2D300039-006
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 100 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 105 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-3 0.0-10.5' 4-28-92 1620

WO #: 60482
LAB #: A2D300039-006
MATRIX: SOLID

DATE RECEIVED: 4/30/92

INORGANIC ANALYTICAL REPORT

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 80 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-15 0.0-8.5 4-28-92 1645

WO #: 60485102
LAB #: A2D300039-007
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 112 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-15 0.0-8.5 4-28-92 1645

WO #: 60485
LAB #: A2D300039-007
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 75 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-2 0.0-12.0' 4-29-92 0800

WO #: 60486102
LAB #: A2D300039-008
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 98 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 109 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-2 0.0-12.0' 4-29-92 0800

WO #: 60486
LAB #: A2D300039-008
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 82 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-1 0.0-12.5' 4-29-92 0900

WO #: 60487102
LAB #: A2D300039-009
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 93 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 118 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-1 0.0-12.5' 4-29-92 0900

WO #: 60487
LAB #: A2D300039-009
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 86 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488102
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Benzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromoform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromomethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| 2-Butanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Carbon disulfide | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloroethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Chloroform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloromethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Methylene chloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Pentanone, 4-methyl- | ND | 12 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | ( 70 - 121) |
| Toluene-d8 | 104 | ( 81 - 117) |
| Bromofluorobenzene | 98 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488102
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Toluene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | ( 70 - 121) |
| Toluene-d8 | 104 | ( 81 - 117) |
| Bromofluorobenzene | 98 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488101
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Acenaphthylene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(b)fluoranthene | 47 J | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(k)fluoranthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(ghi)perylene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)pyrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzyl alcohol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Butyl benzyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloroaniline | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chloronaphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Chrysene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzofuran | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-butyl phthalate | 270 J | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 43 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 59 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 44 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 80 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488101
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3,3-Dichlorobenzidine | ND | 780 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Diethyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dimethyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-octyl phthalate | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluoranthene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluorene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobutadiene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachloroethane | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Isophorone | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylnaphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Naphthalene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Nitrobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenanthrene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 43 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 59 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 44 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 80 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488101
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | 47 J | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 43 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 59 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 44 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 80 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488101
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dimethylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Methylphenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitrophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Pentachlorophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 390 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 43 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 59 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 44 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 80 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488103
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| beta-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| delta-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Lindane | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Heptachlor | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aldrin | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Heptachlor epoxide | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan I | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Dieldrin | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDE | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endrin | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan II | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDD | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endrin aldehyde | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan sulfate | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDT | ND | 390 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Methoxychlor | ND | 780 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Chlordane | ND | 780 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Toxaphene | ND | 9,800 | SW846 8080 | 5/03- 5/21/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | 105 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488103
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1221 | ND | 79 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1232 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1242 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1248 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1254 | 39 | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1260 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | 105 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 3.0-8.5' 4-29-92 1030

WO #: 60488
LAB #: A2D300039-010
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 85 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-8 2.5-7.0' 4-29-92 1200

WO #: 60489102
LAB #: A2D300039-011
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1221 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1232 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1242 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1248 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1254 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |
| Aroclor-1260 | ND | 110 | SW846 8080 | 5/04- 5/05/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 109 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-8 2.5-7.0' 4-29-92 1200

WO #: 60489
LAB #: A2D300039-011
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 70 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122052 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490102
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 140 B | 13 | SW846 8240 | 5/04/92 | 126018 |
| Benzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromoform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromomethane | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| 2-Butanone | 51 | 13 | SW846 8240 | 5/04/92 | 126018 |
| Carbon disulfide | 5 J | 6 | SW846 8240 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloroethane | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| Chloroform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloromethane | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| Methylene chloride | 4 J | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Pentanone, 4-methyl- | ND | 13 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | ( 70 - 121) |
| Toluene-d8 | 111 | ( 81 - 117) |
| Bromofluorobenzene | 97 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490102
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Toluene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 13 | SW846 8240 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | ( 70 - 121) |
| Toluene-d8 | 111 | ( 81 - 117) |
| Bromofluorobenzene | 97 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490101
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Acenaphthylene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Anthracene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzo(a)anthracene | 290 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzo(b)fluoranthene | 210 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzo(k)fluoranthene | 65 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzo(ghi)perylene | 87 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzo(a)pyrene | 65 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Benzyl alcohol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Butyl benzyl phthalate | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Chloroaniline | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Chloronaphthalene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Chrysene | 380 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Dibenzofuran | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Di-n-butyl phthalate | 240 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 57 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 76 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 50 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 73 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490101
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 3,3'-Dichlorobenzidine | ND | 860 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Diethyl phthalate | 250 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Dimethyl phthalate | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Di-n-octyl phthalate | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Fluoranthene | 270 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Fluorene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Hexachlorobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Hexachlorobutadiene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Hexachloroethane | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | 61 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Isophorone | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Methylnaphthalene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Naphthalene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Nitrobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Nitroaniline | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 3-Nitroaniline | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Nitroaniline | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Phenanthrene | 140 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 57 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 76 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 50 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 73 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490101
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | 210 J | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 57 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 76 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 50 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 73 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490101
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Chlorophenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4-Dichlorophenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4-Dimethylphenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4-Dinitrophenol | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Methylphenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Methylphenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2-Nitrophenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 4-Nitrophenol | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Pentachlorophenol | ND | 2,100 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| Phenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 430 | SW846 8270 | 5/03- 5/06/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 57 | ( 23 - 120) |
| 2-Fluorobiphenyl | 62 | ( 30 - 115) |
| Terphenyl-d14 | 76 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 50 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 73 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490103
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| beta-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| delta-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Lindane | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aldrin | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor epoxide | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan I | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Dieldrin | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDE | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan II | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDD | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin aldehyde | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan sulfate | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDT | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Methoxychlor | ND | 860 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Chlordane | ND | 860 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Toxaphene | ND | 11,000 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | DIL | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490103
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1221 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1232 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1242 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1248 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1254 | 570 | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1260 | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | DIL | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4.0-8.5' 4-29-92 1500

WO #: 60490
LAB #: A2D300039-012
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 77 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122054 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4-29-92 1500

WO #: 60491101
LAB #: A2D300039-013
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Benzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromodichloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromoform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromomethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| 2-Butanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Carbon disulfide | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Carbon tetrachloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chlorobenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloroethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Chloroform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloromethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Dibromochloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethene, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloropropane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| cis-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| trans-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Ethylbenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Hexanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Methylene chloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Pentanone, 4-methyl- | ND | 10 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 97 | ( 88 - 110) |
| Bromofluorobenzene | 104 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-9 4-29-92 1500

WO #: 60491101
LAB #: A2D300039-013
MATRIX: WATER

DATE RECEIVED: 4/30/92

TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Tetrachloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Toluene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,1-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Trichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl acetate | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl chloride | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Xylenes, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 97 | ( 88 - 110) |
| Bromofluorobenzene | 104 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 4-29-92 1000

WO #: 60492101
LAB #: A2D300039-014
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 8 J | 10 | SW846 8240 | 5/06/92 | 127049 |
| Benzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromodichloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromoform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromomethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| 2-Butanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Carbon disulfide | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Carbon tetrachloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chlorobenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloroethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Chloroform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloromethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Dibromochloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethene, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloropropane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| cis-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| trans-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Ethylbenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Hexanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Methylene chloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Pentanone, 4-methyl- | ND | 10 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | ( 76 - 114) |
| Toluene-d8 | 98 | ( 88 - 110) |
| Bromofluorobenzene | 102 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 4-29-92 1000

WO #: 60492101
LAB #: A2D300039-014
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Tetrachloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Toluene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,1-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Trichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl acetate | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl chloride | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Xylenes, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | ( 76 - 114) |
| Toluene-d8 | 98 | ( 88 - 110) |
| Bromofluorobenzene | 102 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493102
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 15 B | 12 | SW846 8240 | 5/04/92 | 126018 |
| Benzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromoform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Bromomethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| 2-Butanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Carbon disulfide | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloroethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Chloroform | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Chloromethane | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Methylene chloride | 3 J | 6 | SW846 8240 | 5/04/92 | 126018 |
| 2-Pentanone, 4-methyl- | ND | 12 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 110 | ( 81 - 117) |
| Bromofluorobenzene | 94 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493102
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Toluene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 12 | SW846 8240 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | ( 70 - 121) |
| Toluene-d8 | 110 | ( 81 - 117) |
| Bromofluorobenzene | 94 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493101
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Acenaphthylene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Anthracene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)anthracene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(b)fluoranthene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(k)fluoranthene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(ghi)perylene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzo(a)pyrene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Benzyl alcohol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Butyl benzyl phthalate | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloroaniline | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chloronaphthalene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Chrysene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dibenzofuran | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-butyl phthalate | 180 J | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 55 | ( 30 - 115) |
| Terphenyl-d14 | 66 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 74 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493101
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3,3-Dichlorobenzidine | ND | 800 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Diethyl phthalate | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Dimethyl phthalate | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Di-n-octyl phthalate | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluoranthene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Fluorene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorobutadiene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Hexachloroethane | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Isophorone | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylnaphthalene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Naphthalene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Nitrobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 3-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitroaniline | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenanthrene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 55 | ( 30 - 115) |
| Terphenyl-d14 | 66 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 74 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493101
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS

3 OF 4

| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 55 | ( 30 - 115) |
| Terphenyl-d14 | 66 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 74 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493101
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Chlorophenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dichlorophenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dimethylphenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Methylphenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Methylphenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2-Nitrophenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 4-Nitrophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Pentachlorophenol | ND | 1,900 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| Phenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 400 | SW846 8270 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 44 | ( 23 - 120) |
| 2-Fluorobiphenyl | 55 | ( 30 - 115) |
| Terphenyl-d14 | 66 | ( 18 - 137) |
| 2-Fluorophenol | 51 | ( 25 - 121) |
| Phenol-d5 | 45 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 74 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493103
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| beta-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| delta-BHC | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Lindane | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Heptachlor | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aldrin | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Heptachlor epoxide | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan I | ND | 200 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Dieldrin | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDE | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endrin | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan II | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDD | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endrin aldehyde | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Endosulfan sulfate | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| 4,4'-DDT | ND | 400 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Methoxychlor | ND | 790 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Chlordane | ND | 790 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Toxaphene | ND | 9,700 | SW846 8080 | 5/03- 5/21/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | 120 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493103
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1221 | ND | 79 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1232 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1242 | 120 | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1248 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1254 | 130 | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |
| Aroclor-1260 | ND | 39 | SW846 8080 | 5/03- 5/21/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | 120 | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-16 3.5-8.0' 4-29-92 1000

WO #: 60493
LAB #: A2D300039-015
MATRIX: SOLID

DATE RECEIVED: 4/30/92

INORGANIC ANALYTICAL REPORT

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 84 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122054 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495102
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 75 B | 13 | SW846 8240 | 5/05/92 | 127024 |
| Benzene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Bromodichloromethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Bromoform | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Bromomethane | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| 2-Butanone | 22 | 13 | SW846 8240 | 5/05/92 | 127024 |
| Carbon disulfide | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Carbon tetrachloride | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Chlorobenzene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Chloroethane | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| Chloroform | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Chloromethane | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| Dibromochloromethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,1-Dichloroethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,2-Dichloroethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,1-Dichloroethene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,2-Dichloroethene, Total | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,2-Dichloropropane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| cis-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| trans-1,3-Dichloropropene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Ethylbenzene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 2-Hexanone | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| Methylene chloride | 5 J | 6 | SW846 8240 | 5/05/92 | 127024 |
| 2-Pentanone, 4-methyl- | ND | 13 | SW846 8240 | 5/05/92 | 127024 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 70 - 121) |
| Toluene-d8 | 105 | ( 81 - 117) |
| Bromofluorobenzene | 92 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495102
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,1,2,2-Tetrachloroethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Tetrachloroethene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Toluene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,1,1-Trichloroethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| 1,1,2-Trichloroethane | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Trichloroethene | ND | 6 | SW846 8240 | 5/05/92 | 127024 |
| Vinyl acetate | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| Vinyl chloride | ND | 13 | SW846 8240 | 5/05/92 | 127024 |
| Xylenes, Total | ND | 6 | SW846 8240 | 5/05/92 | 127024 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 70 - 121) |
| Toluene-d8 | 105 | ( 81 - 117) |
| Bromofluorobenzene | 92 | ( 74 - 121) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495101
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acenaphthene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Acenaphthylene | 52 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Anthracene | 48 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzo(a)anthracene | 220 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzo(b)fluoranthene | 300 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzo(k)fluoranthene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzo(ghi)perylene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzo(a)pyrene | 160 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Benzyl alcohol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Bis(2-chloroethoxy)methane | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Bis(2-chloroethyl)ether | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Bis(2-chloroisopropyl)ether | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Bis(2-ethylhexyl)phthalate | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Bromophenyl phenyl ether | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Butyl benzyl phthalate | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Chloroaniline | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Chloronaphthalene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Chlorophenyl phenyl ether | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Chrysene | 310 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Dibenzo(a,h)anthracene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Dibenzofuran | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Di-n-butyl phthalate | 180 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 1,2-Dichlorobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 1,3-Dichlorobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 45 | ( 30 - 115) |
| Terphenyl-d14 | 72 | ( 18 - 137) |
| 2-Fluorophenol | 46 | ( 25 - 121) |
| Phenol-d5 | 63 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 84 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495101
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 3,3'-Dichlorobenzidine | ND | 860 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Diethyl phthalate | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Dimethyl phthalate | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4-Dinitrotoluene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,6-Dinitrotoluene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Di-n-octyl phthalate | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Fluoranthene | 380 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Fluorene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Hexachlorobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Hexachlorobutadiene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Hexachlorocyclopentadiene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Hexachloroethane | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Indeno(1,2,3-cd)pyrene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Isophorone | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Methylnaphthalene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Naphthalene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Nitrobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Nitroaniline | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 3-Nitroaniline | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Nitroaniline | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| N-Nitrosodiphenylamine | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| N-Nitrosodi-n-propylamine | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Phenanthrene | 160 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 45 | ( 30 - 115) |
| Terphenyl-d14 | 72 | ( 18 - 137) |
| 2-Fluorophenol | 46 | ( 25 - 121) |
| Phenol-d5 | 63 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 84 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495101
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Pyrene | 310 J | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 1,2,4-Trichlorobenzene | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 45 | ( 30 - 115) |
| Terphenyl-d14 | 72 | ( 18 - 137) |
| 2-Fluorophenol | 46 | ( 25 - 121) |
| Phenol-d5 | 63 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 84 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495101
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## TCL SEMIVOLATILE ORGANICS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Benzoic acid | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Chloro-3-methylphenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Chlorophenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4-Dichlorophenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4-Dimethylphenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4-Dinitrophenol | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4,6-Dinitro-2-methylphenol | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Methylphenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Methylphenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2-Nitrophenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 4-Nitrophenol | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Pentachlorophenol | ND | 2,100 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| Phenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4,5-Trichlorophenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |
| 2,4,6-Trichlorophenol | ND | 430 | SW846 8270 | 5/05- 5/07/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 45 | ( 30 - 115) |
| Terphenyl-d14 | 72 | ( 18 - 137) |
| 2-Fluorophenol | 46 | ( 25 - 121) |
| Phenol-d5 | 63 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 84 | ( 19 - 122) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495103
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

## PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| alpha-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| beta-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| delta-BHC | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Lindane | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aldrin | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Heptachlor epoxide | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan I | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Dieldrin | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDE | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan II | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDD | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endrin aldehyde | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Endosulfan sulfate | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| 4,4'-DDT | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Methoxychlor | ND | 860 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Chlordane | ND | 860 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Toxaphene | ND | 11,000 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | DIL | ( 60 - 150) |

NOTE: DRY WEIGHT
ND - NONE DETECTED
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495103
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

PESTICIDES/PCBS



| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Aroclor-1016 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1221 | ND | 430 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1232 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1242 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1248 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1254 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |
| Aroclor-1260 | ND | 220 | SW846 8080 | 5/03- 5/09/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | DIL | ( 20 - 150) |
| Tetrachloro-m-xylene | DIL | ( 60 - 150) |

NOTE: DRY WEIGHT
ND (NONE DETECTED)
ELEVATED DETECTION LIMITS DUE TO MATRIX INTERFERENCE

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-10 3.0-7.5' 4-29-92 1730

WO #: 60495
LAB #: A2D300039-016
MATRIX: SOLID

DATE RECEIVED: 4/30/92

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | METHOD | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|---|
| Solids, Total (TS) | 77 | 0.5 | % | USEPA 160.3 | 5/01- 5/04/92 | 122054 |

NOTE: AS RECEIVED

CONESTOGA ROVERS & ASSOCIATES, LTD.

TRIP BLANK 4-29-92

WO #: 60496101
LAB #: A2D300039-017
MATRIX: WATER

DATE RECEIVED: 4/30/92

TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 5 J | 10 | SW846 8240 | 5/06/92 | 127049 |
| Benzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromodichloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromoform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromomethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| 2-Butanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Carbon disulfide | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Carbon tetrachloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chlorobenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloroethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Chloroform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloromethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Dibromochloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethene, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloropropane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| cis-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| trans-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Ethylbenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Hexanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Methylene chloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Pentanone, 4-methyl- | ND | 10 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | ( 76 - 114) |
| Toluene-d8 | 100 | ( 88 - 110) |
| Bromofluorobenzene | 101 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TRIP BLANK 4-29-92

WO #: 60496101
LAB #: A2D300039-017
MATRIX: WATER

DATE RECEIVED: 4/30/92

TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Tetrachloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Toluene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,1-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Trichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl acetate | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl chloride | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Xylenes, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | ( 76 - 114) |
| Toluene-d8 | 100 | ( 88 - 110) |
| Bromofluorobenzene | 101 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 4-29-92 1030

WO #: 60538101
LAB #: A2D300039-018
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Acetone | 7 J | 10 | SW846 8240 | 5/06/92 | 127049 |
| Benzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromodichloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromoform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Bromomethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| 2-Butanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Carbon disulfide | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Carbon tetrachloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chlorobenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloroethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Chloroform | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Chloromethane | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Dibromochloromethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1-Dichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloroethene, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,2-Dichloropropane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| cis-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| trans-1,3-Dichloropropene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Ethylbenzene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Hexanone | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Methylene chloride | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 2-Pentanone, 4-methyl- | ND | 10 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | ( 76 - 114) |
| Toluene-d8 | 98 | ( 88 - 110) |
| Bromofluorobenzene | 103 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

CONESTOGA ROVERS & ASSOCIATES, LTD.

TP-7 4-29-92 1030

WO #: 60538101
LAB #: A2D300039-018
MATRIX: WATER

DATE RECEIVED: 4/30/92

## TCL VOLATILE ORGANICS



| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | METHOD | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Styrene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Tetrachloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Toluene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,1-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| 1,1,2-Trichloroethane | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Trichloroethene | ND | 5 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl acetate | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Vinyl chloride | ND | 10 | SW846 8240 | 5/06/92 | 127049 |
| Xylenes, Total | ND | 5 | SW846 8240 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | ( 76 - 114) |
| Toluene-d8 | 98 | ( 88 - 110) |
| Bromofluorobenzene | 103 | ( 86 - 115) |

NOTE: AS RECEIVED
ND (NONE DETECTED)

# QUALITY CONTROL SECTION

# QUALITY CONTROL NARRATIVE

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with the exception of those items noted.

"DIL" in the analytical report means that due to high concentrations of analytes in the sample, a dilution was made and the surrogates or spiking compounds could not be quantitated.

## QUALITY ASSURANCE/QUALITY CONTROL PROGRAM ELEMENTS

WADSWORTH/ALERT Laboratories conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data.

Quality control samples provide a mechanism for assessing the overall quality of the analytical process and can be used to indicate the useability of the analytical data. These QC samples include check samples, method blanks, matrix spikes and surrogate spikes.

The CHECK SAMPLE is used to demonstrate that all laboratory analytical processes were functioning properly when the associated sample batch was prepared and analyzed. The check sample is a simulated sample spiked with representative analytes prepared and analyzed with a batch of samples. Spike recovery values from this check sample must meet laboratory established acceptance criteria.

The METHOD BLANK is used to measure the level of any background contamination in the laboratories analytical system. The method blank is carried through the entire process, including the preparation, and consists of all of the reagents specific to the method.

All analytes of interest in the method blank for organic analyses must be below the method detection limits except for the following compounds:

| Volatiles | Semivolatiles |
|---|---|
| Methylene chloride | Dimethyl phthalate |
| 2-Butanone | Diethyl phthalate |
| Acetone | Di-n-butyl phthalate |
| | Butyl benzyl phthalate |
| | Bis (2-ethylhexyl) phthalate |
| | Di-n-octyl phthalate |

These commonly-detected laboratory contaminants may be present in the method blank at up to five times the method reporting limit.

For metals analyses, if any analyte concentration in the method blank is above the method reporting limit, then the lowest concentration of that analyte in the associates samples must be ten times the blank concentration. Otherwise, all samples associated with the blank which are less than ten times the blank are redigested and reanalyzed.

The laboratory performs MATRIX SPIKES (MS) and MATRIX SPIKE DUPLICATES (MSD) to indicate any matrix effects within a given sample. They also allow the laboratory to gather precision and bias data for a specific method and matrix.

Since matrix effects may bias percent recovery, the laboratory performs corrective action if the precision (RPD) criteria of the MS/MSD is not met.

SURROGATE SPIKES are used by the laboratory to indicate method bias introduced by the sample matrix during the preparation and analysis of a specific method. Surrogates are normally organic compounds similar to those being analyzed for the GC or GC/MS. If surrogate recoveries fail to meet laboratory acceptance criteria it does not necessarily indicate poor laboratory control but may in fact be attributed to a sample matrix effect. In the event that surrogates fail criteria, a repreparation and reanalysis is performed to determine the presence of a matrix effect.

The laboratory uses the following surrogate recovery criteria for all organic analyses:

For the GC/MS Base/Neutral fraction the surrogate criteria requires that two of the three surrogates must meet recovery limits. The third surrogate must have a recovery of ten percent or greater.

For the GC/MS Acid fraction the surrogate criteria requires that two of the three surrogates must meet recovery limits. The third surrogate must have a recovery of ten percent or greater.

For GC/ECD Pesticides, the surrogate criteria requires that one of the two surrogates must meet recovery limits.

For Volatiles, PCBs and Herbicides all surrogates utilized must meet surrogate recovery limits.

CHECK SAMPLE REPORT

QC BATCH: 127028
LAB #: A2E060000-028 C
MATRIX: WATER

PREPARATION DATE: 5/05/92
DATE ANALYZED: 5/05/92

- - - - - - - - - - - - - - - - - - Volatile Organics, GC/MS - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,1-Dichloroethene | 99 | ( 67-126) |
| Trichloroethene | 98 | ( 79-130) |
| Chlorobenzene | 103 | ( 86-116) |
| Toluene | 100 | ( 82-119) |
| Benzene | 109 | ( 79-122) |

CHECK SAMPLE REPORT

QC BATCH: 127049
LAB #: A2E060000-049 C
MATRIX: WATER

PREPARATION DATE: 5/06/92
DATE ANALYZED: 5/06/92

- - - - - - - - - - - - - - - - - - Volatile Organics, GC/MS - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,1-Dichloroethene | 104 | ( 67-126) |
| Trichloroethene | 102 | ( 79-130) |
| Chlorobenzene | 102 | ( 86-116) |
| Toluene | 97 | ( 82-119) |
| Benzene | 101 | ( 79-122) |

CHECK SAMPLE REPORT

QC BATCH: 126018
LAB #: A2E050000-018 C
MATRIX: SOLID

PREPARATION DATE: 5/04/92
DATE ANALYZED: 5/04/92

- - - - - - - - - - - - - - - - - - Volatile Organics, GC/MS - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,1-Dichloroethene | 114 | ( 56-139) |
| Trichloroethene | 104 | ( 79-128) |
| Chlorobenzene | 104 | ( 79-118) |
| Toluene | 106 | ( 78-122) |
| Benzene | 109 | ( 77-122) |

CHECK SAMPLE REPORT

QC BATCH: 127024
LAB #: A2E060000-024 C
MATRIX: SOLID

PREPARATION DATE: 5/05/92
DATE ANALYZED: 5/05/92

- - - - - - - - - - - - - - - - - - Volatile Organics, GC/MS - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,1-Dichloroethene | 106 | ( 56-139) |
| Trichloroethene | 100 | ( 79-128) |
| Chlorobenzene | 99 | ( 79-118) |
| Toluene | 102 | ( 78-122) |
| Benzene | 106 | ( 77-122) |

CHECK SAMPLE REPORT

QC BATCH: 125026
LAB #: A2E040000-026 C
MATRIX: SOLID

PREPARATION DATE: 5/03/92
DATE ANALYZED: 5/05/92

- - - - - - - - - - - - - - - - - Base/Neutrals and Acids - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,2,4-Trichlorobenzene | 62 | ( 40-102) |
| Acenaphthene | 68 | ( 46-123) |
| 2,4-Dinitrotoluene | 84 | ( 36-122) |
| Pyrene | 66 | ( 14-145) |
| N-Nitrosodi-n-propylamine | 63 | ( 41-123) |
| 1,4-Dichlorobenzene | 60 | ( 41- 90) |
| Pentachlorophenol | 113 | ( 31-138) |
| Phenol | 58 | ( 36- 90) |
| 2-Chlorophenol | 58 | ( 42- 91) |
| 4-Chloro-3-methylphenol | 64 | ( 44-132) |
| 4-Nitrophenol | 58 | ( 16-154) |

CHECK SAMPLE REPORT

QC BATCH: 126044
LAB #: A2E050000-044 C
MATRIX: SOLID

PREPARATION DATE: 5/05/92
DATE ANALYZED: 5/11/92

- - - - - - - - - - - - - - - - - - Base/Neutrals and Acids - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| 1,2,4-Trichlorobenzene | 67 | ( 40-102) |
| Acenaphthene | 93 | ( 46-123) |
| 2,4-Dinitrotoluene | 109 | ( 36-122) |
| Pyrene | 88 | ( 14-145) |
| N-Nitrosodi-n-propylamine | 85 | ( 41-123) |
| 1,4-Dichlorobenzene | 59 | ( 41- 90) |
| Pentachlorophenol | 130 | ( 31-138) |
| Phenol | 60 | ( 36- 90) |
| 2-Chlorophenol | 62 | ( 42- 91) |
| 4-Chloro-3-methylphenol | 75 | ( 44-132) |
| 4-Nitrophenol | 137 | ( 16-154) |

CHECK SAMPLE REPORT

QC BATCH: 125027
LAB #: A2E040000-027 C
MATRIX: SOLID

PREPARATION DATE: 5/03/92
DATE ANALYZED: 5/06/92

PEST/PCB

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| Lindane | 130 | ( 60-158) |
| Heptachlor | 135 | ( 52-153) |
| Aldrin | 115 | ( 60-151) |
| Dieldrin | 120 | ( 62-140) |
| Endrin | 124 | ( 57-148) |
| 4,4'-DDT | 112 | ( 46-154) |

CHECK SAMPLE REPORT

QC BATCH: 122052
LAB #: A2E010000-052 C
MATRIX: SOLID

PREPARATION DATE: 5/01/92
DATE ANALYZED: 5/04/92

- - - - - - - - - - - - - - - - - - - -Solids, Total (TS) - - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| Solids, Total (TS) | 91 | ( 89-110) |

CHECK SAMPLE REPORT

QC BATCH: 122054
LAB #: A2E010000-054 C
MATRIX: SOLID

PREPARATION DATE: 5/01/92
DATE ANALYZED: 5/04/92

- - - - - - - - - - - - - - - - - - -Solids, Total (TS) - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | Q/C LIMITS |
|---|---|---|
| Solids, Total (TS) | 91 | ( 89-110) |

# INTRA-LAB BLANK REPORT

LAB #: A2E060000-028

MATRIX: WATER

- - - - - - - - - - - - - - - - - VOLATILE ORGANICS, GC/MS - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acetone | ND | 10 | 5/05/92 | 127028 |
| Benzene | ND | 5 | 5/05/92 | 127028 |
| Bromodichloromethane | ND | 5 | 5/05/92 | 127028 |
| Bromoform | ND | 5 | 5/05/92 | 127028 |
| Bromomethane | ND | 10 | 5/05/92 | 127028 |
| 2-Butanone | ND | 10 | 5/05/92 | 127028 |
| Carbon disulfide | ND | 5 | 5/05/92 | 127028 |
| Carbon tetrachloride | ND | 5 | 5/05/92 | 127028 |
| Chlorobenzene | ND | 5 | 5/05/92 | 127028 |
| Dibromochloromethane | ND | 5 | 5/05/92 | 127028 |
| Chloroethane | ND | 10 | 5/05/92 | 127028 |
| Chloroform | ND | 5 | 5/05/92 | 127028 |
| Chloromethane | ND | 10 | 5/05/92 | 127028 |
| 1,1-Dichloroethane | ND | 5 | 5/05/92 | 127028 |
| 1,2-Dichloroethane | ND | 5 | 5/05/92 | 127028 |
| 1,1-Dichloroethene | ND | 5 | 5/05/92 | 127028 |
| 1,2-Dichloroethene, Total | ND | 5 | 5/05/92 | 127028 |
| 1,2-Dichloropropane | ND | 5 | 5/05/92 | 127028 |
| cis-1,3-Dichloropropene | ND | 5 | 5/05/92 | 127028 |
| trans-1,3-Dichloropropene | ND | 5 | 5/05/92 | 127028 |
| Ethylbenzene | ND | 5 | 5/05/92 | 127028 |
| 2-Hexanone | ND | 10 | 5/05/92 | 127028 |
| Methylene chloride | ND | 5 | 5/05/92 | 127028 |
| 2-Pentanone, 4-methyl- | ND | 10 | 5/05/92 | 127028 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 76 - 114) |
| Toluene-d8 | 102 | ( 88 - 110) |
| Bromofluorobenzene | 96 | ( 86 - 115) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E060000-028

MATRIX: WATER

- - - - - - - - - - - - - - - - - VOLATILE ORGANICS, GC/MS - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Styrene | ND | 5 | 5/05/92 | 127028 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | 5/05/92 | 127028 |
| Tetrachloroethene | ND | 5 | 5/05/92 | 127028 |
| Toluene | ND | 5 | 5/05/92 | 127028 |
| 1,1,1-Trichloroethane | ND | 5 | 5/05/92 | 127028 |
| 1,1,2-Trichloroethane | ND | 5 | 5/05/92 | 127028 |
| Trichloroethene | ND | 5 | 5/05/92 | 127028 |
| Vinyl acetate | ND | 10 | 5/05/92 | 127028 |
| Vinyl chloride | ND | 10 | 5/05/92 | 127028 |
| Xylenes, Total | ND | 5 | 5/05/92 | 127028 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 76 - 114) |
| Toluene-d8 | 102 | ( 88 - 110) |
| Bromofluorobenzene | 96 | ( 86 - 115) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E060000-049

MATRIX: WATER

## VOLATILE ORGANICS, GC/MS

| PARAMETER | RESULT (ug/l) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acetone | ND | 10 | 5/06/92 | 127049 |
| Benzene | ND | 5 | 5/06/92 | 127049 |
| Bromodichloromethane | ND | 5 | 5/06/92 | 127049 |
| Bromoform | ND | 5 | 5/06/92 | 127049 |
| Bromomethane | ND | 10 | 5/06/92 | 127049 |
| 2-Butanone | ND | 10 | 5/06/92 | 127049 |
| Carbon disulfide | ND | 5 | 5/06/92 | 127049 |
| Carbon tetrachloride | ND | 5 | 5/06/92 | 127049 |
| Chlorobenzene | ND | 5 | 5/06/92 | 127049 |
| Dibromochloromethane | ND | 5 | 5/06/92 | 127049 |
| Chloroethane | ND | 10 | 5/06/92 | 127049 |
| Chloroform | ND | 5 | 5/06/92 | 127049 |
| Chloromethane | ND | 10 | 5/06/92 | 127049 |
| 1,1-Dichloroethane | ND | 5 | 5/06/92 | 127049 |
| 1,2-Dichloroethane | ND | 5 | 5/06/92 | 127049 |
| 1,1-Dichloroethene | ND | 5 | 5/06/92 | 127049 |
| 1,2-Dichloroethene, Total | ND | 5 | 5/06/92 | 127049 |
| 1,2-Dichloropropane | ND | 5 | 5/06/92 | 127049 |
| cis-1,3-Dichloropropene | ND | 5 | 5/06/92 | 127049 |
| trans-1,3-Dichloropropene | ND | 5 | 5/06/92 | 127049 |
| Ethylbenzene | ND | 5 | 5/06/92 | 127049 |
| 2-Hexanone | ND | 10 | 5/06/92 | 127049 |
| Methylene chloride | ND | 5 | 5/06/92 | 127049 |
| 2-Pentanone, 4-methyl- | ND | 10 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 94 | ( 88 - 110) |
| Bromofluorobenzene | 98 | ( 86 - 115) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E060000-049

MATRIX: WATER

- - - - - - - - - - - - - - - - - VOLATILE ORGANICS, GC/MS - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT (ug/l ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Styrene | ND | 5 | 5/06/92 | 127049 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | 5/06/92 | 127049 |
| Tetrachloroethene | ND | 5 | 5/06/92 | 127049 |
| Toluene | ND | 5 | 5/06/92 | 127049 |
| 1,1,1-Trichloroethane | ND | 5 | 5/06/92 | 127049 |
| 1,1,2-Trichloroethane | ND | 5 | 5/06/92 | 127049 |
| Trichloroethene | ND | 5 | 5/06/92 | 127049 |
| Vinyl acetate | ND | 10 | 5/06/92 | 127049 |
| Vinyl chloride | ND | 10 | 5/06/92 | 127049 |
| Xylenes, Total | ND | 5 | 5/06/92 | 127049 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | ( 76 - 114) |
| Toluene-d8 | 94 | ( 88 - 110) |
| Bromofluorobenzene | 98 | ( 86 - 115) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E050000-018

MATRIX: SOLID

VOLATILE ORGANICS, GC/MS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acetone | 9 J | 10 | 5/04/92 | 126018 |
| Benzene | ND | 5 | 5/04/92 | 126018 |
| Bromodichloromethane | ND | 5 | 5/04/92 | 126018 |
| Bromoform | ND | 5 | 5/04/92 | 126018 |
| Bromomethane | ND | 10 | 5/04/92 | 126018 |
| 2-Butanone | ND | 10 | 5/04/92 | 126018 |
| Carbon disulfide | ND | 5 | 5/04/92 | 126018 |
| Carbon tetrachloride | ND | 5 | 5/04/92 | 126018 |
| Chlorobenzene | ND | 5 | 5/04/92 | 126018 |
| Dibromochloromethane | ND | 5 | 5/04/92 | 126018 |
| Chloroethane | ND | 10 | 5/04/92 | 126018 |
| Chloroform | ND | 5 | 5/04/92 | 126018 |
| Chloromethane | ND | 10 | 5/04/92 | 126018 |
| 1,1-Dichloroethane | ND | 5 | 5/04/92 | 126018 |
| 1,2-Dichloroethane | ND | 5 | 5/04/92 | 126018 |
| 1,1-Dichloroethene | ND | 5 | 5/04/92 | 126018 |
| 1,2-Dichloroethene, Total | ND | 5 | 5/04/92 | 126018 |
| 1,2-Dichloropropane | ND | 5 | 5/04/92 | 126018 |
| cis-1,3-Dichloropropene | ND | 5 | 5/04/92 | 126018 |
| trans-1,3-Dichloropropene | ND | 5 | 5/04/92 | 126018 |
| Ethylbenzene | ND | 5 | 5/04/92 | 126018 |
| 2-Hexanone | ND | 10 | 5/04/92 | 126018 |
| Methylene chloride | ND | 5 | 5/04/92 | 126018 |
| 2-Pentanone, 4-methyl- | ND | 10 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | ( 70 - 121) |
| Toluene-d8 | 99 | ( 81 - 117) |
| Bromofluorobenzene | 100 | ( 74 - 121) |

NOTE:
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

INTRA-LAB BLANK REPORT

LAB #: A2E050000-018

MATRIX: SOLID

- - - - - - - - - - - - - - - - - VOLATILE ORGANICS, GC/MS - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Styrene | ND | 5 | 5/04/92 | 126018 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | 5/04/92 | 126018 |
| Tetrachloroethene | ND | 5 | 5/04/92 | 126018 |
| Toluene | ND | 5 | 5/04/92 | 126018 |
| 1,1,1-Trichloroethane | ND | 5 | 5/04/92 | 126018 |
| 1,1,2-Trichloroethane | ND | 5 | 5/04/92 | 126018 |
| Trichloroethene | ND | 5 | 5/04/92 | 126018 |
| Vinyl acetate | ND | 10 | 5/04/92 | 126018 |
| Vinyl chloride | ND | 10 | 5/04/92 | 126018 |
| Xylenes, Total | ND | 5 | 5/04/92 | 126018 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | ( 70 - 121) |
| Toluene-d8 | 99 | ( 81 - 117) |
| Bromofluorobenzene | 100 | ( 74 - 121) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E060000-024

MATRIX: SOLID

## VOLATILE ORGANICS, GC/MS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acetone | 4 J | 10 | 5/05/92 | 127024 |
| Benzene | ND | 5 | 5/05/92 | 127024 |
| Bromodichloromethane | ND | 5 | 5/05/92 | 127024 |
| Bromoform | ND | 5 | 5/05/92 | 127024 |
| Bromomethane | ND | 10 | 5/05/92 | 127024 |
| 2-Butanone | ND | 10 | 5/05/92 | 127024 |
| Carbon disulfide | ND | 5 | 5/05/92 | 127024 |
| Carbon tetrachloride | ND | 5 | 5/05/92 | 127024 |
| Chlorobenzene | ND | 5 | 5/05/92 | 127024 |
| Dibromochloromethane | ND | 5 | 5/05/92 | 127024 |
| Chloroethane | ND | 10 | 5/05/92 | 127024 |
| Chloroform | ND | 5 | 5/05/92 | 127024 |
| Chloromethane | ND | 10 | 5/05/92 | 127024 |
| 1,1-Dichloroethane | ND | 5 | 5/05/92 | 127024 |
| 1,2-Dichloroethane | ND | 5 | 5/05/92 | 127024 |
| 1,1-Dichloroethene | ND | 5 | 5/05/92 | 127024 |
| 1,2-Dichloroethene, Total | ND | 5 | 5/05/92 | 127024 |
| 1,2-Dichloropropane | ND | 5 | 5/05/92 | 127024 |
| cis-1,3-Dichloropropene | ND | 5 | 5/05/92 | 127024 |
| trans-1,3-Dichloropropene | ND | 5 | 5/05/92 | 127024 |
| Ethylbenzene | ND | 5 | 5/05/92 | 127024 |
| 2-Hexanone | ND | 10 | 5/05/92 | 127024 |
| Methylene chloride | ND | 5 | 5/05/92 | 127024 |
| 2-Pentanone, 4-methyl- | ND | 10 | 5/05/92 | 127024 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 70 - 121) |
| Toluene-d8 | 99 | ( 81 - 117) |
| Bromofluorobenzene | 99 | ( 74 - 121) |

NOTE:
ND (NONE DETECTED)
J (DETECTED, BUT BELOW QUANTITATION LIMIT; ESTIMATED VALUE)

INTRA-LAB BLANK REPORT

LAB #: A2E060000-024

MATRIX: SOLID

- - - - - - - - - - - - - - - - VOLATILE ORGANICS, GC/MS - - - - - - - - - - - - - - - -

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Styrene | ND | 5 | 5/05/92 | 127024 |
| 1,1,2,2-Tetrachloroethane | ND | 5 | 5/05/92 | 127024 |
| Tetrachloroethene | ND | 5 | 5/05/92 | 127024 |
| Toluene | ND | 5 | 5/05/92 | 127024 |
| 1,1,1-Trichloroethane | ND | 5 | 5/05/92 | 127024 |
| 1,1,2-Trichloroethane | ND | 5 | 5/05/92 | 127024 |
| Trichloroethene | ND | 5 | 5/05/92 | 127024 |
| Vinyl acetate | ND | 10 | 5/05/92 | 127024 |
| Vinyl chloride | ND | 10 | 5/05/92 | 127024 |
| Xylenes, Total | ND | 5 | 5/05/92 | 127024 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | ( 70 - 121) |
| Toluene-d8 | 99 | ( 81 - 117) |
| Bromofluorobenzene | 99 | ( 74 - 121) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E040000-026

MATRIX: SOLID

BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acenaphthene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Acenaphthylene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Anthracene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzo(a)anthracene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzo(b)fluoranthene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzo(k)fluoranthene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzo(ghi)perylene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzo(a)pyrene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Chrysene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Dibenz[a,h]anthracene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Fluoranthene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Fluorene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Indeno(1,2,3-cd)pyrene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Methylnaphthalene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Naphthalene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Phenanthrene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Pyrene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Benzoic acid | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| Benzyl alcohol | ND | 330 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethoxy)methane | ND | 330 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroethyl)ether | ND | 330 | 5/03- 5/05/92 | 125026 |
| Bis(2-chloroisopropyl)ether | ND | 330 | 5/03- 5/05/92 | 125026 |
| Bis(2-ethylhexyl)phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Bromophenyl phenyl ether | ND | 330 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 50 | ( 30 - 115) |
| Terphenyl-d14 | 63 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 42 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 54 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E040000-026

MATRIX: SOLID

BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Butyl benzyl phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Chloroaniline | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Chloro-3-methylphenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Chloronaphthalene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Chlorophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Chlorophenyl phenyl ether | ND | 330 | 5/03- 5/05/92 | 125026 |
| Dibenzofuran | ND | 330 | 5/03- 5/05/92 | 125026 |
| Di-n-butyl phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| 1,2-Dichlorobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 1,3-Dichlorobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 1,4-Dichlorobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 3,3-Dichlorobenzidine | ND | 660 | 5/03- 5/05/92 | 125026 |
| 2,4-Dichlorophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| Diethyl phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2,4-Dimethylphenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| Dimethyl phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| Di-n-octyl phthalate | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4,6-Dinitro-2-methylphenol | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2,4-Dinitrotoluene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2,6-Dinitrotoluene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Hexachlorobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Hexachlorobutadiene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Hexachlorocyclopentadiene | ND | 330 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 50 | ( 30 - 115) |
| Terphenyl-d14 | 63 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 42 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 54 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E040000-026

MATRIX: SOLID

## BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Hexachloroethane | ND | 330 | 5/03- 5/05/92 | 125026 |
| Isophorone | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Methylphenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Methylphenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Nitroaniline | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| 3-Nitroaniline | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| 4-Nitroaniline | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| Nitrobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2-Nitrophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 4-Nitrophenol | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodi-n-propylamine | ND | 330 | 5/03- 5/05/92 | 125026 |
| N-Nitrosodiphenylamine | ND | 330 | 5/03- 5/05/92 | 125026 |
| Pentachlorophenol | ND | 1,300 | 5/03- 5/05/92 | 125026 |
| Phenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 1,2,4-Trichlorobenzene | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2,4,5-Trichlorophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| 2,4,6-Trichlorophenol | ND | 330 | 5/03- 5/05/92 | 125026 |
| Dibenzo(a,h)anthracene | ND | 330 | 5/03- 5/05/92 | 125026 |
| Cresols, Total | ND | 330 | 5/03- 5/05/92 | 125026 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 48 | ( 23 - 120) |
| 2-Fluorobiphenyl | 50 | ( 30 - 115) |
| Terphenyl-d14 | 63 | ( 18 - 137) |
| 2-Fluorophenol | 49 | ( 25 - 121) |
| Phenol-d5 | 42 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 54 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E050000-044

MATRIX: SOLID

BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Acenaphthene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Acenaphthylene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Anthracene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzo(a)anthracene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzo(b)fluoranthene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzo(k)fluoranthene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzoic acid | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| Benzo(ghi)perylene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzo(a)pyrene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Benzyl alcohol | ND | 330 | 5/05- 5/08/92 | 126044 |
| Bis(2-chloroethoxy)methane | ND | 330 | 5/05- 5/08/92 | 126044 |
| Bis(2-chloroethyl)ether | ND | 330 | 5/05- 5/08/92 | 126044 |
| Bis(2-chloroisopropyl)ether | ND | 330 | 5/05- 5/08/92 | 126044 |
| Bis(2-ethylhexyl)phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Bromophenyl phenyl ether | ND | 330 | 5/05- 5/08/92 | 126044 |
| Butyl benzyl phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Chloroaniline | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Chloro-3-methylphenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Chloronaphthalene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Chlorophenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Chlorophenyl phenyl ether | ND | 330 | 5/05- 5/08/92 | 126044 |
| Chrysene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Dibenzofuran | ND | 330 | 5/05- 5/08/92 | 126044 |
| Di-n-butyl phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 54 | ( 23 - 120) |
| 2-Fluorobiphenyl | 65 | ( 30 - 115) |
| Terphenyl-d14 | 86 | ( 18 - 137) |
| 2-Fluorophenol | 67 | ( 25 - 121) |
| Phenol-d5 | 61 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 65 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E050000-044

MATRIX: SOLID

BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 1,3-Dichlorobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 1,4-Dichlorobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 3,3'-Dichlorobenzidine | ND | 660 | 5/05- 5/08/92 | 126044 |
| 2,4-Dichlorophenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| Diethyl phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2,4-Dimethylphenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| Dimethyl phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |
| Di-n-octyl phthalate | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4,6-Dinitro-2-methylphenol | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| 2,4-Dinitrophenol | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| 2,4-Dinitrotoluene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2,6-Dinitrotoluene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Fluoranthene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Fluorene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Hexachlorobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Hexachlorobutadiene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Hexachlorocyclopentadiene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Hexachloroethane | ND | 330 | 5/05- 5/08/92 | 126044 |
| Indeno(1,2,3-cd)pyrene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Isophorone | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Methylnaphthalene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Methylphenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Methylphenol | ND | 330 | 5/05- 5/08/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 54 | ( 23 - 120) |
| 2-Fluorobiphenyl | 65 | ( 30 - 115) |
| Terphenyl-d14 | 86 | ( 18 - 137) |
| 2-Fluorophenol | 67 | ( 25 - 121) |
| Phenol-d5 | 61 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 65 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E050000-044

MATRIX: SOLID

## BASE/NEUTRALS AND ACIDS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Naphthalene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Nitroaniline | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| 3-Nitroaniline | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| 4-Nitroaniline | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| Nitrobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2-Nitrophenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| 4-Nitrophenol | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| N-Nitrosodi-n-propylamine | ND | 330 | 5/05- 5/08/92 | 126044 |
| N-Nitrosodiphenylamine | ND | 330 | 5/05- 5/08/92 | 126044 |
| Pentachlorophenol | ND | 1,600 | 5/05- 5/08/92 | 126044 |
| Phenanthrene | ND | 330 | 5/05- 5/08/92 | 126044 |
| Phenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| Pyrene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 1,2,4-Trichlorobenzene | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2,4,5-Trichlorophenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| 2,4,6-Trichlorophenol | ND | 330 | 5/05- 5/08/92 | 126044 |
| Dibenzo(a,h)anthracene | ND | 330 | 5/05- 5/08/92 | 126044 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Nitrobenzene-d5 | 54 | ( 23 - 120) |
| 2-Fluorobiphenyl | 65 | ( 30 - 115) |
| Terphenyl-d14 | 86 | ( 18 - 137) |
| 2-Fluorophenol | 67 | ( 25 - 121) |
| Phenol-d5 | 61 | ( 24 - 113) |
| 2,4,6-Tribromophenol | 65 | ( 19 - 122) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E040000-027

MATRIX: SOLID

PEST/PCB

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Aldrin | ND | 8 | 5/03- 5/06/92 | 125027 |
| alpha-BHC | ND | 8 | 5/03- 5/06/92 | 125027 |
| beta-BHC | ND | 8 | 5/03- 5/06/92 | 125027 |
| delta-BHC | ND | 8 | 5/03- 5/06/92 | 125027 |
| Lindane | ND | 8 | 5/03- 5/06/92 | 125027 |
| alpha-Chlordane | ND | 80 | 5/03- 5/06/92 | 125027 |
| gamma-Chlordane | ND | 80 | 5/03- 5/06/92 | 125027 |
| 4,4'-DDD | ND | 16 | 5/03- 5/06/92 | 125027 |
| 4,4'-DDE | ND | 16 | 5/03- 5/06/92 | 125027 |
| 4,4'-DDT | ND | 16 | 5/03- 5/06/92 | 125027 |
| Dieldrin | ND | 16 | 5/03- 5/06/92 | 125027 |
| Endosulfan I | ND | 8 | 5/03- 5/06/92 | 125027 |
| Endosulfan II | ND | 16 | 5/03- 5/06/92 | 125027 |
| Endosulfan sulfate | ND | 16 | 5/03- 5/06/92 | 125027 |
| Endrin | ND | 16 | 5/03- 5/06/92 | 125027 |
| Endrin ketone | ND | 8 | 5/03- 5/06/92 | 125027 |
| Heptachlor | ND | 8 | 5/03- 5/06/92 | 125027 |
| Heptachlor epoxide | ND | 8 | 5/03- 5/06/92 | 125027 |
| Methoxychlor | ND | 80 | 5/03- 5/06/92 | 125027 |
| Aroclor-1016 | ND | 80 | 5/03- 5/06/92 | 125027 |
| Aroclor-1221 | ND | 80 | 5/03- 5/06/92 | 125027 |
| Aroclor-1232 | ND | 80 | 5/03- 5/06/92 | 125027 |
| Aroclor-1242 | ND | 80 | 5/03- 5/06/92 | 125027 |
| Aroclor-1248 | ND | 80 | 5/03- 5/06/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 140 | ( 20 - 150) |
| Tetrachloro-m-xylene | 107 | ( 60 - 150) |

NOTE:
ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: A2E040000-027

MATRIX: SOLID

PEST/PCB

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Aroclor-1254 | ND | 160 | 5/03- 5/06/92 | 125027 |
| Aroclor-1260 | ND | 160 | 5/03- 5/06/92 | 125027 |
| Toxaphene | ND | 160 | 5/03- 5/06/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 140 | ( 20 - 150) |
| Tetrachloro-m-xylene | 107 | ( 60 - 150) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E040000-027

MATRIX: SOLID

PEST/PCB

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Chlordane | ND | 80 | 5/03- 5/06/92 | 125027 |
| Endrin aldehyde | ND | 16 | 5/03- 5/06/92 | 125027 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Dibutylchlorendate | 140 | ( 20 - 150) |
| Tetrachloro-m-xylene | 107 | ( 60 - 150) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E040000-043

MATRIX: SOLID

## POLYCHLORINATED BIPHENYLS

| PARAMETER | RESULT (ug/kg ) | REPORTING LIMIT | EXTRACTION-ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|
| Aroclor-1016 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1221 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1232 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1242 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1248 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1254 | ND | 80 | 5/04- 5/06/92 | 125043 |
| Aroclor-1260 | ND | 80 | 5/04- 5/06/92 | 125043 |

| SURROGATE RECOVERY | % | ACCEPTABLE LIMITS |
|---|---|---|
| Tetrachloro-m-xylene | 107 | ( 60 - 150) |

NOTE:
ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E010000-052 B

MATRIX: SOLID

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Solids, Total (TS) | ND | 0.5 | % | 5/01- 5/04/92 | 122052 |

NOTE:

ND (NONE DETECTED)

# INTRA-LAB BLANK REPORT

LAB #: A2E010000-054 B

MATRIX: SOLID

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

| PARAMETER | RESULT | REPORTING LIMIT | UNIT | PREPARATION - ANALYSIS DATE | QC BATCH |
|---|---|---|---|---|---|
| Solids, Total (TS) | ND | 0.5 | % | 5/01- 5/04/92 | 122054 |

NOTE:

ND (NONE DETECTED)

# MATRIX SPIKE REPORT

QC BATCH: 127029
LAB #: A2D290014-009 S
MATRIX: WATER

Not CLP's sample

WO #: 60042
PREPARATION DATE: 5/05/92
DATE ANALYZED: 5/05/92

## Volatile Organics, GC/MS

| COMPOUND | SPIKE PERCENT RECOVERY | SPIKE/DUP PERCENT RECOVERY | Q/C LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 78 | 76 | ( 68-126) | 4 | ( 0- 20) |
| Trichloroethene | 100 | 99 | ( 82-130) | 1 | ( 0- 13) |
| Chlorobenzene | 101 | 101 | ( 86-115) | 0 | ( 0- 10) |
| Toluene | 95 | 97 | ( 80-123) | 2 | ( 0- 15) |
| Benzene | 100 | 99 | ( 80-125) | 2 | ( 0- 13) |

# MATRIX SPIKE REPORT

QC BATCH: 127024
LAB #: A2D300039-016 S
MATRIX: SOLID

TP-10

WO #: 60495
PREPARATION DATE: 5/05/92
DATE ANALYZED: 5/05/92

## Volatile Organics, GC/MS

| COMPOUND | SPIKE PERCENT RECOVERY | SPIKE/DUP PERCENT RECOVERY | Q/C LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 128 | 125 | ( 59-153) | 3 | ( 0- 27) |
| Trichloroethene | 102 | 102 | ( 77-134) | 0 | ( 0- 16) |
| Chlorobenzene | 103 | 104 | ( 77-122) | 1 | ( 0- 20) |
| Toluene | 110 | 110 | ( 73-139) | 0 | ( 0- 21) |
| Benzene | 108 | 108 | ( 81-127) | 1 | ( 0- 19) |

# MATRIX SPIKE REPORT

QC BATCH: 103005
LAB #: D2D100007-003 S
MATRIX: SOLID

not CLP's Sample

WO #: 56475
PREPARATION DATE: 4/12/92
DATE ANALYZED: 4/13/92

## Base/Neutrals and Acids

| COMPOUND | SPIKE PERCENT RECOVERY | SPIKE/DUP PERCENT RECOVERY | Q/C LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 62 | 57 | ( 25-110) | 8 | ( 0- 60) |
| Acenaphthene | 76 | 76 | ( 10-149) | 0 | ( 0- 60) |
| 2,4-Dinitrotoluene | 80 | 83 | ( 10-138) | 4 | ( 0- 85) |
| Pyrene | 80 | 75 | ( 14-152) | 6 | ( 0- 61) |
| N-Nitrosodi-n-propylamine | 64 | 58 | ( 23-155) | 10 | ( 0- 32) |
| 1,4-Dichlorobenzene | 58 | 53 | ( 19-103) | 9 | ( 0- 61) |
| Pentachlorophenol | 92 | 104 | ( 10-162) | 13 | ( 0- 67) |
| Phenol | 64 | 58 | ( 10-114) | 11 | ( 0-100) |
| 2-Chlorophenol | 62 | 56 | ( 10-113) | 11 | ( 0- 20) |
| 4-Chloro-3-methylphenol | 80 | 70 | ( 10-149) | 13 | ( 0- 93) |
| 4-Nitrophenol | 62 | 66 | ( 10-160) | 7 | ( 0- 88) |

# MATRIX SPIKE REPORT

QC BATCH: 105038
LAB #: D2D140010-009 S
MATRIX: SOLID

Not CLPS Sample

WO #: 57162
PREPARATION DATE: 4/14/92
DATE ANALYZED: 4/16/92

PEST/PCB

| COMPOUND | SPIKE PERCENT RECOVERY | SPIKE/DUP PERCENT RECOVERY | Q/C LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|
| Lindane | 110 | 115 | ( 50-150) | 4 | ( 0- 51) |
| Heptachlor | 125 | 130 | ( 20-173) | 4 | ( 0- 73) |
| Aldrin | 90 | 90 | ( 49-145) | 0 | ( 0- 42) |
| Dieldrin | 114 | 116 | ( 43-158) | 2 | ( 0- 43) |
| Endrin | 118 | 120 | ( 47-151) | 2 | ( 0- 45) |
| 4.4'-DDT | 100 | 106 | ( 24-154) | 6 | ( 0- 50) |

# MATRIX SPIKE REPORT

QC BATCH: 125043
LAB #: A2D300039-011 S
MATRIX: SOLID

TP-90

WO #: 60489
PREPARATION DATE: 5/04/92
DATE ANALYZED: 5/06/92

- - - - - - - - - - - - - - - - - -Polychlorinated Biphenyls - - - - - - - - - - - - - - - - -

| COMPOUND | SPIKE PERCENT RECOVERY | SPIKE/DUP PERCENT RECOVERY | Q/C LIMITS | RPD | RPD LIMITS |
|---|---|---|---|---|---|
| Aroclor-1248 | 80 | 75 | ( 53-124) | 6 | ( 0- 27) |

**CRA** Consulting Engineers
**CONESTOGA-ROVERS & ASSOCIATES**
651 Colby Drive, Waterloo, Ontario Canada N2V 1C2

SHIPPED TO (Laboratory name):
WADSWORTH ALERT LABS
N. CANTON, OHIO

# CHAIN OF CUSTODY RECORD

PROJECT Nº: 4687

PROJECT NAME:
R&D ENGINEERING
NCND 42" WATER LINE

SAMPLER'S SIGNATURE _____ (SIGN)

| SEQ. Nº. | SAMPLE Nº. | DATE | TIME | SAMPLE LOCATOIN | SAMPLE TYPE | Nº OF CONTAINERS | REMARKS |
|---|---|---|---|---|---|---|---|
| | TP-9 | 4/29/92 | 1500 | 4.0 - 8.5' | SOIL | 1 | 100ml TCL VOCs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100 ml TCL BNAs |
| | TP-9 | 4/29/92 | 1500 | — | | 1 | 100 ml TCL Pest/PCBs |
| | TP-7 | 4/29/92 | 1030 | — | Groundwater | 2 | 40ml VOCs w/ HCl |
| | TP-16 | 4/29/92 | 1000 | — | ↓ | 2 | 40ml VOCs w/ HCl |
| | TP-16 | 4/29/92 | 1000 | 3.5-8.0' | SOIL | 2 | 40ml VOCs w/ HCl |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL VOCs |
| | TP-10 | 4/29/92 | 1730 | 3.0-7.5' | SOIL | 1 | 100ml TCL BNAs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL Pest/PCBs |
| | | | | | | 1 | 100ml TCL VOCs |
| | | | | | | 1 | 100ml TCL BNAs |
| | | | | | | 1 | 100 ml TCL Pest/PCBs |
| | | | | | | 2 | VOCs MS/MSD |
| | | | | | | 2 | [redacted] BNAs MS/MSD |
| | TRIP BLANK | 4/29/92 | — | — | | 2 | Pest/PCB MS/MSD |
| | TEMP BLANK | 4/29/92 | — | — | LAB WATER | 2 | 40ml TCL VOCs |
| | | | | | " | 1 | 40ml TEMP |
| | | | | TOTAL NUMBER OF CONTAINERS | | | |

ANTICIPATED CHEMICAL HAZARDS: UNKNOWN - TCE & PCBs

| | | | |
|---|---|---|---|
| RELINQUISHED BY: 1 (SIGN) K. P. Lee | DATE/TIME 4/29/92 1900 | RECEIVED BY: 2 (SIGN) | |
| RELINQUISHED BY: 2 (SIGN) | DATE/TIME | RECEIVED BY: 3 (SIGN) | |
| RELINQUISHED BY: 3 (SIGN) | DATE/TIME | RECEIVED BY: 4 (SIGN) | |
| ADDITIONAL SIGNATURE SHEET REQUIRED ☐ | | | |

| | | | |
|---|---|---|---|
| METHOD OF SHIPMENT: Federal Express | SHIPPED BY: KPL | RECEIVED FOR LABORATORY BY: (SIGN) Lou Mancuso | DATE/TIME 4/30/92 10:38 |
| CONDITION OF SEAL UPON RECEIPT: intact | | COOLER OPENED BY: (SIGN) Lou Mancuso | DATE/TIME 4/30/92 10:38 |
| GENERAL CONDITION OF COOLER: good | | | |

WHITE – CRA OFFICE COPY
YELLOW – RECEIVING LABORATORY COPY
PINK – CRA LABORATORY COPY
GOLDEN ROD – SHIPPERS

Nº 012929

**CRA** Consulting Engineers
**CONESTOGA-ROVERS & ASSOCIATES**
651 Colby Drive, Waterloo, Ontario Canada N2V 1C2

SHIPPED TO (Laboratory name): WADSWORTH ALERT LABS N. CANTON OHIO

# CHAIN OF CUSTODY RECORD

PROJECT Nº: 4687

PROJECT NAME: R&D ENGINEERING NCWD 42" WATER LINE

SAMPLER'S SIGNATURE: K. P. Lyn (SIGN)

| SEQ. Nº. | SAMPLE Nº. | DATE | TIME | SAMPLE LOCATOIN | SAMPLE TYPE | Nº OF CONTAINERS | REMARKS |
|---|---|---|---|---|---|---|---|
| | TP-6 | 4/28/92 | 1045 | 0.0-8.5' | SOIL | 1 | 100ml PCBs |
| | TP-5 | " | 1355 | 4.5-8.5' | SOIL | 1 | 100ml TCL VOCs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL BNAs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL Pest/PCBs |
| | TP-5 | 4/28/92 | 1400 | 0.0 - 4.5' | SOIL | 1 | 100ml TCL VOCs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL BNAs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL Pest/PCBs |
| | TP-4 | 4/28/92 | 1500 | 0.0 - 9.5 | SOIL | 1 | 100ml PCBs |
| | TP-4 | 4/28/92 | 1500 | — | Groundwater | 2 | 40ml TCL VOCs w/ HCL |
| | TP-3 | 4/28/92 | 1620 | 0.0 - 10.5' | SOIL | 1 | 100ml PCBs |
| | TP-15 | 4/28/92 | 1645 | 0.0 - 8.5' | SOIL | 1 | 100ml PCBs |
| | TP-2 | 4/29/92 | 0800 | 0.0 - 12.0' | SOIL | 1 | 100ml PCBs |
| | TP-1 | 4/29/92 | 0900 | 0.0 - 12.5' | SOIL | 1 | 100ml PCBs |
| | TP-7 | 4/29/92 | 1030 | 3.0 - 8.5' | SOIL | 1 | 100ml TCL VOCs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL BNAs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml TCL Pest/PCB |
| | TP-8 | 4/29/92 | 1200 | 2.5 - 7.0' (2.5) | SOIL | 1 | 100ml PCBs |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml PCBs MS |
| | ↓ | ↓ | ↓ | ↓ | ↓ | 1 | 100ml PCBs MSD |
| | | | | TOTAL NUMBER OF CONTAINERS | | 20 | SUBTOTAL |

ANTICIPATED CHEMICAL HAZARDS: UNKNOWN - TCE & PCBS

| | | |
|---|---|---|
| RELINQUISHED BY: 1 K. P. Lyn (SIGN) | DATE/TIME 4/29/92 1900 | RECEIVED BY: 2 (SIGN) |
| RELINQUISHED BY: 2 (SIGN) | DATE/TIME | RECEIVED BY: 3 (SIGN) |
| RELINQUISHED BY: 3 (SIGN) | DATE/TIME | RECEIVED BY: 4 (SIGN) |
| ADDITIONAL SIGNATURE SHEET REQUIRED ☐ | | |

| | | | |
|---|---|---|---|
| METHOD OF SHIPMENT: Federal Express | SHIPPED BY: K. Lyn | RECEIVED FOR LABORATORY BY: (SIGN) Lou Monaco | DATE/TIME 4/30/92 10:58 |
| CONDITION OF SEAL UPON RECEIPT: intact<br>GENERAL CONDITION OF COOLER: good | | COOLER OPENED BY: (SIGN) Lou Monaco | DATE/TIME 4/30/92 10:38 |

WHITE – CRA OFFICE COPY
YELLOW – RECEIVING LABORATORY COPY
PINK – CRA LABORATORY COPY
GOLDEN ROD – SHIPPERS

Nº 012928