| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Site ID# | 8903 | | | | | | | | | | | | | | |
| Name | Laidlaw Transit,Inc | T | **Existing Tanks** | | | | **Tanks Removed** | | | | | | | | |
| Location: Address | 2021 32nd Ave | A | No. | 1 | | | No. | | | 5 | | | | | |
| City | Rochester | N | Sizes | 15k | | | Sizes | | | 10k | 19k | 1k | 560 | 560 | |
| County | Olmstead | K | Date Installed | Aug-96 | | | Date Installed | | | Sep-82 | Sep-82 | Sep-82 | Sep-82 | Sep-82 | |
| Zip | | I | Product | dies | | | Date Removed | | | Aug-96 | Aug-96 | Aug-96 | Aug-96 | Aug-96 | |
| Report Date | 8/13/96 | N | Meets 1998 Standards? | | | | Product | | | gas | dies | WO | MO | MO | |
| Active | | F | UST/AST | ust | | | UST/AST | | | ust | ust | ust | ust | ust | |
| Closure Date | 6/11/96 | O | | | | | | | | | | | | | |
| Groundwater Impact | no | | | | | | | | | | | | | | |
| Surficial Geology | sand | | Monitoring Wells | | | | | | | | | | | | |
| Depth to water | na | | | | | | | | | | | | | | |
| Depth to bedrock | na | | Uppermost Bedr | na | | | | | | | | | | | |
| Groundwater Flow | na | | | | | | | | | | | | | | |
| Plume Dimension | no | | | ppb | B | T | E | X | GRO | DRO | MTBE | | | | |
| length | | G | Highest reading | 10/26/95 | bdl | 580 | bdl | bdl | na | 4.4M | na | | | | |
| width | | W | Highest recent | | | | | | | | | | | | |
| depth | | C | At site closure | | | | | | | | | | | | |
| UST/AST ID# | 4697 | H | Downgradient | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Remediation: | | | | | | | | | | | | | | | |
| Type | | | Data compiled | 5/7/97 | | | | | | | | | | | |
| Method | | | | | | | | | | | | | | | |
| Date Commenced | | | | | | | | | | | | | | | |
| Comments: | | | | | | | | | | | | | | | |

## Key to Summaries

I. Remediation
- gwe= groundwater extraction
- sve= soil vapor extraction

II. Product
- alc= alcohol
- kero=kerosene
- gas= gasoline
- unl= unleaded gas
- FO= fuel oil
- MO= motor oil
- dies= diesel
- WO= waste oil
- anti= anti-freeze
- TF= Transmission fluid
- solvent= solvent
- HF= heating fuel, fuel oil
- df= diesel fuel
- eth= ethanol

ust= underground storage tank
ast= above ground storage tank

III. Uppermost bedrock
- OPDC= Ordovician Prairie du Chien
- OSTP= Ordovician St. Peter
- DGAL= Devonian Galena formation

IV. Groundwater Chemistry
- B = benzene
- T = toulene
- E = ethylbenzene
- X= xylenes
- GRO= gasoline range organics
- DRO= diesel range organics
- MTBE= Methyl tertiary butyl ether
- bdl = below detection level
- nd = non-detect

# MINNESOTA POLLUTION CONTROL AGENCY
## TANKS AND SPILLS SECTION
## PETROLEUM TANK RELEASE REPORT

Report Taken By: KJG

Date/Time Occurred:

Date/Time Reported: 10/30/95

Date/Time Discovered: 10/30/95

**LEAK#** 8903 **PROJECT MANAGER:** SRB **USTIS #**

**CALLER**
Name: Larry Kramer
Phone: (507) 289-4541
Relationship to site: Laidlow Transit

**SITE**
Name: Laidlow Transit Bus Garage
Street: 2021 32nd Ave NW
City: Rochester Zip: 55901
County: Olmsted Region: 5

**TANK OPERATOR**
Name:
Street:
City: Zip:
Contact Person:
Phone:

**TANK OWNER**
Name: Laidlow Transit
Street: 2021 32nd Ave NW
City: Rochester St.: MN Zip 55901
Contact Person: Larry Kramer
Phone: 507 289-4541

Own tanks/product/property?
Share in profits?
Control over inventory, maintenace and tank decisions?

**SITUATION**

| Material Released/Amount: | Source of Release: | Release Discovery: |
|---|---|---|
| Hydraulic fluid | Hyd. Hoist | Site Assessment |

**TANK INFORMATION**

| Contents | Size | Age | Removed | Condition | Registered |
|---|---|---|---|---|---|
| Hyd. Fluid | 240 gal | | | Just taken out of service | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

State or Federal Notification prior to removal:
Excavation Contractor: Consultant: LT Corp

**SOIL**

Contaminated soil excavated: no
Was it a total excavation:
Vapor readings: 2ppm PID
Soil samples: 4400ppm DRO
Borings: 1 - 9-10'
Native soil type: clay & silt
Stockpiled properly/disposal arranged:
Other:

- Barry Snyder (612) 633-0792

Leak thought to be from cylinder underground

- Prev. reported leak at same site - #5617 - not related

**WATER**

Groundwater in excavation:

Free product present:

Depth to groundwater:

City water/wells private/municipal:

Surface water:

**VAPORS**

Sewers/buildings:

**SITE INFORMATION**

Description of area:

Previous release(s):

| **INSTRUCTION GIVEN** | **CONTACTS** |
|---|---|
| Hire consultant | Local Fire/Police |
| Submit report | Local Officials |
| Staff will call | Regional Staff |
| Contact staff | Other |

**CONCLUSIONS AND OTHER RELATED INFORMATION**

To: MPCA TANKS

STATE OF MINNESOTA

DEPARTMENT OF PUBLIC SAFETY - DIVISION OF EMERGENCY MANAGEMANT
B-5 STATE CAPITOL, SAINT PAUL, MN 55155-1049

8903 SRB

*MINNESOTA DUTY OFFICER*

# HAZARDOUS MATERIAL INCIDENT REPORT: *TANKS*

REPORT DATE: 10-30-95 TIME: 1004 DUTY OFFICER: Mark RECORD#:

**REPORTED BY:**

NAME: Larry Kramer
C/O: Laidlaw Transit.
ADDRESS: 2021 32nd Ave N.W.
CITY: Rochester STATE:
PHONE: 507-289-4541 ZIP: 55901
ALT.PHONE:

**SUSPECTED SOURCE/RESPONSIBLE PARTY:**

CONTACT:
C/O: - same -
ADDRESS:
CITY: STATE:
PHONE: ZIP:
ALT.PHONE:

DISCOVERY DATE:_____ TIME:_____
SITE NAME & LOCATION: same as listed above.
- D. Imsteads Co. -
LEGAL:_____ SECTION:_____ TOWNSHIP:_____ RANGE:_____
NUMBER/SIZE OF TANK(S):_____
TANK CONTENTS:_____
NATIVE SOIL TYPE:_____
PREVIOUSLY REPORTED SITE?: YES / NO / UNKNOWN LEAK #:_____
CONTAMINATED SOIL EXCAVATED?: YES / (NO) / UNKNOWN QUANTITY:_____
GROUND WATER ENCOUNTERED?: YES / NO / UNKNOWN DEPTH TO GW:_____
FREE PRODUCT FOUND?: YES / NO
STAINED SOIL?: YES / NO — PETROLEUM ODORS: YES / NO
HIGH VAPOR READINGS:_____ ANALYTICAL RESULTS:_____

NARRATIVE: Soil Borings by Hydraulic Boista - pet cont soil detected.

HAS MATERIAL ESCAPED FACILITY PROPERTY?: YES / NO / UNKNOWN

***IS THIS A BUSINESS OR GOVERNMENT FACILITY REPORTING IN COMPLIANCE WITH SARA TITLE III, SECTION 304?: YES / NO / UNKNOWN (IF YES, COMPLETE PAGE TWO: SARA SUPPLEMENT)*

**DUTY OFFICER NOTIFICATIONS MADE (AGENCY, NAME, TIME)**

| | |
|---|---|
| MPCA - Conf. Call - K. Gregg - 1008 | |
| MPCA - Fax. | |
| MPCA Region V - Fax. | |
| | |

*QUESTIONS? CONTACT THE MINNESOTA DUTY OFFICER AT 649-5451 OR 1-800-422-0798*

# Minnesota Pollution Control Agency

June 11, 1996

Mr. Larry Kramer
Rochester School Bus Company
2021 32nd Avenue
Rochester, Minnesota 55901

**RE: Petroleum Tank Release Site File Closure**
Site: Rochester School Bus Company, Rochester, MN
Site ID#: Leak00008903

Dear Mr. Kramer:

We are pleased to inform you that the Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section (TERS) has determined that your investigation has adequately addressed the petroleum tank release at the site listed above. Based on the information provided, the TERS has closed the release site file.

Closure of the file means that the TERS requires no additional investigation and/or clean-up work at this time or in the foreseeable future. Please be aware that file closure does not necessarily mean that all petroleum contamination has been removed from this site. However, the TERS has concluded that any remaining contamination, if present, does not appear to pose a threat to public health or the environment.

The MPCA reserves the right to reopen this file and to require additional investigation and/or clean-up work, if new information or changing regulatory requirements make additional work necessary. If you, or other parties, discover additional contamination (either petroleum or nonpetroleum) that was not previously reported to the MPCA, Minnesota law requires that the MPCA be immediately notified.

You should understand that this letter does not release any party from liability for the petroleum contamination under Minn. Stat. ch. 115C (1994), or any other applicable state or federal law. In addition, this letter does not release any party from liability for nonpetroleum contamination, if present, under Minn. Stat. ch. 115B (1994), the Minnesota Superfund Law.

2116 Campus Drive S.E.; Rochester, Minnesota 55904; (507) 285-7343, FAX (507) 280-5513
Central Office: St. Paul Regional Offices: Duluth • Brainerd • Detroit Lakes • Marshall • Rochester

**Because you performed the requested work, the state may reimburse you for a major portion of your costs. The Petroleum Tank Release Cleanup Act establishes a fund which may provide partial reimbursement for petroleum tank release clean-up costs. This fund is administered by the Department of Commerce Petro Board. Specific eligibility rules are available from the Petro Board at 612/297-1119 or 612/297-4203.**

If future development of this property or the surrounding area is planned, it should be assumed that petroleum contamination may still be present. If petroleum contamination is encountered during future development work, the MPCA staff should be notified immediately.

For specific information regarding petroleum contamination that may remain at this leak site, please call the TERS File Request Program at 612/297-8499. The *"Leak/Spill and Underground Storage Tank File Request Form"* (TERS Fact Sheet #3.36) must be completed prior to arranging a time for file review.

Thank you for your response to this petroleum tank release and for your cooperation with the MPCA to protect public health and the environment. If you have any questions regarding this letter, please call me at 507/280-2996.

Sincerely,

Sandeep R. Burman
Project Manager, Southeast Region
Tanks and Emergency Response

SRB/ml

cc: Judy K. Scheer - Rochester City Clerk
David Kaplar - Rochester Fire Chief
Terry Lee - Olmsted County Water Plan Coordinator
Barry Schneider - IT Corporation, St. Paul, MN
Barry Poole - Laidlaw Transit Inc., Naperville, IL
Petrofund Staff - Minnesota Department of Commerce, St. Paul, MN

# Minnesota Pollution Control Agency

May 17, 1996

Larry Kramer
Rochester School Bus Company
2021 32nd Avenue
Rochester, MN 55901

**RE: Request For Additional Information**
Site: Rochester School Bus Company, Rochester, MN.
Site ID#: LEAK00008903

Dear Mr. Kramer:

The Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section has reviewed the report titled, " Pre-Removal Site Assessment ", received on May 14, 1996. Based upon the information provided in the report, it appears that the present residual contamination at the site does not pose any risk to human health or the environment significant enough to require additional investigation or remediation.

However, it is not clear as to whether the cause for this release has been addressed or not. This is especially important if it is planned to keep the hoist in service. The MPCA requests that you provide information regarding the future use of the hydraulic hoist system that appears to be have been responsible for the present release. If this hoist is going to stay in operation, please document all repairs or modifications performed by you to the hydraulic system to ensure that there is no on-going release or the potential of a future release due to the same causes.

The MPCA will require this information to complete its assessment of the site for closure. Please provide the above information within **thirty ( 30 )** days of receipt of this letter.

If you have any questions regarding this letter, please contact me at 507/280-2996.

Sincerely,

Sandeep R. Burman
Project Manager, Southeast Region
Tanks and Emergency Response Section

cc: Barry Schneider, IT Corporation, St. Paul, MN.
Barry Poole, Laidlaw Transit Inc., Naperville, IL.

# Minnesota Pollution Control Agency

November 3, 1995

Mr. Larry Kramer
Laidlow Transit
2021 32nd Avenue Northwest
Rochester, Minnesota 55901

RE: Petroleum Storage Tank Release Investigation and Corrective Action
Site: Laidlow Transit Bus Garage, 2021 32nd Avenue Northwest, Rochester
Site ID#: LEAK00008903

Dear Mr. Kramer:

**Notice of Release**

The Minnesota Pollution Control Agency (MPCA) has received notification that a release of petroleum has occurred from storage tank facilities which you own and/or operate that has resulted in contamination of soil and/or ground water.

**Legal Obligations**

Federal and state laws require that persons legally responsible for storage tank releases notify the MPCA of the release, investigate the extent of the release and take actions needed to ensure that the release is cleaned up. A person is considered legally responsible for a tank release if the person owned or operated the tank either during or after the release, unless specifically exempted under the law. See Minn. Stat. § 115C.021 (1992). If you believe that you are not legally responsible for this storage tank release, please submit a written explanation of your position to the MPCA within 30 days.

If you are not legally responsible for the release, but hold legal or equitable title to the property where the release occurred, you may volunteer to take corrective action. Responsible persons and volunteers who take corrective action may be eligible for reimbursement for a major portion of the costs of corrective action. The legislature has established the Petroleum Tank Release Cleanup Account to reimburse responsible persons and volunteers. The account is administered by the Petro Board which is part of the Minnesota Department of Commerce. Final decisions regarding the amount of reimbursement are made by the Petro Board. All questions about eligibility and reimbursement should be directed to the Petro Board at 612/297-1119 or 612/297-4203.

**Request to Take Corrective Action**

The MPCA staff is requesting you to take the steps necessary to investigate and clean up the release in accordance with the enclosed MPCA fact sheets. The MPCA requires that you conduct a site investigation to define the full extent and magnitude of the soil and/or ground water contamination caused by the release. A report which details the results of the investigation or concludes that excavation was sufficient to address the release for cleanup (Excavation Report and/or Remedial Investigation/Corrective Action Design (RI/CAD)) must be submitted to this office within 10 months of the date of this letter. Please refer to MPCA fact sheets for information pertaining to the degree of investigative work necessary at petroleum release sites.

Sites with free product, drinking water supply impacts, fire or explosion hazards, or ground water impacts which pose a significant threat to public health or the environment, are considered high priority for staff review. If one or more of these situations apply to your site, an RI/CAD report must be submitted within 90 days. In addition, if you know or discover that there is free-floating petroleum in a well, excavation, or borehole, you must notify the MPCA within 24 hours and IMMEDIATELY begin interim free product recovery.

If you have not already done so, the MPCA recommends that you hire a qualified consulting firm registered with the Petro Board that has experience in conducting petroleum release site investigations and in proposing and implementing appropriate corrective actions. A list of registered contractors and consultants is available from the Minnesota Department of Commerce. The MPCA reserves the right to reject proposed corrective actions if the requirements of the site investigation have not been fulfilled. Please note that, under Minn. Rules pt. 2890.0075, subp. 2, you must solicit a minimum of two competitive proposals on a form prescribed by the Petro Board to ensure that the consulting costs are reasonable. Questions about bidding requirements should be directed to Petro Board staff.

**Required Response**

MPCA staff requests a written or verbal response to this letter within 30 days. In your response, please tell us whether you intend to comply with the above requirements. If you do not respond within this time frame, the MPCA staff will assume that you do not intend to comply, in which case the MPCA Commissioner may order you to take corrective action. If you do not comply with the Commissioner's order, it may be enforced in court or, alternatively, the MPCA could use state funds to clean up the release and then request the Attorney General to recover its costs from you through legal action. Failure to cooperate with the MPCA in a timely manner will also result in reduced reimbursement from the Petro Board. See Minn. Rules pt. 2890.0065, subp. 1, item C.

The enclosed fact sheets will provide you with the information necessary to complete a successful investigation and cleanup.

If you have any questions concerning this letter or need additional information, please contact me at 507/280-2996 located at the MPCA Rochester Regional Office, 2116 Campus Drive Southeast, Rochester, Minnesota 55904. Please reference the above LEAK # in all correspondence.

Sincerely,

for Sandeep Burman
Project Manager
Tanks and Emergency Response Section

SB:vs

Enclosures

cc: Carole Grimm, City Clerk, Rochester
David Kaplar, Fire Chief, Rochester
Gene Mossing, Olmsted County Solid Waste Officer

INTERNATIONAL TECHNOLOGY CORPORATION

Regional Office

1801 Old Highway 8—Suite 124
St. Paul, Minnesota 55112-2307
612-633-0792
Fax: 612-633-1596

June 6, 1996

Project No. 766202

Mr. Sandeep Burman
Minnesota Pollution Control Agency
2116 Campus Drive S.E.
Rochester, MN 55904



Response to Request on
Pre-Removal Site Assessment Report
Rochester School Bus Company Site
Rochester, Minnesota
Leak No. 8903

Dear Mr. Burman:

IT Corporation (IT) is submitting this letter, on behalf of Laidlaw Transit, Inc. (Laidlaw), with a response to your request (May 17, 1996) for additional information regarding the status of the hydraulic hoist system. Laidlaw personnel have sealed the hydraulic lines leading to the leaking hydraulic floor hoist and have discontinued use of the hoist. At this time Laidlaw has no current or future plans to use the hoist. If the hoist is placed back into service Laidlaw will document all repairs or modifications performed.

Please call if you have any questions.

Sincerely,

IT CORPORATION

Barry Schneider
Project Scientist

cc: Barry Poole, Laidlaw
Larry Kramer, Rochester School Bus Company

SP\6-96\766202\RESPONSE

# PRE-REMOVAL SITE ASSESSMENT
# ROCHESTER SCHOOL BUS COMPANY
# 2021 32ND AVENUE
# ROCHESTER, MINNESOTA

**Prepared for:**

**Laidlaw Transit, Inc.**
**1240 East Diehl**
**Naperville, IL 60563**

**Prepared by:**

**IT Corporation**
**1801 Old Highway 8, Suite 124**
**St. Paul, Minnesota 55112**

**Project No. 766202**

**May 1996**

## Executive Summary

A Pre-Removal Site Assessment was conducted on March 6, 1996 to identify if removal and corrective action was needed at the location of a hydraulic fluid release from a subsurface hydraulic floor hoist at the Rochester School Bus Company site in Rochester, Minnesota. No detections of BETX were reported in subsurface soil samples collected at the source or in the vicinity of the release during this assessment. PID screening of subsurface soil samples did not reveal the presence of volatiles in the soils. DRO was detected in subsurface soil samples collected near the hydraulic hoist at 1,200 mg/kg and in soil samples collected at a location 15 feet southeast of the release source at 100 mg/kg. Groundwater was encountered approximately 16 feet below ground surface at the source, but inadequate water sample was recoverable for testing. A sediment sample was recovered from the geoprobe where groundwater was encountered near the source and tested below detection limits for BETX and at 1.6 mg/kg TPH as fuel oil.

No further action is recommended based on the following:

- BETX was not identified in subsurface soil samples collected at the source of the hydraulic fluid release or in soil samples collected in the vicinity of the source.
- The release was limited to approximately 100 gallons.
- Use of the leaking hydraulic hoist has been discontinued and the leaking hydraulic line has been isolated from the hydraulic fluid reservoir to prevent any further release.
- A subsurface soil investigation indicates the hydraulic fluid remains in the near vicinity of the release point (elevated DRO results), but the DRO remains near the release point and the release area is beneath a concrete floor and maintenance building.

# Table of Contents

## List of Tables



## List of Figures



## List of Appendices

# 1.0 Introduction

This report describes the Pre-Removal Site Assessment completed at:

Rochester School Bus Company
2021 32nd Avenue
Rochester, Minnesota

At the request of Laidlaw Transit, Inc., IT Corporation (IT) conducted a pre-removal site assessment to identify the potential impacts of an underground hydraulic line leak associated with a hydraulic floor hoist located in the maintenance garage of the Rochester School Bus Company, Rochester, Minnesota.

The following activities were performed as part of the site assessment:

- Prepared a Health and Safety Plan
- Advanced a geoprobe at the source of the underground hydraulic line leak; collected and analyzed two soil samples for diesel range organics (DRO) and benzene, ethylbenzene, toluene, and xylenes (BETX); tested one sediment sample for BETX.
- Advanced three geoprobes at areas around the underground hydraulic line leak source; collected and analyzed two soil samples per geoprobe location for DRO and BETX.
- Prepared a report detailing site assessment results.

# 2.0 Site Location and History

## 2.1 Geographical Description

The site is located in Olmsted County, in the City of Rochester, Minnesota. The property is in the southeast quarter of the northwest quarter of Section 28, Township 107 North, Range 14 West (Figure 1) and located on the western edge of Rochester.

## 2.2 Facility Characterization and Leak History

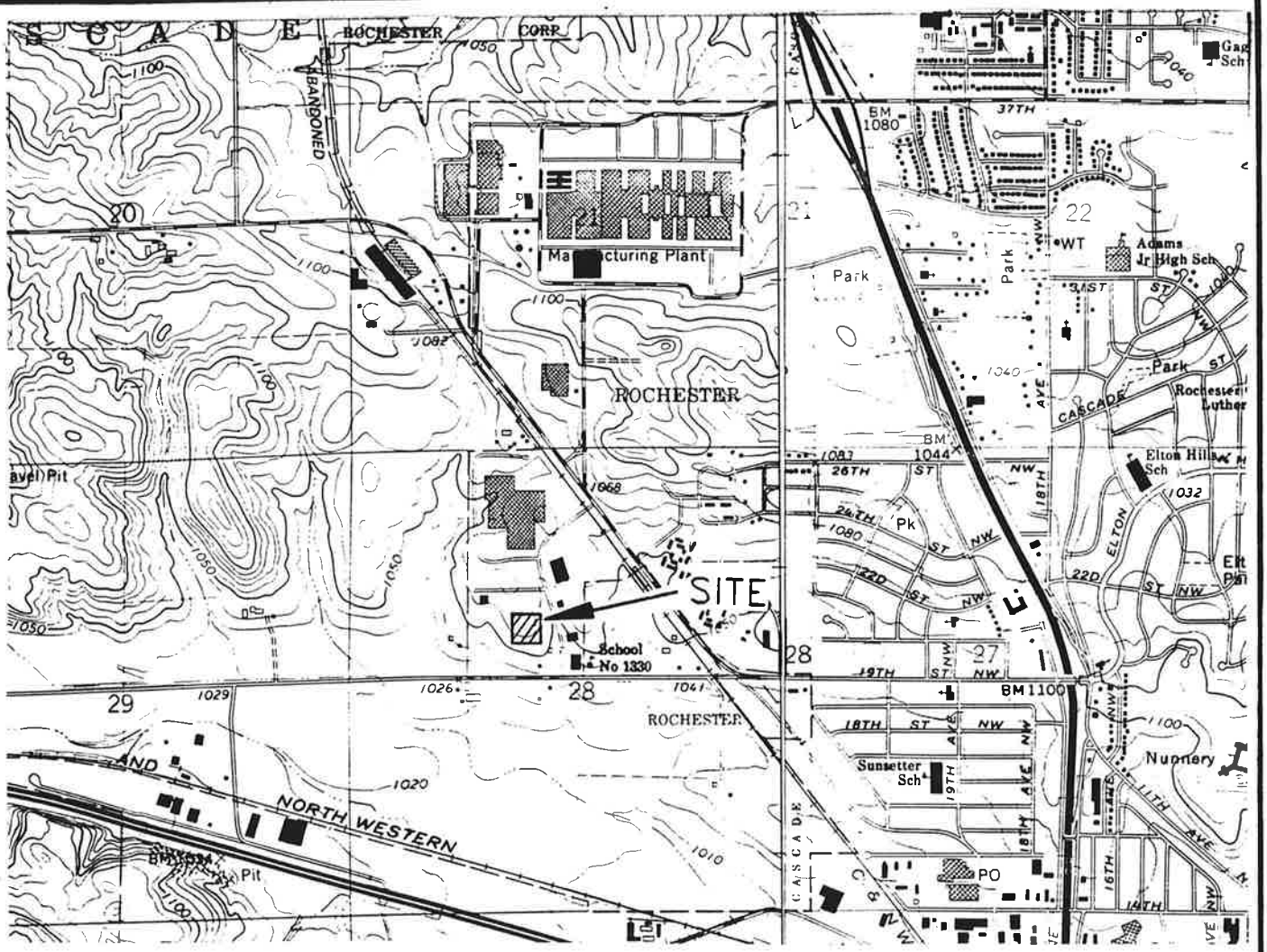
The facility is located on the west side of 2021 32nd Avenue. The facility consists of an office/maintenance garage/wash building, bus shelters, parking and driveway areas.

On October 31, 1995 the Minnesota Pollution Control Agency (MPCA) was notified that a release of hydraulic oil from an underground floor hoist had occurred at the site. Initial subsurface soil testing, completed by IT Corporation in October 1995, identified the release to be associated with one of two underground hydraulic floor hoists located in the maintenance garage at the site. High concentrations of DRO were identified in subsurface soil samples collected near the hydraulic hoist located at the north end of the maintenance building. DRO was not identified in subsurface soil samples collected at the location of a hydraulic hoist at the south end of the maintenance garage.

Mr. Kramer, representative of the Rochester School Bus Company, stated that approximately 100 gallons of hydraulic fluid may have been released from the hydraulic hoist system. The hydraulic hoist identified as the source of the hydraulic fluid release was taken out of service and the hydraulic line isolated from the hydraulic system (fluid reservoir and the other hydraulic hoist). Subsequent checks on the hydraulic fluid reservoir after the isolation of the leak area indicate no further release of hydraulic fluid from the reservoir. A schematic diagram of the hydraulic hoist equipment indicated the base of the hoists were installed at 9 to 10 feet below the ground surface.

Figure 2 depicts the layout of the maintenance building, location of the leaking hydraulic hoist and sample locations.

| DRAWN BY | CHECKED BY | APPROVED BY | DRAWING NUMBER |
|---|---|---|---|
| EC Cook 9/26/84 | [illegible] | [illegible] | Laidlaw Fig 1 |




SCALE 1:24 000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SOURCES: USGS ROCHESTER, MINN. (1972)
7.5 MINUTE SERIES (TOPOGRAPHIC)
PHOTOREVISED 1979

USGS DOUGLAS, MINN. (1966)
7.5 MINUTE SERIES (TOPOGRAPHIC)
PHOTOREVISED 1982

**FIGURE 1**
**AREA MAP**

**ROCHESTER SCHOOL BUS COMPANY SITE**
**ROCHESTER, MINNESOTA**

**PREPARED FOR**

**LAIDLAW TRANSIT, INC.**
**NAPERVILLE, ILLINOIS**

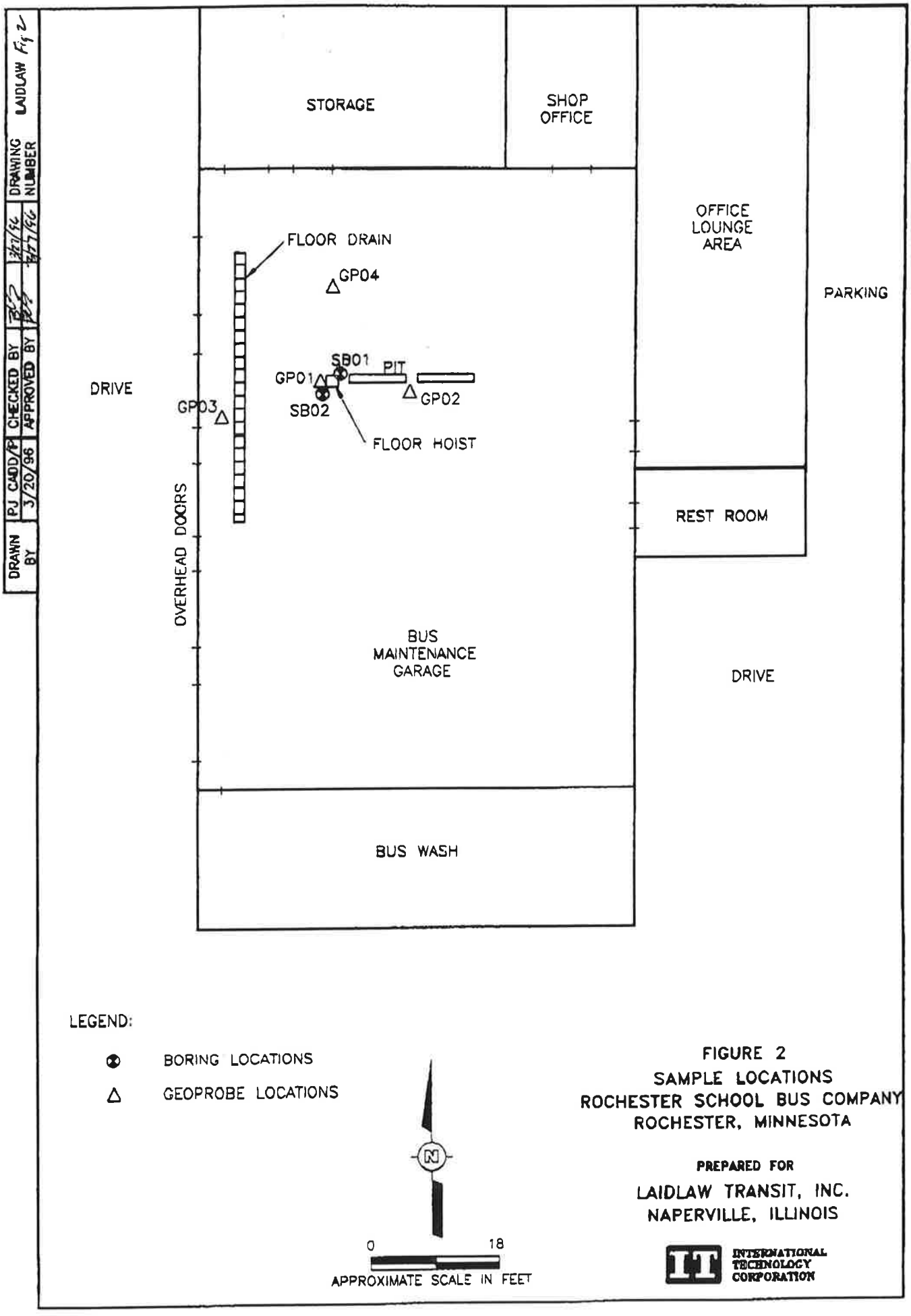

QUADRANGLE LOCATION

INTERNATIONAL TECHNOLOGY CORPORATION



"Do Not Scale This Drawing"

068359


LAIDLAW Fig 2
DRAWING NUMBER
CHECKED BY
APPROVED BY
PJ CADD/AP
3/20/96
DRAWN BY
STORAGE
SHOP OFFICE
OFFICE LOUNGE AREA
PARKING
FLOOR DRAIN
GP04
SB01
PIT
GP01
GP02
SB02
GP03
FLOOR HOIST
DRIVE
OVERHEAD DOORS
REST ROOM
BUS MAINTENANCE GARAGE
DRIVE
BUS WASH
LEGEND:
BORING LOCATIONS
GEOPROBE LOCATIONS
N
0
18
APPROXIMATE SCALE IN FEET
FIGURE 2
SAMPLE LOCATIONS
ROCHESTER SCHOOL BUS COMPANY
ROCHESTER, MINNESOTA
PREPARED FOR
LAIDLAW TRANSIT, INC.
NAPERVILLE, ILLINOIS
IT
INTERNATIONAL TECHNOLOGY CORPORATION

## 3.0 Site Investigation

Soil probes were advanced and collected by Matrix Technologies, Inc. (Matrix) using a geoprobe system. The geoprobe system uses four-foot sections of threaded pipe with disposable acetate inserts which together were pushed into the subsurface using hydraulics mounted on the back of the sampling vehicle. Upon reaching the desired depth, the sampling tools were removed from the ground, the acetate inserts were removed from the threaded pipe and soil was placed in appropriate sample containers for testing. The remaining soil sample was used to perform headspace screening.

One geoprobe was advanced at the leaking hydraulic hoist. Three geoprobes were advanced around the location of the leaking hydraulic hoist. Soil cores were collected and screened with a photoionization detector (PID) at two foot intervals. Two soil samples were collected from each geoprobe location and analyzed for BETX (Method 8020) by Matrix using their on-site laboratory, and DRO (modified Method 8015) by Pace Incorporated off-site.

New geoprobe inserts were used at each sampling location. Geoprobe tools were decontaminated between sample points using a detergent/water solution and a clean water rinse.

All geoprobe sampling holes were backfilled with a neat cement grout mixture.

The Matrix report on BETX testing is presented in Appendix A. The Pace report on DRO testing is present in Appendix B. Appendix C contains the boring logs. Appendix D contains the material data safety sheet (MSDS) for the hydraulic fluid which was released.

# 4.0 Investigation Results

## 4.1 Geoprobe Sampling Results

One geoprobe (GP01) was advanced at the source of the hydraulic fluid leak, adjacent to the hydraulic hoist. Soils consisted of silty sand and sandy clay fill to 8½ feet. Silt and sandy silt were present from 8½ to 19 feet. Analytical samples were collected at 15 to 17 feet and 17 to 19 feet intervals. Groundwater was not encountered in sufficient amounts to collect a ground water sample. No elevated PID detections or odor were identified during headspace screening in the samples collected. Sample GP01 15-17' had a DRO detection of 260 milligrams per kilogram (mg/kg). Sample GP01 17-19' had a DRO detection of 1200 mg/kg. Analytical testing identified total petroleum hydrocarbons (TPH) as fuel oil in the GP01 17-19' sample at a concentration of 2.3 mg/kg. No BETX was detected above the method practical quantitation limit (PQL) in either sample collected at GP01. A saturated sediment sample (GP01 17-19') collected during an attempt to collect a groundwater sample from GP01 had TPH as fuel oil at 1.6 mg/kg, but no detections of BETX or TPH as GRO.

GP02 was advanced approximately 15 feet east of the leaking hydraulic hoist. Soils consisted of a fine to medium sand to 6 feet, silt from 6 to 13 feet, and fine to coarse sand from 13 to 14 feet. Groundwater was not encountered. No elevated PID detections or odor were identified during headspace screening in the samples collected. Sample GP02 8-10' had a DRO detection of 38 mg/kg. Sample GP02 12-14' had a DRO detection of 100 mg/kg. No BETX or TPH was detected above the Practical Quantitation Limits (PQL) in either sample collected at GP02.

GP03 was advanced approximately 15 feet southwest of the leaking hydraulic hoist. Soils consisted of a clayey silt to the bottom of the hole at 14 feet. Groundwater was not encountered. No elevated PID detections or odor were identified during headspace screening in the samples collected. Sample GP03 6-8' had no DRO detection above the PACE reporting limit (PRL). Sample GP03 10-12' had no DRO detection above the PRL. No BETX or TPH was detected above the PQL in either sample collected at GP03.

GP04 was advanced approximately 12 feet north of the leaking hydraulic hoist. Soils consisted of a silty fine sand to 7 feet, clayey silt from 7 to the bottom of the hole at 14 feet. Groundwater was not encountered.

Table 1

Summary of Soil Analytical Results
Rochester School Bus Site
Rochester, Minnesota

| Parameter | Sample Location | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | GP01 15-17' | GP01 17-19' | GP02 8-10' | GP02 12-14' | GP03 6-8' | GP03 10-12' | GP04 8-10' | GP04 12-14 |
| DRO (mg/kg) | 260 | 1200 | 38 | 100 | ND | ND | ND | ND |
| BETX (ug/kg) | ND | ND | ND | ND | ND | ND | ND | ND |
| TPH Fuel Oil | ND | 2.3 | ND | ND | ND | ND | ND | ND |
| TPH GRO | ND | ND | ND | ND | ND | ND | ND | ND |

ND - not detected above detection limits.
ug/kg - micrograms per kilogram.

No elevated PID detections or odor were identified during headspace screening in the samples collected. Sample GP04 8-10' had no DRO detection above the PRL. Sample GP04 12-14' had no DRO detection above the PRL. No BETX or TPH was detected above the PQL in either sample collected at GP03.

### *4.2 Previous Sampling Results*

Results of previous testing which determined that a release had occurred is presented in a letter report dated November 10, 1995 (Appendix E). Soil testing indicated detections of DRO at 4,400 ppm in a sample collected at 10 feet below ground surface at SB01. Minor detections of TPH at 1.8 ppm and toluene at 0.58 ppm where detected in SB02 at approximately 10 feet below ground surface. The base of the hydraulic hoist is estimated to be approximately 9 to 10 feet below ground surface.

# 5.0 Conclusions

No detections of BETX were reported in subsurface soil samples collected at the source or in the vicinity of the release during this assessment. PID screening of subsurface soil samples did not reveal the presence of volatiles in the soils. DRO was detected in subsurface soil samples collected near the hydraulic hoist at 1,200 mg/kg and in soil samples collected at a location 15 feet southeast of the release source at 100 mg/kg. Groundwater was encountered approximately 16 feet below ground surface at the source, but inadequate water sample was recoverable for testing. A sediment sample was recovered from the geoprobe where groundwater was encountered near the source and tested below detection limits for BETX and at 1.6 mg/kg TPH as fuel oil.

No further action is recommended based on the following:

- BETX was not identified in subsurface soil samples collected at the source of the hydraulic fluid release or in soil samples collected in the vicinity of the source.
- The release was limited to approximately 100 gallons.
- Use of the leaking hydraulic hoist has been discontinued and the leaking hydraulic line has been isolated from the hydraulic fluid reservoir to prevent any further release.
- A subsurface soil investigation indicates the hydraulic fluid remains in the near vicinity of the release point (elevated DRO results), but the DRO remains near the release point and the release area is beneath a concrete floor and maintenance building.

# *Appendix A*

# *Matrix Report/BETX Results*

# SUBSURFACE ASSESSMENT RESULTS

**ROCHESTER SCHOOL BUS COMPANY**
**2021 32ND AVENUE**
**ROCHESTER, MINNESOTA**

**MATRIX PROJECT NO. 96040**

**Prepared by:** **MATRIX Technologies, Inc.**
**8631 Jefferson Highway**
**Osseo, MN 55369**
**(612) 424-4803**
**fax: (612) 424-9452**

**March 7, 1996**

# SUBSURFACE ASSESSMENT RESULTS

## ROCHESTER SCHOOL BUS COMPANY
## 2021 32ND AVENUE
## ROCHESTER, MINNESOTA

## MATRIX PROJECT NO. 96040

### 1.0 INTRODUCTION

MATRIX Technologies, Inc. (MATRIX), was authorized by Mr. Barry Schneider of IT Corporation (IT) to perform a subsurface assessment at the Rochester School Bus Company site located at 2021 32nd Avenue in Rochester, Minnesota. The goal of the assessment was to collect soil samples for on-site laboratory analysis of petroleum hydrocarbons. Field work was completed on March 6, 1996, and directed by Mr. Barry Schneider of IT.

### 2.0 SCOPE OF WORK

The scope of services provided by MATRIX included the following:

- Contacted the state one call system and arranged for all public utilities in the investigation area to be located (Ticket No. 21174).
- Advanced four (4) probes to depths ranging from twelve (12) to nineteen (19) feet bgs to collect soil samples at requested depth profiles for logging, screening, and sample collection (Appendix A).
- Analyzed nine (9) soil samples in the field for petroleum hydrocarbons (Table 1).
- Abandoned all probe locations with a neat cement grout mixture according to Minnesota Department of Health guidelines.

## 3.0 ON-SITE CHEMICAL ANALYSIS

Samples were analyzed on-site and quantified for petroleum hydrocarbons in accordance with US EPA Method 8020 modified and WDNR modified GRO Method. Samples were concentrated with an OI-Analytical Model 4560 purge and trap sample concentrator. The purge and trap sample concentrator is directly connected to a Hewlett Packard 5890 Series II gas chromatograph. The samples were analyzed by PID and FID detectors in series. The results of the chemical analysis are summarized in Table 1.

The following quality assurance/quality control measures were conducted to ensure the validity of the analytical results:

- A five point calibration curve for the method target compounds was established.
- A prepared standard was run to verify the calibration curve.
- A reagent water blank was run to assure the entire analytical system was free of interferences prior to sample analysis.
- A surrogate standard (4-bromofluorobenzene) was run with each sample to monitor retention time accuracy and concentration efficiency.
- A matrix spike and matrix spike duplicate were run to confirm precision and accuracy of the analytical system and to identify possible matrix effects.

## 4.0 GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from the samples collected at the indicated locations and from other information discussed in this report. This report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted practices. No warranties, expressed or implied are intended or made.

This report was prepared by:

**MATRIX Technologies, Inc.**

Dan A. Pipp - Environmental Chemist

Date

James D. Dzubay, M.S. - Operations Manager/President

3/7/96
Date

# TABLES

# LABORATORY RESULTS

| | | | |
|---|---|---|---|
| Client: | IT Corporation | Date(s) Analyzed: | 3/6/96 |
| Project Name: | Rochester Bus Co. | MATRIX Project #: | 96040 |
| Project Location: | Rochester, Minnesota | Client Project #: | |

| ANALYTE | GP-1 15'-17' mg/kg[1] | GP-1 17'-19' mg/kg | GP-1 17'-19' soil/water mg/kg | GP-2 8'-10' mg/kg | GP-2 12'-14' mg/kg | GP-3 6'-8' mg/kg | GP-3 10'-12' mg/kg | GP-4 8'-10' mg/kg | GP-4 10'-12' mg/kg |
|---|---|---|---|---|---|---|---|---|---|
| Benzene[4] | <0.005[2] | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Toluene | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Ethyl Benzene | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Xylenes | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| TPH as GRO[3] | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| TPH as Fuel Oil | <0.25 | **2.3** | **1.6** | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| 1,4-Bromofluorobenzene[5] | 86.0% | 107.% | 108.% | 98.0% | 74.0% | 90.0% | 89.0% | 88.0% | 94.0% |

1 -Soil sample results reported in milligrams per kilogram (mg/kg).
2 -<0.005 represents less than the method practical quantitation limit.
3 -TPH as GRO results quantified in accordance with the WDNR modified GRO Method.
4 -Analyte results quantified in accordance with US EPA Method 8020 modified.
5 -Surrogate standard added to confirm retention time and concentration accuracy.
6 -* - Not quantifiable due to sample interference.

# LABORATORY RESULTS

lient: IT Corporation
ect Name: Rochester Bus Co.
ject Location: Rochester, Minnesota

Date Analyzed: 3/6/96
Matrix Project #: 96040
Client Project #:

## QUALITY ASSURANCE/ QUALITY CONTROL DATA

| ALYTE | MATRIX SPIKE % RECOVERY | MATRIX SPIKE DUPLICATE % RECOVERY | RELATIVE PERCENT DIFFERENCE |
|---|---|---|---|
| zene | 104. | 107. | 2.8 |
| oluene | 109. | 128. | 16. |
| l Benzene | 106. | 110. | 3.7 |
| enes | 107. | 111. | 3.7 |
| PH as Fuel Oil | 140. | 80. | 55. |
| l as GRO | 104. | 102. | 1.9 |

# APPENDIX A

# STANDARD OPERATING PROCEDURES

# LARGE BORE SOIL SAMPLER

## STANDARD OPERATING PROCEDURE

**TECHNICAL BULLETIN NO. 93.002**

**PREPARED: APRIL 01, 1993; REVISED: SEPTEMBER 15, 1994**

## 1.0 OBJECTIVE

The objective of this procedure is to collect a discrete soil sample at depth and recover it for visual inspection and/or chemical analysis.

## 2.0 BACKGROUND

### 2.1 Definitions

- **Geoprobe®**: A vehicle-mounted hydraulically-powered soil probing machine that utilizes static force and percussion to advance small diameter sampling tools into the subsurface for collecting soil core, soil gas, or ground water samples.

- **Large Bore Soil Sampler:** A 24-inch long X 1-3/8-inch diameter piston-type soil sampler capable of recovering a discrete sample that measures up to 320-ml in volume, in the form of a 22-inch X 1-1/16-inch core contained inside a removable liner.

- **Liner:** A 24-inch long X 1-1/8-inch diameter removable/replaceable, thin-walled tube inserted inside the Large Bore Sampler body for the purpose of containing and storing soil samples. Liner materials include brass, stainless steel, Teflon®, and clear plastic.

### 2.2 Discussion

In this procedure, the assembled Large Bore Soil Sampler is connected to the leading end of a Geoprobe brand probe rod and driven into the subsurface using a Geoprobe machine. Additional probe rods are connected in succession to advance the sampler to depth. The sampler remains sealed by a piston tip as it is being driven. The piston is held in place by a reverse-threaded stop-pin at the trailing end of the sampler. When the sampler tip has reached the top of the desired sampling interval, a series of extension rods, sufficient to reach depth, are coupled together and lowered down the inside diameter of the probe rods. The extension rods are then rotated clock-wise. The male threads on the leading end of the extension rods engage the female threads on the top end of the stop-pin. and the pin is removed. After the extension rods and stop-pin have been removed, the tool string is advanced an additional 24-inches. The piston is displaced inside the sampler body

by the soil as the sample is cut. To recover the sample, the sampler is recovered from the hole and the liner containing the soil sample is removed.

## 3.0 REQUIRED EQUIPMENT

The following equipment is required to recover soil core samples using the Geoprobe Large Bore Soil Sampler and driving system (See Attached Figure).

### 3.1 Large Bore Soil Sampler Parts

| | |
|---|---|
| STD Piston Stop-pin, O-ring | 1 |
| LB Cutting Shoe | 1 |
| LB Drive Head | 1 |
| LB Sample Tube | 1 |
| LB Piston Tip | 1 |
| LB Piston Rod | 1 |
| LB Clear Plastic Liner | Variable |

### 3.2 Geoprobe Tools

| | |
|---|---|
| • Probe Rod (48", 36", 24", or 12") | Variable |
| • Drive Cap | 1 |
| • Pull Cap | 1 |
| • Extension Rod | Variable |
| • Extension Rod Coupler | Variable |
| • Extension Rod Handle | 1 |

## 4.0 OPERATION

### 4.1 Decontamination

Before and after each use, thoroughly clean all parts of the soil sampling system according to project specific requirements. A clean, new liner is recommended for each use. Parts should also be inspected for wear or damage at this time.

### 4.2 Assembly

a. Install a new O-ring into the O-ring groove on the stop-pin.

b. Seat the pre-flared end of the LB Liner over the interior end of the cutting shoe.

c. Insert the liner into either end of the sample tube and screw the cutting shoe and liner into place.

d. Screw the piston rod into the piston tip. Insert the piston tip and rod into the sample tube from the end opposite the cutting shoe. Push and rotate the rod until the tip is seated completely into the cutting shoe.

e. Screw the drive head onto the top end of the sample tube, aligning the piston rod through the center bore.

f. Screw the reverse threaded stop-pin into the top of the drive head and turn it counter-clockwise with a 3/8-inch wrench until tight.

## 4.3 Pilot Hole

A pilot hole is appropriate when the surface to be penetrated contains gravel, asphalt, hard sands, or rubble. Pre-probing can prevent unnecessary wear on the sampling tools. A large bore pre-probe may be used for this purpose. The pilot hole should be made only to a depth above the sampling interval.

## 4.4 Driving

a. Attach an 1-foot probe rod to the assembled sampler and an drive cap to the probe rod. Position the assembly for driving into the subsurface.

b. Drive the assembly into the subsurface until the drive head of the sample tube is just above the ground surface.

c. Remove the drive cap and the 1-foot probe rod. Secure the drive head with a 1-inch or adjustable wrench and re-tighten the stop-pin with a 3/8-inch wrench.

d. Attach an 3-foot probe rod in succession until the leading end of the sampler reaches the top of the desired sampling interval.

## 4.5 Preparing to Sample

a. When sampling depth has been reached, position the Geoprobe machine away from the top of the probe rod to allow room to work.

b. Insert an extension rod down the inside diameter of the probe rods. Attach another extension rod to the coupler and lower the jointed rods down the hole.

c. When the leading extension rod has reached the stop-pin, turn the handle clock-wise until the stop-pin detaches from the threads on the drive head.

d. Remove the extension rods and uncouple the sections.

e. The stop-pin should be attached to the bottom of the last extension rod upon

removal. Once the stop-pin has been removed, the sampler is ready to be re-driven to collect a sample.

## 4.6 Sample Collection

a. Reposition the Geoprobe machine over the probe rods, adding an additional probe rod to the tool string if necessary. Make a mark on the probe rod 24-inches above the ground surface.

b. Attach a drive cap to the probe rod and drive the tool string and sampler another 24-inches. Do not overdrive the sampler.

## 4.7 Retrieval

a. Remove the drive cap on the top probe rod and attach a pull cap. Lower the probe shell and close the hammer latch over the pull cap.

b. With the Geoprobe foot firmly on the ground, pull the tool string out of the hole. Stop when the top of the sampler is about 12-inches above the ground surface.

c. Because the piston tip and rod have been displaced inside the sample tube, the piston rod now extends into the 2-foot probe rod section. In loose soils, the 2-foot probe rod and sampler may be recovered as one piece by using the foot control to lift the sampler the remaining distance out of the hole.

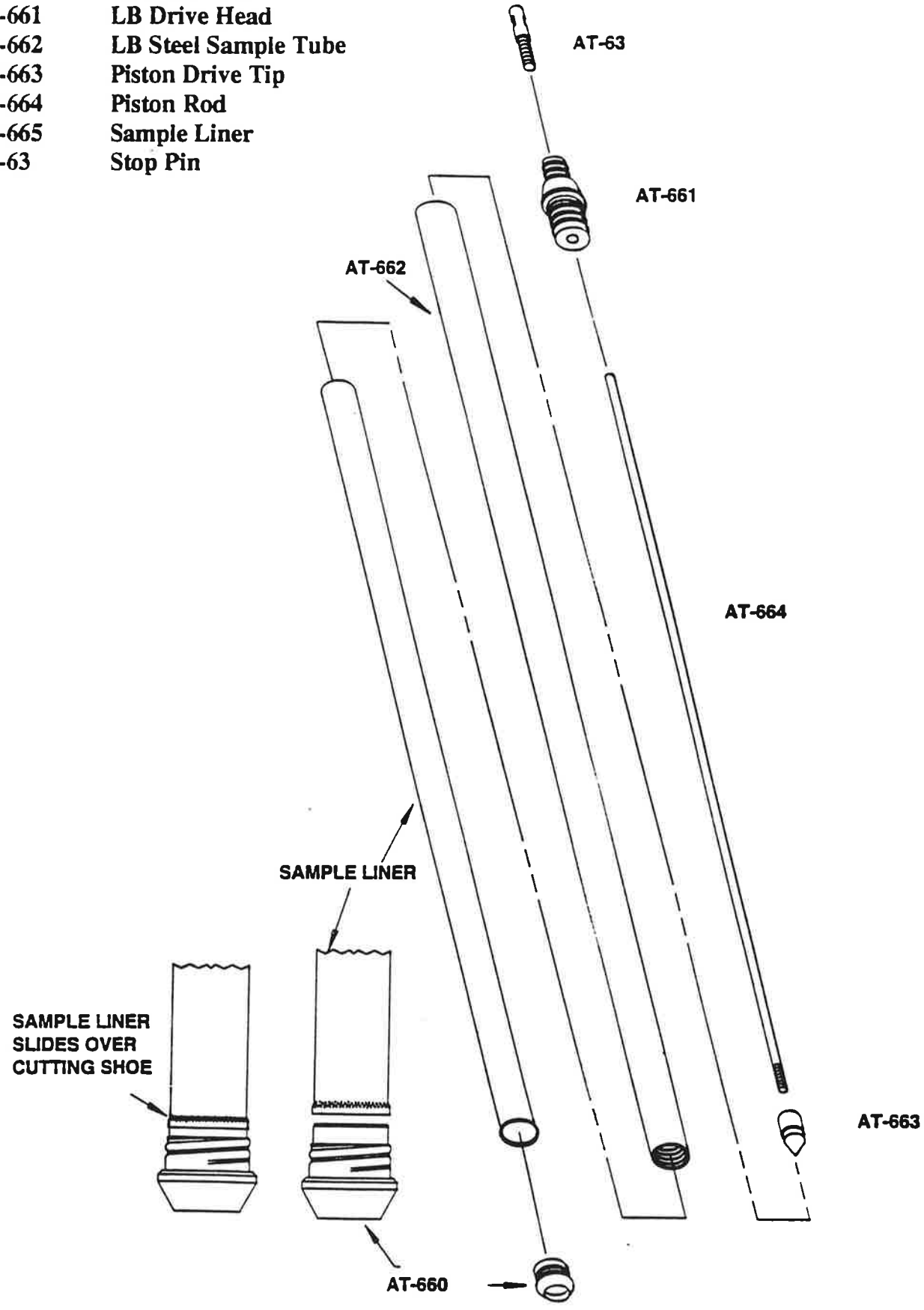
d. If excessive resistance is encountered while attempting to lift the sampler and probe rod out of the hole using the foot control, unscrew the drive head from the sampler and remove it with the probe rod, the piston rod, and the piston tip. Replace the drive head onto the sampler and attach a pull cap to it. Lower the probe shell and close the hammer latch over the pull cap and pull the sampler the remaining distance out of the hole with the probe machine foot firmly on the ground.

## 4.8 Sample Recovery

a. Detach the 2-foot probe rod if it has not been done previously.

b. Unscrew the cutting shoe, and pull the cutting shoe out with the liner attached. If the liner doesn't slide out readily with the cutting shoe, take off the drive head and push down on the side wall of the liner. The liner and sample should slide out easily.

| | |
|---|---|
| AT-660 | Cutting Shoe |
| AT-661 | LB Drive Head |
| AT-662 | LB Steel Sample Tube |
| AT-663 | Piston Drive Tip |
| AT-664 | Piston Rod |
| AT-665 | Sample Liner |
| AT-63 | Stop Pin |




Large Bore Sampler Parts

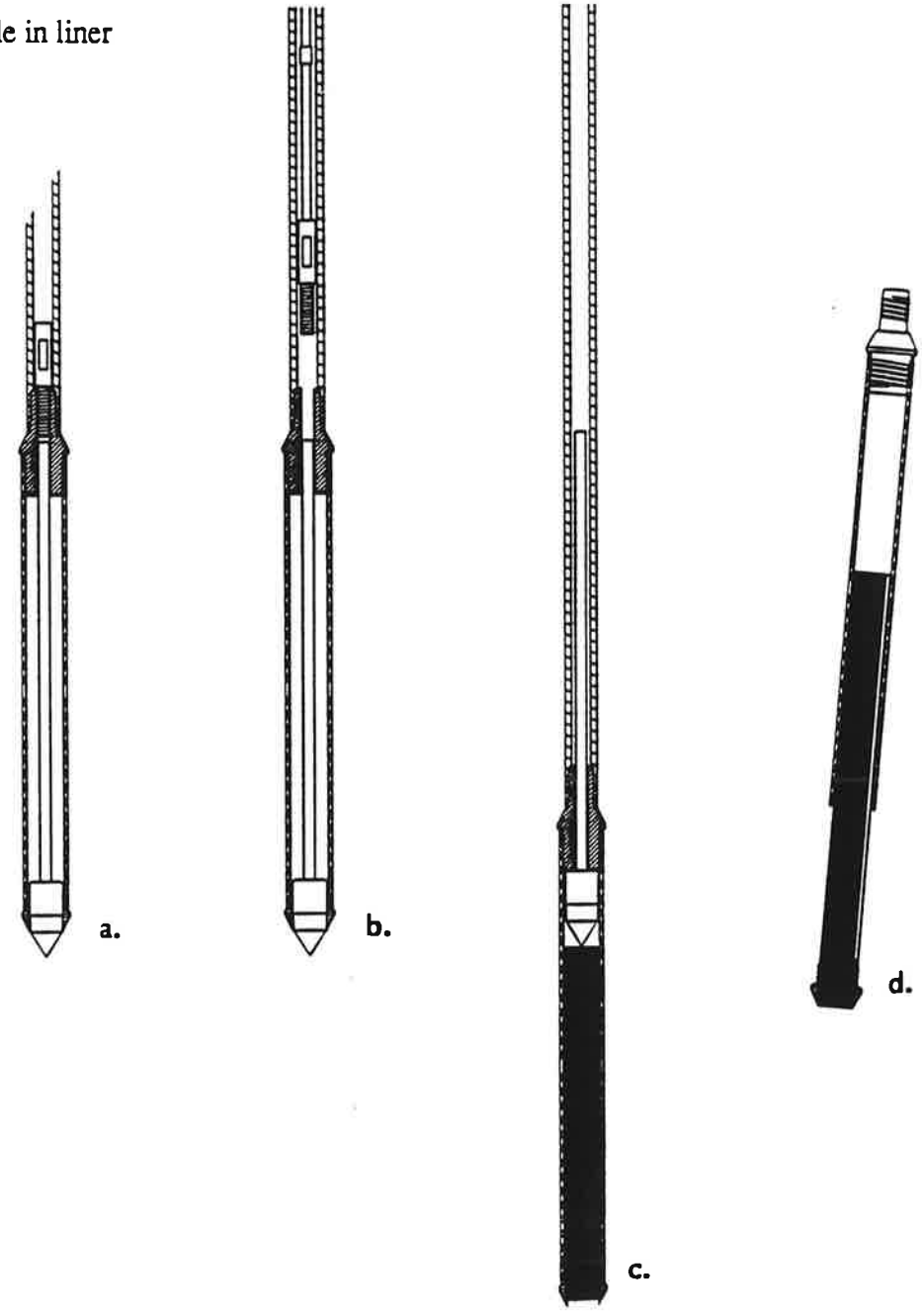
Unlike split-spoon samplers, the large bore sampler remains completely sealed while it is pushed or driven to the desired sampling depth. A piston stop-pin at the top end of the sampler is removed by means of extension rods inserted down the inside diameter of the probe rods after the sampler has been driven to depth. This enables the piston to retract into the sample tube as it is driven to recover a sample.

A. Driving the sealed sampler

B. Removing the stop-pin

C. Collecting a sample

D. Recovering sample in liner




**Driving and Sampling with the Large Bore Soil Sampler**

# *Appendix B*

# *Pace Report/DRO Results*

**Pace Analytical**

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

March 19, 1996

Mr. Barry Schneider
IT Corporation
4190 N. Lexington
St. Paul, MN 55126

RE: PACE Project No. 960306.524
Client Reference: Laidlaw 7662020113

Dear Mr. Schneider:

Enclosed is the report of laboratory analyses for samples received March 06, 1996.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Timothy J. Parsons
Project Manager

Enclosures

**REPORT OF LABORATORY ANALYSIS**

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

# Pace Analytical

IT Corporation
4190 N. Lexington
St. Paul, MN 55126

March 19, 1996
PACE Project Number: 960306524

Attn: Mr. Barry Schneider

Client Reference: Laidlaw 7662020113

| Parameter | Units | PRL | 10 0039250<br>03/06/96<br>09:35<br>03/06/96<br>RSB-GP01<br>15-17' | 10 0039268<br>03/06/96<br>10:00<br>03/06/96<br>RSB-GP01<br>17-19' | 10 0039276<br>03/06/96<br>11:35<br>03/06/96<br>RSB-GP02<br>8-10' |
|---|---|---|---|---|---|
| PACE Sample Number: | | | | | |
| Date Collected: | | | | | |
| Time Collected: | | | | | |
| Date Received: | | | | | |
| Client Sample ID: | | | | | |
| **INORGANIC ANALYSIS** | | | | | |
| INDIVIDUAL PARAMETERS | | | | | |
| Moisture content | % | 0.1 | 14.7 | 18.1 | 8.1 |
| **ORGANIC ANALYSIS** | | | | | |
| DIESEL RANGE ORGANICS-MOD. 8015 | | | | | |
| Date Analyzed | | | 14MAR96 EE | 14MAR96 EE | 15MAR96 EE |
| Date Extracted | | | 03/08/96 | 03/08/96 | 03/08/96 |
| Diesel Range Organic Compounds | mg/kg | 10 | - | - | 38 HB DW |
| Diesel Range Organic Compounds | mg/kg | 100 | - | 1200 HB DW | - |
| Diesel Range Organic Compounds | mg/kg | 20 | 260 HB DW | - | - |
| n-Tricontane (Surrogate Std.) | % | | 90 | 104 | 82 |
| Elapse Time, Receipt to Solvent Addition | Minutes | 10 | 330 | 330 | 330 |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

# Pace Analytical



March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

| Parameter | Units | PRL | 10 0039284 RSB-GP02 12-14' | 10 0039292 RSB-GP03 6-8' | 10 0039306 RSB-GP03 10-12' |
|---|---|---|---|---|---|
| PACE Sample Number: | | | 10 0039284 | 10 0039292 | 10 0039306 |
| Date Collected: | | | 03/06/96 | 03/06/96 | 03/06/96 |
| Time Collected: | | | 11:50 | 13:10 | 13:25 |
| Date Received: | | | 03/06/96 | 03/06/96 | 03/06/96 |
| Client Sample ID: | | | RSB-GP02 | RSB-GP03 | RSB-GP03 |
| **INORGANIC ANALYSIS** | | | | | |
| INDIVIDUAL PARAMETERS | | | | | |
| Moisture content | % | 0.1 | 10.1 | 21.8 | 24.5 |
| **ORGANIC ANALYSIS** | | | | | |
| DIESEL RANGE ORGANICS-MOD. 8015 | | | | | |
| Date Analyzed | | | 14MAR96 EE | 13MAR96 EE | 14MAR96 EE |
| Date Extracted | | | 03/08/96 | 03/08/96 | 03/08/96 |
| Diesel Range Organic Compounds | mg/kg | 10 | 100 HB DW | ND | ND |
| n-Tricontane (Surrogate Std.) | % | | 73 | 87 | 69 |
| Elapse Time, Receipt to Solvent Addition | Minutes | 10 | 330 | 330 | 330 |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

# Pace Analytical



March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

| Parameter | Units | PRL | | |
|---|---|---|---|---|
| PACE Sample Number: | | | 10 0039314 | 10 0039322 |
| Date Collected: | | | 03/06/96 | 03/06/96 |
| Time Collected: | | | 13:55 | 14:05 |
| Date Received: | | | 03/06/96 | 03/06/96 |
| Client Sample ID: | | | RSB-GP04 | RSB-GP04 |
| | | | 8-10' | 12-14' |
| **INORGANIC ANALYSIS** | | | | |
| INDIVIDUAL PARAMETERS | | | | |
| Moisture content | % | 0.1 | 19.2 | 17.8 |
| **ORGANIC ANALYSIS** | | | | |
| DIESEL RANGE ORGANICS-MOD. 8015 | | | | |
| Date Analyzed | | | 14MAR96 EE | 13MAR96 EE |
| Date Extracted | | | 03/08/96 | 03/08/96 |
| Diesel Range Organic Compounds | mg/kg | 10 | ND | ND |
| n-Tricontane (Surrogate Std.) | % | | 85 | 77 |
| Elapse Time, Receipt to Solvent Addition | Minutes | 10 | 330 | 330 |

The analyses of soil samples were performed 'as received' and do not reflect analyses on a dry weight basis unless indicated.

These data have been reviewed and are approved for release.

Timothy J. Parsons
Project Manager

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

**Pace Analytical**



FOOTNOTES
for pages 1 through 3

March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

| | |
|---|---|
| DW | Sample results are reported on a dry weight basis. |
| HB | High boiling point hydrocarbons are present in sample. |
| ND | Not detected at or above the PRL. |
| PRL | PACE Reporting Limit |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

**Pace Analytical**



QUALITY CONTROL DATA

March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

Moisture content
Batch: 10 80893
Samples: 10 0039250, 10 0039268, 10 0039276, 10 0039284, 10 0039292
10 0039306, 10 0039314, 10 0039322

METHOD BLANK AND SAMPLE DUPLICATE:

| Parameter | Units | PRL | Method Blank | 100039268 RSB-GP01 17-19' | Duplicate of 10 0039268 | RPD |
|---|---|---|---|---|---|---|
| Moisture content | % | 0.1 | ND | 18.1 | 20.6 | 13% |

**REPORT OF LABORATORY ANALYSIS**

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

# Pace Analytical



QUALITY CONTROL DATA

March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

DIESEL RANGE ORGANICS-MOD. 8015
Batch: 10 80878
Samples: 10 0039250, 10 0039268, 10 0039276, 10 0039284, 10 0039292
10 0039306, 10 0039314, 10 0039322

METHOD BLANK:

| Parameter | Units | PRL | Method Blank |
|---|---|---|---|
| Date Analyzed | | | 12MAR96 |
| Diesel Range Organic Compounds | mg/kg | 10 | ND |
| n-Tricontane (Surrogate Std.) | % | | 78 |

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

| Parameter | Units | PRL | Reference Value | Recv | Dupl Recv | RPD |
|---|---|---|---|---|---|---|
| Diesel Range Organic Compounds | mg/kg | 10 | 200 | 75% | 80% | 6% |

## REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1710 Douglas Drive North
Minneapolis, MN 55422
Tel: 612-544-5543
Fax: 612-525-3377

**Pace Analytical**



FOOTNOTES
for pages 5 through 6

March 19, 1996
PACE Project Number: 960306524

Client Reference: Laidlaw 7662020113

| | |
|---|---|
| ND | Not detected at or above the PRL. |
| PRL | PACE Reporting Limit |
| RPD | Relative Percent Difference |

## REPORT OF LABORATORY ANALYSIS

PACE INCORPORATED
ENVIRONMENTAL LABORATORIES

TJP

# Sample Condition upon Receipt

PACE Project # 9600306524 Client: IT Corp Rec. By: DLS

Proposal # _____ Client Ref.: Laidlaw Date Rec.: 3-6-96

Method of Shipment / Control# client /

Custody Seals: Present / Absent Intact / Broken Shipping Container / Sample Bottles

Temperature of Blanks upon Arrival (If not 1.0 to 4.0 Deg. C. contact PM)

| Cooler ID: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Temp. (Celsius): | | | | | | | | |

☐ Temperature Blank not present, condition of coolant is: frozen wet ice

List Client Sample Descriptions for any samples that are frozen: _____

| Yes | No | | |
|---|---|---|---|
| ☒ | ☐ | 1 | Short holding time analyses requested<br>Short Hold Analyses: Soil DRO |
| ○ | ☑ | 2 | Sampled four or more days prior to receipt (If "yes", contact supervisor and PM Immediately)<br>Earliest date of sampling: _____ |
| ○ | ☑ | 3 | Rush Due Date (one week or less) requested (If "yes", contact supervisor and PM Immediately)<br>Requested Due Date: _____ |
| ☒ | ○ | 4 | Sample Containers are intact: (List Client Sample Description and container types)<br>_____ |
| ☒ | ○ | 5 | Samples Correspond to Client Documentation. (Note Discrepancies below)<br>_____ |
| ☒ | ○ | 6 | Samples are properly preserved. (See preservation record) |
| ☒ | ○ | 7 | VOA samples are free of head space. (List Client Sample Description and containers with headspace)<br>_____ |
| ☒ | ○ | 8 | Sample volume appears sufficient. |

Container Labeling Requirements: ☐ CLP ICOC (Orange Rect.) ☐ AEC ICOC (Green rect.)

☐ Return Sample to Client (Green Circle) ☐ Hazardous (Yellow Circle) ☒ NONE

**Notify Project Manager immediately with any concerns regarding discrepancies (circle responses)**

Project Manager Review: _____ Date: _____ Comments: _____

PACE INCORPORATED
ENVIRONMENTAL LABORATORIES

# CHAIN-OF-CUSTODY RECORD
## Analytical Request

Client: IT CORP
Address: 1801 OLD HIGHWAY 8 Suite 124
ST PAUL MN 55112
Phone: 612 633 0792

Report To: BARRY SCHNEIDER
Bill To: SAME
P.O. # / Billing Reference: 766202.01.13
Project Name / No.: LAIDLAW 766202.01.13

Pace Client No.:
Pace Project Manager:
Pace Project No.: 9603026524
*Requested Due Date: WORKING

Sampled By (PRINT): BARRY SCHNEIDER
Sampler Signature:
Date Sampled: 3/6/96

| ITEM NO. | SAMPLE DESCRIPTION | TIME | MATRIX | PACE NO. | NO. OF CONTAINERS | PRESERVATIVES: UNPRESERVED | $H_2SO_4$ | $HNO_3$ | VOA | | | ANALYSES REQUEST: BTEX | DRO | MOISTURE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RSB-GP01- 15-17 ft | 0935 | SOIL | 3925.1 | 3 | 3 | | | | | | | 2 | 1 | |
| 2 | RSB-GP01- 17-19 ft | 1000 | SOIL | 3926.0 | 3 | 3 | | | | | | | 2 | 1 | |
| 3 | RSB-GP02 - 8-10 ft | 1135 | SOIL | 3927.6 | 3 | 3 | | | | | | | 2 | 1 | |
| 4 | RSB-GP02 - 12-14 ft | 1150 | SOIL | 3928.4 | 3 | 3 | | | | | | | 2 | 1 | |
| 5 | RSB-GP03 - 6-8 ft | 1310 | SOIL | 3929.2 | 3 | 3 | | | | | | | 2 | 1 | |
| 6 | RSB-GP03 - 10-12 ft | 1325 | SOIL | 3930.6 | 3 | 3 | | | | | | | 2 | 1 | |
| 7 | RSB-GP04 - 8-10 ft | 1355 | SOIL | 3931.4 | 3 | 3 | | | | | | | 2 | 1 | |
| 8 | RSB-GP04 - 12-14 ft | 1405 | SOIL | 3932.2 | 3 | 3 | | | | | | | 2 | 1 | |

| COOLER NOS. | BAILERS | SHIPMENT METHOD OUT/DATE | SHIPMENT METHOD RETURNED/DATE |
|---|---|---|---|
| / | 0 | | 3/6/96 1645 |

| ITEM NUMBER | RELINQUISHED BY / AFFILIATION | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|
| 1 | IT CORP | | 3/6/96 | 1640 |

Additional Comments:

ORIGINAL

**SEE REVERSE SIDE FOR INSTRUCTIONS**

# *Appendix C*

# *Boring Logs*

INTERNATIONAL TECHNOLOGY CORPORATION

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 76620.2 | PROJECT NAME: Rochester School Bus | | |
| BORING NUMBER: GP-01 | COORDINATES: + | | DATE: 3/6/96 |
| ELEVATION: F-floor | GWL: Depth 15.5 Date/Time 3/6/96 1645 | | DATE STARTED: 3/6/96 |
| ENGINEER/GEOLOGIST: Schmidt | Depth | Date/Time | DATE COMPLETED: 3/6/96 |
| DRILLING METHODS: Geoprobe 1¼ Probe | | | PAGE 1 OF 1 |

| DEPTH (FT) | SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | Concrete | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | 01 | RSB-GP01-15-17 | | Brown sandy silt moist | | | | HSP1D 0ppm |
| | 02 | RSB-GP01-17-19 | | wet | | | | HSP1D 0ppm |
| 20 | | | | Same | | | | |
| | | | | END OF GEOPROBE | | | | |
| 25 | | | | wet Hard @ 16 Attempt collection of water sample - to much silt to collect $H_2O$ Sample - Run on soil Sample for BTEX Send w/ Groundwater | | | | |

NOTES: Matrix tech- Mobile Geoprobe Rig. 1-½" OD Rod.

Cary Paquette Tech
DRN Pipp Chemist

INTERNATIONAL TECHNOLOGY CORPORATION

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 716202 | PROJECT NAME: Rochester School Bus | | |
| BORING NUMBER: GP-02 | COORDINATES: | | DATE: 3-6-96 |
| ELEVATION: | GWL: Depth ND | Date/Time 3/6/96 1200 | DATE STARTED: 3-6-96 |
| ENGINEER/GEOLOGIST: B. Schneider | Depth | Date/Time | DATE COMPLETED: 3-6-96 |
| DRILLING METHODS: Geoprobe 1¼" probe. | | | PAGE 1 OF 1 |

| DEPTH ( ) | SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | | Concrete | | | | |
| 5 | 01 | RSB-6802-8+0 | | Brown fine-med sand | | | | HSP1D 0ppm |
| | 02 | | | SAME | | | | HSP1D 0ppm |
| 10 | 03 | RSB-6802-12+4 | | Gray silt | | | | HSP1D 0ppm |
| | 04 | | | Brown fi-coarse sand | | | | HSP1D 0ppm |
| 15 | | | | END | | | | |
| | | | | NO GW | | | | |
| | | | | SEAL w/ grout | | | | |

NOTES: MATRIX TECH. Mobile Geoprobe Rig 1¼ OD Rd
Guy Paquette Tech
DAN Pfaff Chemist.

INTERNATIONAL TECHNOLOGY CORPORATION

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 766202 | PROJECT NAME: Rochester School Bus | | |
| BORING NUMBER: GP03 | COORDINATES: | | DATE: 3-6-96 |
| ELEVATION: | GWL: Depth ~ | Date/Time | DATE STARTED: 3-6-96 |
| ENGINEER/GEOLOGIST: Schneider | Depth | Date/Time | DATE COMPLETED: 3-6-96 |
| DRILLING METHODS: Geoprobe 1¼" OD | | | PAGE 1 OF 1 |

| DEPTH (FT) | SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | | Concrete | | | | |
| 5 | 01 | RSB-GP03-6-8ft | | Brn clay silt - moist | | | | 1 OVA 0 ppm |
| | | | | Same | | | | HNu 0 ppm |
| | 02 | | | | | | | |
| 10 | 03 | RSB-GP03-10-12ft | | Grey clay silt - moist | | | | HNu 0 ppm |
| | 04 | | | Same | | | | HNu 0 ppm |
| 16 | | | | no water | | | | |
| | | | | Seal w/ grout | | | | |

NOTES: MATRIX TECH Mobile Geoprobe Rig 1¼ OD Rig.
Corey Pagan ITC Tech
DAN PAGE Chemist.

# VISUAL CLASSIFICATION OF SOILS

| | | |
|---|---|---|
| PROJECT NUMBER: 716202 | PROJECT NAME: Rochester School Bus | |
| BORING NUMBER: GP04 | COORDINATES: | DATE: 5/6/96 |
| ELEVATION: | GWL: Depth No water Date/Time | DATE STARTED: 5/6/96 |
| ENGINEER/GEOLOGIST: Schneider | Depth Date/Time | DATE COMPLETED: 5/6/96 |
| DRILLING METHODS: Geoprobe 1¼" OD | | PAGE , OF , |

| DEPTH (FT) | SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | | Concrete | | | | |
| 5 | 01 | RSB-GP04-S-101T | | Brown silty fine sand moist | | | | HSPID = 0ppm |
| | 02 | | | Grey Brown clayey silt - moist | | | | HSPID = 0ppm |
| 10 | 03 | RSB-GP04-1214FT | | SAME | | | | HSPID = 0ppm |
| | 04 | | | SAME | | | | HSPID = 0ppm |
| 15 | | | | END | | | | |
| | | | | no water | | | | |
| | | | | Seal w/grout. | | | | |

NOTES:

Matrix Tech Mobile Geoprobe Rig 1¼" OD rod.
Gary Paquette - Tech
Dan Pipp - Chemist

# *Appendix D*

# *MSDS for Hydraulic Fluid*

Mobil

602623 00 PAGE 1 OF 5

# MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED: 12/15/89

## I. PRODUCT IDENTIFICATION

MOBIL DTE 24

SUPPLIER:
MOBIL OIL CORP.

CHEMICAL NAMES AND SYNONYMS:
SEE HYDROCARBONS AND ADDITIVES

USE OR DESCRIPTION:
HYDRAULIC OIL

HEALTH EMERGENCY TELEPHONE:
(609) 737-4411

TRANSPORT EMERGENCY TELEPHONE:
(800) 424-9300 (CHEMTREC)

PRODUCT TECHNICAL INFORMATION:
(800) 662-4525

## II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE: ASTM 3 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 165.3 AT 40 C, CS: 32.0
VISCOSITY AT 210 F, SUS: 44.0 AT 100 C. CS: 5.3
FLASH POINT F(C): > 395(202) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -10(-23)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.874 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

## III. INGREDIENTS

| | WT PCT (APPROX) | EXPOSURE LIMITS MG/M3 | PPM | SOURCES (AND NOTES) |
|---|---|---|---|---|
| POTENTIALLY HAZARDOUS INGREDIENTS: | | | | |
| NONE | | | | |
| OTHER INGREDIENTS: | | | | |
| REFINED MINERAL OILS | >95 | | | |
| ADDITIVES AND/OR OTHER INGREDS. | < 5 | | | |

SEE SECTION XII FOR COMPONENT REGULATORY INFORMATION.

SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA, S=SUPPLIER
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

## IV. HEALTH HAZARD DATA

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

## V. EMERGENCY AND FIRST AID PROCEDURES

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Mobil



********** VI. FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT F(C): > 395(202) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS. PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS OR DRINKING WATER SUPPLY.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

********** VII. REACTIVITY DATA **********

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

********** VIII. SPILL OR LEAK PROCEDURE **********

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

********** IX. SPECIAL PROTECTION INFORMATION **********

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

********** X. SPECIAL PRECAUTIONS **********

NO SPECIAL PRECAUTIONS REQUIRED.

Mobil



********** XI. TOXICOLOGICAL DATA **********

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 5 G/KG 0/10 RATS DIED AT THIS DOSAGE LEVEL. SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG 0/10 RABBITS DIED AT THIS DOSAGE LEVEL. SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

Mobil



********** XII. REGULATORY INFORMATION **********

GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA AND EINECS.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THIS PRODUCT HAS BEEN USDA APPROVED UNDER THE FOLLOWING CATEGORY: H2 - LUBRICANTS WITH NO FOOD CONTACT

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

| CHEMICAL NAME | CAS NUMBER | LIST CITATIONS |
|---|---|---|
| ZINC (ELEMENTAL ANALYSIS) (0.06%) | 7440-66-6 | 14 |

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = CA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

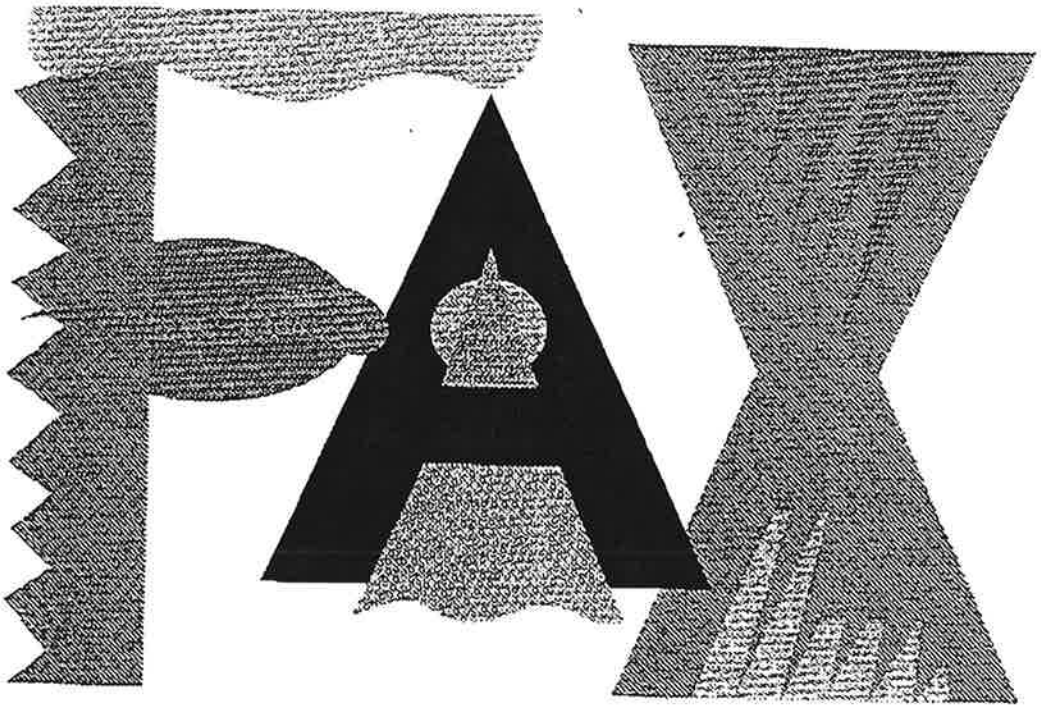
NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

**********

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

**********

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
(703) 849-3265




**To:** IT Corperation (ATTN: Barry Schneider)

**From:** Laidlaw Transit
Rochester MN.

**Date:** 10/31/95

**Fax #:** (507) 289 6652

**Total Pages Including Cover:** 5

**Contact:** Larry Kramer

**Comments:** Here is the MSDS sheets on The Hyd. oil

# *Appendix E*

# *Previous Investigation*

INTERNATIONAL TECHNOLOGY CORPORATION

November 10, 1995

Project No. 764941

Mr. Don MacFeely
Laidlaw Transit, Inc.
1240 East Diehl
Naperville, IL 60563

Hydraulic Line Leak Investigation Report
Rochester School Bus Company Site
Rochester, Minnesota

Dear Mr. MacFeely:

IT Corporation (IT) is pleased to present this letter report for the hydraulic hoist system leak investigation conducted in the maintenance garage at the Rochester School Bus Company facility. Analytical results indicate that a release has occurred near the hydraulic hoist system located on the west side of the maintenance garage.

## 1.0 SCOPE OF WORK

IT was contacted by Mr. Larry Hansen of the Rochester School Bus Company on October 24, 1995 to conduct a limited subsurface soil investigation to determine if hydraulic fluid was leaking to subsurface soils near the hydraulic hoist system rams located south of the hoist pits. Hoist #1 was located on the west side of the maintenance garage and Hoist #2 was located on the east side of the maintenance garage.

IT performed a subsurface investigation on October 26, 1995 by advancing four soil borings to a depth of 11 feet below the maintenance floor surface near the hoists. The borings were advanced using a CME 550 drilling rig and 6-inch diameter flight augers. Auger samples were collected to a depth of 7 feet and split-spoon samples were collected from 7 to 11 feet below ground surface.

The soil samples were screened using a photoionization detector (PID) and headspace methods to determine if any volatile organics were present in the soils. A soil sample was collected at the 9 to 10 foot interval from each of the soil borings. Shop drawings indicated the base of the hoist system assembly was approximately 9½ feet below ground surface.

One soil sample from each hoist area was analyzed for Diesel Range Organics (DRO).



Regional Office
1801 Old Highway 8, Suite 124 • St. Paul, Minnesota 55112-2307
612-633-0792 • FAX: 612-633-1596

## 2.0 INVESTIGATION RESULTS

Soil boring SB01 was advanced approximately 3 feet northwest of Hoist #1. SB02 was advanced approximately 3 feet southeast of Hoist #1. Subsurface soils at SB01 and SB02 consisted of sandy clay, silty clay, and silt. No groundwater was encountered at the base of the borings (11 feet below ground surface). Slightly elevated PID readings were recorded in soil samples collected from 9 to 11 feet below ground surface (2 parts per million). Faint odor was present in samples collected from 7 to 11 feet below ground surface. The soil sample collected from 9 to 10 feet at SB01 was analyzed by the Wisconsin Department of Natural Resources (WDNR) DRO method. Analytical results showed elevated DRO at 4,400 milligrams per kilogram or parts per million (ppm). The soil sample collected from 9 to 10 feet at SB02 was analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX), and total hydrocarbons as gasoline by U.S. EPA SW846 Method 8020. Analytical results showed minor concentrations of toluene (0.58 ppm) and total hydrocarbons as gasoline (1.8 ppm).

SB03 was advanced approximately 2 feet northeast of Hoist #2. SB04 was advanced approximately 2 feet southwest of Hoist #2. Subsurface soils at SB03 and SB04 consisted of clayey/silty sand and gravel (fill), and silt. No groundwater was encountered at the base of the borings (11 feet below ground surface). No elevated PID readings were recorded in soil samples collected from SB03 and SB04. The soil sample collected from 9 to 10 feet at SB03 was analyzed for DRO. Analytical results were below method detection limits.

The soil borings were backfilled with hydrated bentonite chips and sealed at the surface with concrete. Soil cuttings were drummed pending the results of analytical testing.

Boring logs and an analytical report are attached.

## 3.0 RECOMMENDATIONS

This investigation has determined that a release of suspected hydraulic fluid has occurred at the site near Hoist #1, based on the results of analytical testing of a subsurface soil sample. The release was reported to the Minnesota Pollution Control Agency (MPCA) by Mr. Hansen.

IT recommends that additional investigation work be completed at the site to determine the extent of the hydraulic fluid release to the subsurface soils, and to determine if the release has impacted groundwater. The results of further investigation should indicate if corrective measures will be needed.

Please call if you have any questions.

Sincerely,

IT CORPORATION

Barry Schneider
Project Scientist

Attachments

cc: Larry Hansen, Rochester School Bus Company

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| OJECT NUMBER: 764941 | PROJECT NAME: LAIDLAW ROCHESTER School Bus | | |
| NG NUMBER: SB01 | COORDINATES: | DATE: 10-26-95 | |
| ATION: Point #1 | GWL: Depth None Date/Time 10/26/95 1145 | DATE STARTED: 10-26-95 | |
| GINEER/GEOLOGIST: Schneider | Depth none Date/Time | DATE COMPLETED: 10-26-95 | |
| LING METHODS: Flight Auger 6" | | PAGE 1 OF 1 | |

| SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|
| Auger | | | CONCRETE<br>Brown silty fine to med SAND, gravel | | | | PID = 0ppm |
| Auger | | | Brown Sandy Clay moist. | | | | PID = 0ppm |
| | 2-2 | 100% | Brown silt, moist | | | | PID = 0ppm |
| | 2-2 | 100% | SAME | | LAIDLAW-SB01-9-10ft | | PID = 21ppm |
| | | | Backfill w/ bentonite chips. | | | | |

NOTES: Russ Maxim Tech.
CME-55 550

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 764941 | PROJECT NAME: LAIDLAW Rochester School Bus | | |
| BORING NUMBER: SB02 | COORDINATES: | DATE: 10-26-95 | |
| ELEVATION: HOIST #1 | GWL: Depth NONE Date/Time 10/26/95 1240 | DATE STARTED: 10-26-95 | |
| ENGINEER/GEOLOGIST: Schneider | Depth NONE Date/Time | DATE COMPLETED: 10-26-95 | |
| DRILLING METHODS: AUGERS FLIGHT 6" | | PAGE 1 OF 1 | |

| DEPTH ( ) | SAMPLE TYPE & NO | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0 | Auger | | | CONCRETE<br>Brown silty SAND, gravel | | | | PID = 0 |
| | | | | Brown sandy clay, gravel | | | | |
| 5 | Auger | | | Brown silty clay | | | | PID = 0 |
| | | 3-3-3 | | Grey-Brown silt, moist | | | | PID = 0 |
| 10 | | 1-2-2 | | | | LAIDLAW-SB02-9-10ft | | PID = 2 |
| | | | | Backfilled w/ bentonite chips | | | | |

NOTES:

Geoss – Matrix Technologies, Inc.

CM-550 Decon Liquinox + $H_2O$

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 764941 | PROJECT NAME: LAIDLAW ROCHESTER BUS CO. | | |
| BORING NUMBER: SB03 | COORDINATES: | DATE: 10/26/95 | |
| ELEVATION: HOIST #2 | GWL: Depth NONE Date/Time | DATE STARTED: 10/26/95 | |
| ENGINEER/GEOLOGIST: Schneider | Depth NONE Date/Time | DATE COMPLETED: 10/26/95 | |
| DRILLING METHODS: Flight Auger | | PAGE 1 OF 1 | |

| DEPTH (ft) | SAMPLE TYPE & NO | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 0 | Auger | | | Concrete | | | | |
| | | | | Brown clayey Sand, gravel or Silty Sand & gravel | | | | PID = 0 |
| 5 | Auger | | | same | | | | PID = 0 |
| | | 3-3-3 | 100% | same | | | | PID = 0 |
| 10 | | | | Grey brown silt moist | | LAIDLAW - SB03 9-10ft. | | PID = 0 |
| | | | | End of Hole | | | | |
| | | | | Backfilled w/ Bentonite chips | | | | |

NOTES:

Russ MAXIM Tech, Inc
CME 550

INTERNATIONAL TECHNOLOGY CORPORATION

# VISUAL CLASSIFICATION OF SOILS

| | | | |
|---|---|---|---|
| PROJECT NUMBER: 764941 | PROJECT NAME: AIDCAN ROCHESTER SCHOOL BUS | | |
| BORING NUMBER: SB04 | COORDINATES: | DATE: 10/26/95 | |
| ELEVATION: | GWL: Depth NONE Date/Time | DATE STARTED: 10/26/95 | |
| ENGINEER/GEOLOGIST: Schneider | Depth NONE Date/Time | DATE COMPLETED: 10/26/95 | |
| DRILLING METHODS: Flight Auger | | PAGE 1 OF 1 | |

| DEPTH (FT) | SAMPLE TYPE & NO. | BLOWS ON SAMPLER PER ( ) | RECOVERY ( ) | DESCRIPTION | USCS SYMBOL | MEASURED CONSISTENCY (TSF) | WELL CONSTRUCTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | | CONCRETE | | | | |
| | AUGER | | | Brown silty Sand + Gravel | | | | PID = 0 |
| 5 | AUGER | | | Brown clayey Sand + Gravel | | | | PID = 0 |
| | | 1-2-3 | 100% | | | | | PID = 0 |
| 10 | | 2-2-3 | 100% | Brown Silt moist ↓ | | | | PID = 0 |
| | | | | End of Hole | | | | |

NOTES:

Russ Maxim Tech, Inc
CME 55

Huntingdon

Huntingdon Engineering & Environmental, Inc.
601 East 48th Street North
Sioux Falls, South Dakota 57104-0698
(605) 332-5371
Fax: (605) 332-8488

# REPORT OF: CHEMICAL ANALYSIS

**PROJECT:** IT CORP. **DATE:** November 6, 1995

**REPORTED TO:** IT CORP
ATTN BARRY SCHNEIDER
1801 OLD HIGHWAY 8
SUITE 124
ST PAUL MN 55112



**LABORATORY NO:** 6610 95-336

Date Received: 10-27-95
Date Sampled: 10-26-95
Authorization: 10-27-95

The results of the DRO analysis is listed in Table 1. The results of the gasoline analysis are listed in Table 2.

**TABLE 1**
DIESEL RANGE ORGANICS

| Sample Identification | Diesel Range Client Sample ID | RECOVERY: Organics (mg/kg) | SURROGATE Triacontane |
|---|---|---|---|
| 96-596 | SB01 | 4,400* | ** |
| 96-598 | SB03 | <4.0 | 111% |
| PQL | | 4.0 | |

All results are reported on a dry weight basis.
All values are in mg/kg which is equal to parts per million (ppm).
PQL - Practical Quantitation Limit
Date Extracted: 10-27-96
Date Analyzed: 10-27-95
Method: Wisconsin Diesel Range Organics
* Higher boiling hydrocarbons present. Technical Review: SVH
** No triacontane percent recovery due to presence of higher boiling hydrocarbons.
NOTE: Samples received in zero headspace jars with no septa, therefore, not preserved upon arrival.

**LABORATORY QUALITY CONTROL**

| | ACCURACY DATA | | PRECISION DATA |
|---|---|---|---|
| Parameter | Matrix Spike Percent Recovery | Matrix Spike Duplicate Percent Recovery | Relative Percent Difference |
| DRO | 101% | 87% | 15% |
| Surrogate Recovery | 99% | 102% | — |

**TABLE 1**
VOLATILE ANALYSIS

| Client Sample ID | SB02 | |
|---|---|---|
| Parameter | 96-597 | MDL |
| Total Hydrocarbons as Gasoline | 1,800 | 7 |
| Benzene | < 1 | 1 |
| Toluene | 580 | 1 |
| Xylenes | < 1 | 1 |
| Ethylbenzene | < 1 | 1 |
| **SURROGATE RECOVERY:** | | |
| α,α,α-Trifluorotoluene | 71%* | |

All values are in ug/kg. ug/kg is equal to parts per billion.
MDL - Method Detection Limit
Date Analyzed: 10-31-95
USEPA SW846 Method 8020 Technical Review:
* Surrogate recovery was low due to a matrix. Sample was run in duplicate.

**LABORATORY QUALITY CONTROL**

| | | ACCURACY DATA | | PRECISION DATA |
|---|---|---|---|---|
| Parameter | Sample # | Matrix Spike Percent Recovery | Matrix Spike Duplicate Percent Recovery | Relative Percent Difference |
| Benzene | Blank | 102% | 98% | 4.2% |
| Toluene | Blank | 102% | 98% | 4.2% |
| Xylene | Blank | 101% | 97% | 3.5% |
| Ethylbenzene | Blank | 102% | 100% | 2.1% |

**HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.**

Virginia VerMulm
Laboratory Supervisor

Dan T. Hanson
Chemistry Manager

INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 471432
Page 1 of 1

764941

Project Name/No.[1] LA Dock
Sample Team Members[2]
Profit Center No.[3]
Project Manager[4]
Purchase Order No.[6]
Required Report Date[11]

Samples Shipment Date[7]
Lab Destination[8]
Lab Contact[9]
Project Contact/Phone[12]
Carrier/Waybill No.[13] 6910062776

Bill to:[5] EI CORP
Report to:[10] EI CORP
ATTN: BARRY SCHNEIDER

**ONE CONTAINER PER LINE**

| Sample Number[14] | Sample Description/Type[15] | Date/Time Collected[16] | Container Type[17] | Sample Volume[18] | Pre-servative[19] | Requested Testing Program[20] | Condition on Receipt[21] | Disposal Record No.[22] |
|---|---|---|---|---|---|---|---|---|
| LA-DLAW- | Soil | | | | | Hydraulic Fluid | | |
| LA-DLAW- | Soil | | | | | DRO | | |
| LA-DLAW- | Soil | | | | | DRO Hydraulic Fluid | | |
| LA-DLAW- | Soil | | | | | DRO | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Special Instructions:[23] Rush TAT

Possible Hazard Identification:[24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal:[25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required:[26]
Normal ☐ Rush ☐

QC Level:[27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

| | |
|---|---|
| 1. Relinquished by[28] (Signature/Affiliation) Date: Time: | 1. Received by[28] (Signature/Affiliation) Date: Time: |
| 2. Relinquished by (Signature/Affiliation) Date: Time: | 2. Received by (Signature/Affiliation) Date: Time: |
| 3. Relinquished by (Signature/Affiliation) Date: Time: | 3. Received by (Signature/Affiliation) Date: Time: |

Comments:[29] FAX Results to [illegible]

MCA 3/15/91

White: To accompany samples Yellow: Field copy *See back of form for special instructions.