Quearm Oil

# ADVENT

Environmental Services, Inc.

# Soil Sampling Report

## Ino Landspreading Site #1

Susienka Road, Keystone Township, Wisconsin
Bayfield County

Advent Project No. 200044.01

**Prepared for:**
NorthStar Environmental Construction
Chetek, Wisconsin

**July 2000**

8/2/2000 JMD

ADVENT

July 7, 2000

Fran Siemers
NorthStar Environmental Construction
P.O. Box 675
Chetek, WI 54728-0675

Re: Soil Sampling Report, Ino Landspreading Site #1,
Susienka Road, Keystone Township, Bayfield County, Wisconsin.
Advent Project No. 200044.01.

Dear Fran:

I have enclosed the soil sampling report for the Ino Landspreading Site #1, Susienka Road, Township of Keystone, Bayfield County, Wisconsin. We recommend no additional testing or remediation at these sites.

Results of the soil sampling indicate that petroleum contamination has been remediated to levels below the Wisconsin Department of Natural Resources' (WDNR's) generic residual contaminant levels (RCLs) as outlined in NR 720.09 (4).

If you have any questions, you can reach me at 715-831-1530.

Sincerely,

for

Michael K. Neal, Professional Hydrologist
Geomorphologist – Eau Claire Office

Enclosure

Advent Environmental Services, Inc.

P.O. Box 277
Mequon, WI 53092-0277
Fax 414-371-5021
1-800-880-1998
414-371-5020

5110 Fairview Dr., Suite A
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1-800-530-1520
715-831-1530

# Soil Sampling Report

## Ino Landspreading Site#1

Susienka Road, Keystone Township, Bayfield County, Wisconsin

I, Michael K. Neal, hereby certify that I am a professional hydrologist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Michael K. Neal (SEAL) Date: 7/7/00

I, Michelle Freimund, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Michelle L. Freimund Date: 7-27-00

WISCONSIN MICHELLE I. FREIMUND PROFESSIONAL GEOLOGIST

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A Standard Sampling Procedures and Chain of Custody Procedures
B Laboratory Results and Chain of Custody Documentation

## EXECUTIVE SUMMARY

Advent Environmental Services, Inc., has completed soil sampling for the Ino Landspreading Site #1 at Susienka Road, Keystone Township, Bayfield County, Wisconsin, and we recommend no additional testing or remediation at these sites. The low contaminant levels of petroleum volatile organic compounds (PVOCs), gasoline range organics (GROs), and diesel range organics (DROs) in the soil will not leach and cause groundwater contamination to exceed the NR 140 enforcement standard (ES). The low contaminant levels do not represent a health hazard by direct contact.

Landspreading and bioremediation has successfully remediated the soil to levels below Wisconsin Department of Natural Resources (WDNR) NR 720 generic residual contaminant levels (RCLs). Laboratory analyses of soil samples collected from the site confirm that all of the soil with PVOCs concentrations above their generic RCLs, and GROs, and DROs above the 250 parts per million (ppm) limit have been remediated.

NorthStar Environmental Construction contracted Advent to collect closure samples documenting the remediation of petroleum-contaminated soil by single application landspreading and bioremediation. These soils were previously stockpiled at the former Clean Soils thermal remediation site in Ino, Wisconsin. We conducted this soil sampling for remediation on May 18, 19, and 25, 2000.

Site Remediation

# Purpose and Scope of Services

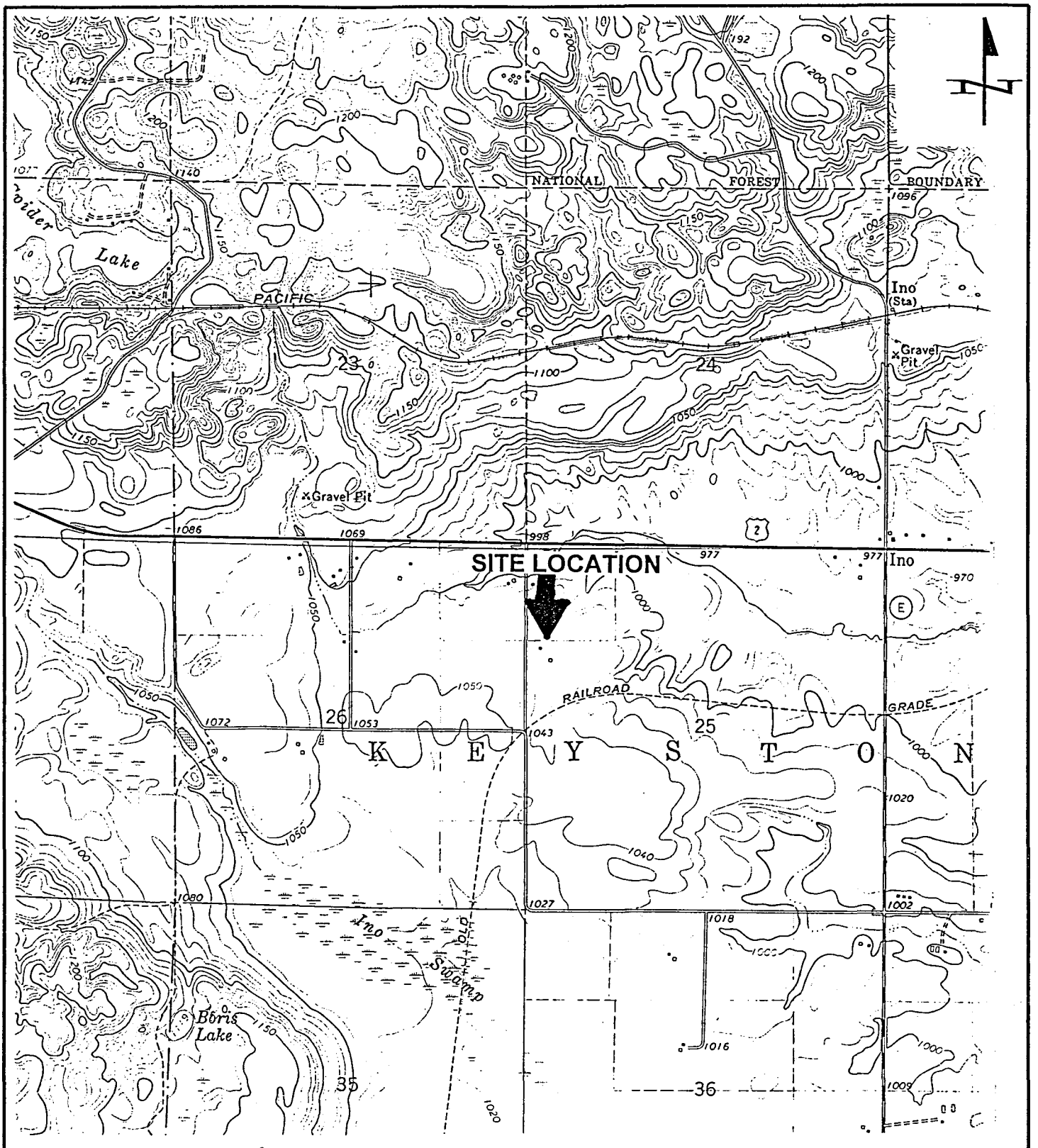
NorthStar Environmental Construction (715-237-3005) contracted Advent to collect closure samples at the Ino Landspreading Site #1, Susienka Road, Keystone Township, Bayfield County, Wisconsin (SW¼, NW¼, Sec. 25, T.47N., R.7W.), to document soil remediation by landspreading and bioremediation. (See Figure 1.)

At Site #1, approximately 4,000 tons of petroleum-contaminated soils were originally excavated from the Quearm Oil facility, 105 W. Sixth Street, Ashland, WI. Soils from the site were transported and stockpiled at the former CleanSoils thermal treatment facility in Ino, WI. NorthStar Environmental obtained written approval from the Wisconsin Department of Natural Resources (WDNR) to landspread this material.

Soils were landspread at a site owned by Margaret Hieb, Route 2, Box 199, Mason, WI 54856. On Site #1, approximately 4,000 tons of contaminated soil were spread over 5.5 acres. The site is east of Hieb Farm buildings. See Figure 2 for site features and soil sample locations.

Advent performed the following services on May 18, 19, and 25, 2000:

- Field screened and collected samples from the landspread soil to document by laboratory analysis the concentrations of petroleum constituents in the material
- Evaluated and interpreted field and laboratory data and prepared a closure report.



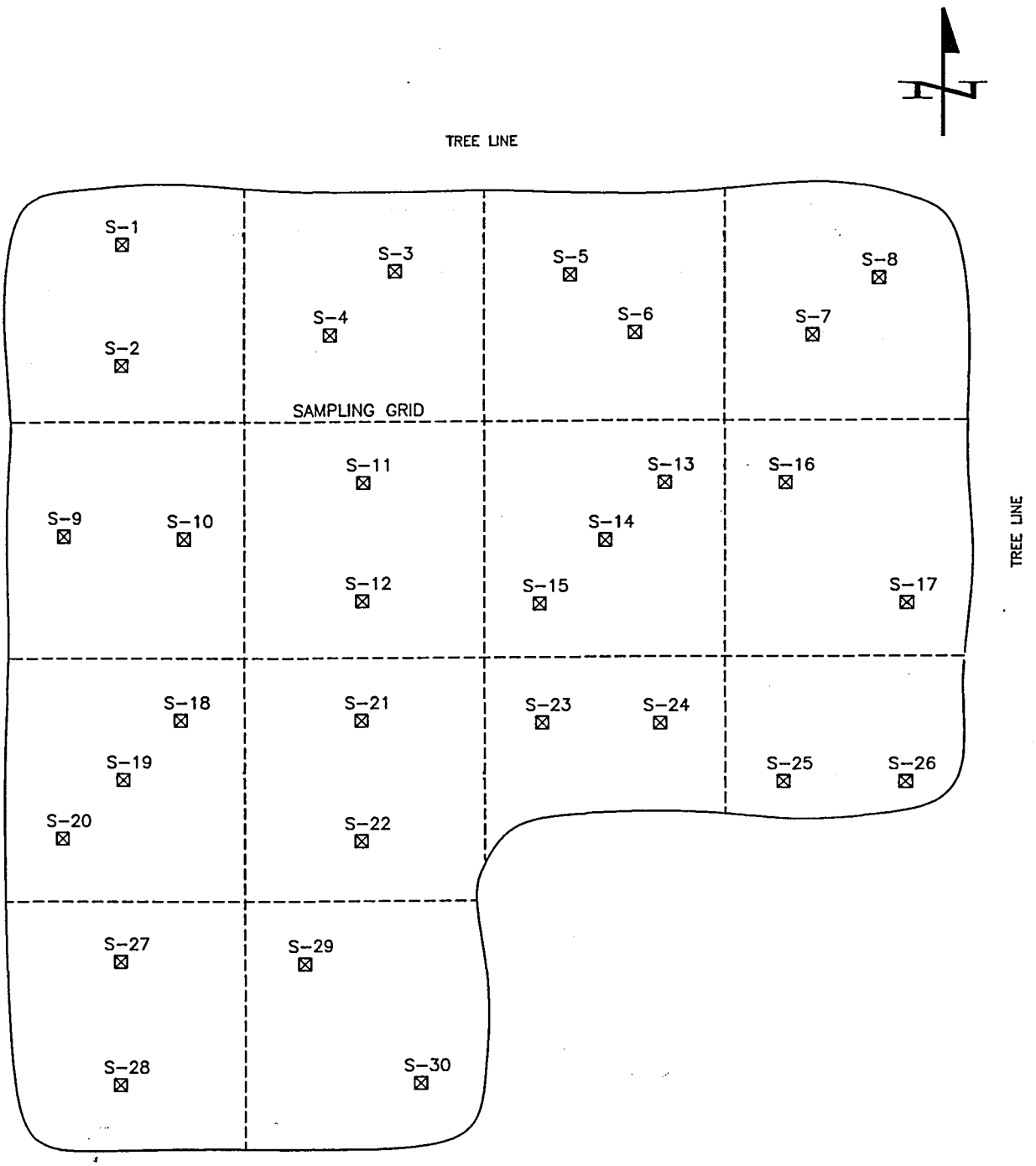


QUADRANGLE LOCATION
NW1/4, SEC.25, T.47N., R.7W.

SCALE: 1 : 25,000

NOTE:
FIGURE DEVELOPED FROM THE INO, WISCONSIN
7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP.

| | |
|---|---|
| DRAWN BY: KRK | FIGURE #1<br>SITE LOCATION<br>INO LANDSPREADING SITES<br>INO, WISCONSIN |
| APPROVED BY: | |
| DATE: 7/20/00 | ADVENT<br>ENVIRONMENTAL SERVICES, INC. |
| PROJECT# 200044.01 | |




SCALE: 1 INCH = 80 FEET

LEGEND:

S-1⊠ SOIL SAMPLE LOCATION AND NUMBER

| | |
|---|---|
| DRAWN BY: KRK | FIGURE #2<br>SITE FEATURES AND SAMPLING LOCATIONS<br>INO LANDSPREADING SITE #1<br>INO, WISCONSIN |
| APPROVED BY: | |
| DATE: 7/20/00 | ADVENT<br>ENVIRONMENTAL SERVICES, INC. |
| PROJECT# 200044.01B | |

# Soil Testing Methods

## Sample Collection Methods

The site was divided into equal grid sectors. Approximately one soil sample was collected for every 100 cubic yards of contaminated soil landspread. Two samples were obtained from each sampling point, one from the treatment zone, which was 0-1 feet below ground surface (bgs), and one from 2 to 3 feet bgs.

At Site #1, there were 30 sample locations. Soil samples were field screened to reduce the number of samples to be analyzed. Fifty percent of the samples were submitted for laboratory analysis and of these, 25% came from samples collected from 2 to 3 feet bgs. Each sample was analyzed for gasoline range organics (GROs), diesel range organics (DROs), and petroleum volatile organic compounds (PVOCs) to confirm contaminated soil treatment.

## Field Screening Methods

We field screened each soil sample with a calibrated photoionization detector (PID – HNU model PI 101, 11.7 eV lamp) using the headspace method and results were reported as instrument units (IUs).

Appendix A includes the procedures followed for collecting and field screening soil samples and for maintaining sample security, identification, integrity, and chain of custody procedures.

## Laboratory Analysis of Soil Methods

Great Lakes Analytical of Oak Creek, Wisconsin (WI Certification #341000330), analyzed the soil samples collected at the Ino Landspreading Site #1 for GROs (WDNR Modified GRO method), DROs (WDNR Modified DRO method), and PVOCs (EPA method 5030/8021). The analytical methods used are approved by the WDNR and outlined in the most recent "LUST and Petroleum Analytical and Quality Assurance Guidance" and Wisconsin Administrative Code Chapter NR 700. Each analytical method follows specific quality control (QC) criteria listed in the "LUST Quality Assurance Plan," also published by the WDNR. This includes the selection and calibration of appropriate instruments and the use of QC samples. Daily performance tests and the demonstration of precision and accuracy in the laboratory are required for certification.

See Appendix B for soil sample chain of custody documentation and laboratory results.

# Soil Testing Results

## Field Screening

Field screening of soil samples produced PID responses ranging from less than 1 IU to 10 IUs. Table 1 represents the field screening data for the site.

## Laboratory Analyses

None of the soil samples collected from Site #1 had GRO, DRO, or PVOC concentrations exceeding the NR 720 generic RCLs. Figure 2 illustrates sampling locations and site features. Table 2 presents the analytical results of samples from the site.

Appendix B presents copies of laboratory data reports.

| TABLE 1 (page 1 of 2)<br>FIELD SCREENING RESULTS - SOIL<br>INO LANDSPREADING SITE #1, INO, WISCONSIN | | |
|---|---|---|
| Sample | Depth | PID |
| S-1A | 0-1 | < 1 |
| S-1B | 2-3 | < 1 |
| S-2A | 0-1 | < 1 |
| S-2B | 2-3 | < 1 |
| S-3A | 0-1 | < 1 |
| S-3B | 2-3 | < 1 |
| S-4A | 0-1 | < 1 |
| S-4B | 2-3 | < 1 |
| S-5A | 0-1 | < 1 |
| S-5B | 2-3 | < 1 |
| S-6A | 0-1 | < 1 |
| S-6B | 2-3 | < 1 |
| S-7A | 0-1 | < 1 |
| S-7B | 2-3 | < 1 |
| S-8A | 0-1 | < 1 |
| S-8B | 2-3 | < 1 |
| S-9A | 0-1 | 10 |
| S-9B | 2-3 | < 1 |
| S-10A | 0-1 | < 1 |
| S-10B | 2-3 | < 1 |
| S-11A | 0-1 | < 1 |
| S-11B | 2-3 | < 1 |
| S-12A | 0-1 | < 1 |
| S-12B | 2-3 | < 1 |
| S-13A | 0-1 | < 1 |
| S-13B | 2-3 | < 1 |
| S-14A | 0-1 | < 1 |
| S-14B | 2-3 | < 1 |
| S-15A | 0-1 | < 1 |
| S-15B | 2-3 | < 1 |

| TABLE 1 (page 2 of 2)<br>FIELD SCREENING RESULTS - SOIL<br>INO LANDSPREADING SITE #1, INO, WISCONSIN | | |
|---|---|---|
| **Sample** | **Depth** | **PID** |
| S-16A | 0-1 | < 1 |
| S-16B | 2-3 | < 1 |
| S-17A | 0-1 | < 1 |
| S-17B | 2-3 | < 1 |
| S-18A | 0-1 | < 1 |
| S-18B | 2-3 | < 1 |
| S-19A | 0-1 | < 1 |
| S-19B | 2-3 | < 1 |
| S-20A | 0-1 | < 1 |
| S-20B | 2-3 | < 1 |
| S-21A | 0-1 | < 1 |
| S-21B | 2-3 | < 1 |
| S-22A | 0-1 | < 1 |
| S-22B | 2-3 | < 1 |
| S-23A | 0-1 | < 1 |
| S-23B | 2-3 | < 1 |
| S-24A | 0-1 | < 1 |
| S-24B | 2-3 | < 1 |
| S-25A | 0-1 | < 1 |
| S-25B | 2-3 | < 1 |
| S-26A | 0-1 | 5 |
| S-26B | 2-3 | < 1 |
| S-27A | 0-1 | < 1 |
| S-27B | 2-3 | < 1 |
| S-28A | 0-1 | < 1 |
| S-28B | 2-3 | < 1 |
| S-29A | 0-1 | < 1 |
| S-29B | 2-3 | < 1 |
| S-30A | 0-1 | < 1 |
| S-30B | 2-3 | < 1 |

## TABLE 2 (page 1 of 2)
## ANALYTICAL RESULTS - SOIL - CLOSURE SAMPLES
## INO LANDSPREADING SITE #1, INO, WISCONSIN

| | NR 720 RCLs | Samples | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | S-2B | S-3A | S-6B | S-8A | S-9A | S-10B | S-12A | MEOH BLANK #1 |
| Depth (feet) | | 2-3 | 0-1 | 2-3 | 0-1 | 0-1 | 2-3 | 0-1 | --- |
| PID (Instrument units) | | < 1 | <1 | < 1 | < 1 | 10 | < 1 | < 1 | --- |
| GROs (ppm) | 250 | ND | ND | ND | ND | 6.07 | ND | ND | ND |
| DROs (ppm) | 250 | ND | ND | 11.9 | ND | 115 | ND | ND | --- |
| PVOCs (ppb) | Ontagon Cty loam OK | | | | | | | | |
| Benzene | 25 [1] | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| Ethylbenzene | 2,900 | < 25 | < 25 | < 25 | < 25 | 71.6 | < 25 | < 25 | < 25 |
| MTBE | | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| Toluene | 1,500 | < 25 | < 25 | < 25 | < 25 | 296 | < 25 | < 25 | < 25 |
| 1,2,4-TMB | | < 25 | < 25 | < 25 | < 25 | 143 | < 25 | < 25 | < 25 |
| 1,3,5-TMB | | < 25 | < 25 | < 25 | < 25 | 89 | < 25 | < 25 | < 25 |
| Total Xylenes | 4,100 | < 25 | < 25 | < 25 | < 25 | 427 | < 25 | < 25 | < 25 |

TMB = trimethylbenzene

MTBE = methyl-tert-butyl-ether

ND = not detected

[1] Laboratory detection limit exceeds case closeout limit due to methanol preservation.

## TABLE 2 (page 2 of 2)
## ANALYTICAL RESULTS - SOIL - CLOSURE SAMPLES
## INO LANDSPREADING SITE #1, INO, WISCONSIN

| | *NR 720 RCLs* | Samples | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **S-14A** | **S-16B** | **S-19A** | **S-22A** | **S-23B** | **S-26A** | **S-28A** | **S-29B** | **MEOH BLANK #2** |
| Depth (feet) | | 0-1 | 2-3 | 0-1 | 0-1 | 2-3 | 0-1 | 0-1 | 2-3 | --- |
| PID (Instrument units) | | < 1 | <1 | < 1 | < 1 | < 1 | 5 | < 1 | < 1 | --- |
| GROs (ppm) | *250* | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DROs (ppm) | *250* | 6.77 | 10.6 | 14.4 | 15.3 | 15 | 12.8 | 8.98 | 8.88 | --- |
| PVOCs (ppb) | | | | | | | | | | |
| Benzene | *25*[1] | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| Ethylbenzene | *2,900* | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| MTBE | | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| Toluene | *1,500* | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| 1,2,4-TMB | | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| 1,3,5-TMB | | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 | < 25 |
| Total Xylenes | *4,100* | < 25 | < 25 | < 25 | < 25 | 40.8 | < 25 | < 25 | < 25 | < 25 |

TMB = trimethylbenzene

MTBE = methyl-tert-butyl-ether

ND = not detected

[1] Laboratory detection limit exceeds case closeout limit due to methanol preservation.

# Conclusions and Recommendations

## Conclusions

Landspreading and bioremediation has successfully remediated petroleum-contaminated soil at the site to levels below the WDNR NR 720 generic RCLs. Based on the remaining low GRO, DRO, and PVOC levels, the soil will apparently not affect groundwater quality and does not pose a threat to health by direct contact.

## Recommendations

Advent recommends no further investigation or remediation at the site.

# APPENDIX A

# APPENDIX A

## Standard Sampling Procedures and Chain of Custody Procedures

## SAMPLING AND FIELD SCREENING PROCEDURES

Soil Sampling Procedures

We collected subsurface soil samples with a hand auger. Adequate soil was collected and split into a sample for field screening and a sample for laboratory analysis, if needed. Soil collected from the hand auger was taken from the inside of a soil mass to prevent the collection of cross-contaminated soil that may have come in contact with the auger.

The following headspace methodologies were used for PID field screening of soil samples:

1. The PID was calibrated at the site according to the manufacturer's specifications before beginning field operations. Results of the calibration were recorded on a calibration log sheet.

2. Headspace samples were collected in clean glass jars.

3. The jars were half-filled and sealed with heavy-gauge aluminum foil immediately after sampling.

4. Once the headspace samples were sealed, the samples were agitated for at least 30 seconds to break up soil clods and release vapors.

5. After being agitated, the samples were placed out of direct sunlight and allowed to equilibrate to approximately $70^0$ F.

6. Following equilibration, the headspace samples were analyzed by inserting the tip of the PID probe through a single, small hole in the foil seal to a position halfway between the seal and sample surface. The highest instrument reading was then recorded.

Soil Samples Submitted for Laboratory Analysis

Soil samples submitted for laboratory analysis were collected as split samples from the same location as the samples for field screening. Soil samples submitted were transferred into the appropriate containers depending on the laboratory analysis needed.

| ANALYTE | CONTAINER TYPE | FIELD PRESERVATIVE |
|---|---|---|
| DRO | 2-oz. TLC* jar | none |
| GRO | 2-oz. TLC jar | Methanol |
| PVOC | 2-oz. TLC jar | Methanol |

*TLC = Teflon-lined cap

Samples were then sealed and cooled to 4°C for transport to the laboratory. All collected samples were labeled with the following information:

- Site name
- Sample number
- Collection date and time
- Requested analysis
- Other applicable information (e.g., PID readings, odors)

Chain of Custody Procedures

This section describes procedures used for sample identification and chain of custody. The purpose of these procedures is to ensure security and integrity of the sample from collection through transportation, storage, and analysis.

Sample identification documents were carefully prepared so that sample identification and chain of custody were maintained and sample disposition was controlled. Sample identification documents included the following:

- Field notebooks
- Sample labels
- Chain of custody records

Each sample was labeled, chemically or physically preserved, and sealed immediately after collection. To minimize handling of sample containers, a label was filled out before sample collection. The sample label was completed using waterproof ink and then firmly affixed to the sample container. The sample label provided the following information:

- Sample number
- Sample location
- Collection time and date
- Required analysis
- Sampler name

Immediately following sample collection, the Advent sampler completed a chain of custody record in triplicate.

Transfer of Custody Shipment

We packed the samples and chain of custody record in an ice-filled cooler. When transferring samples, the individuals relinquishing and receiving them signed, dated, and noted the time on the chain of custody record. This record documents sample custody.

Laboratory Custody Procedures

A designated sample custodian accepted custody of the shipped samples and verified that the sample identification numbers matched those on the chain of custody record. The laboratory retained a copy of this record until analyses were complete. The record was then transferred to Advent and is maintained with the analytical results in the project file.

# APPENDIX B

# APPENDIX B

## Laboratory Results and Chain of Custody Documentation

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

June 7, 2000

M. Neal
Advent Environmental Services - Eau Claire
5110 Fairview Dr., Suite A
Eau Claire, WI 54701

RE: Ino Landspreading

Dear M. Neal

Enclosed are the results of analyses for sample(s) received by the laboratory on May 22, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Satal Patel
Project Manager

WDNR Cert # 341000330

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

| | | | |
|---|---|---|---|
| Advent Environmental Services - Eau Claire | Project: | Ino Landspreading | Sampled: 5/19/00 |
| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## ANALYTICAL REPORT FOR SAMPLES:

| Sample Description | Laboratory Sample Number | Sample Matrix | Date Sampled |
|---|---|---|---|
| MeOH Blank #1 | W005101-01 | MeOH Blank | 5/19/00 |
| S-2B | W005101-02 | Soil (WI) | 5/19/00 |
| S-3A | W005101-03 | Soil (WI) | 5/19/00 |
| S-6B | W005101-04 | Soil (WI) | 5/19/00 |
| S-8A | W005101-05 | Soil (WI) | 5/19/00 |
| S-9A | W005101-06 | Soil (WI) | 5/19/00 |
| S-10B | W005101-07 | Soil (WI) | 5/19/00 |
| S-12A | W005101-08 | Soil (WI) | 5/19/00 |
| S-14A | W005101-09 | Soil (WI) | 5/19/00 |
| S-16B | W005101-10 | Soil (WI) | 5/19/00 |
| S-19A | W005101-11 | Soil (WI) | 5/19/00 |
| S-22A | W005101-12 | Soil (WI) | 5/19/00 |
| S-23B | W005101-13 | Soil (WI) | 5/19/00 |
| S-26A | W005101-14 | Soil (WI) | 5/19/00 |
| S-28A | W005101-15 | Soil (WI) | 5/19/00 |
| S-29B | W005101-16 | Soil (WI) | 5/19/00 |
| MeOH Blank #2 | W005101-17 | MeOH Blank | 5/19/00 |



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Satal Patel, Project Manager

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

| | | | |
|---|---|---|---|
| Advent Environmental Services - Eau Claire | Project: | Ino Landspreading | Sampled: 5/19/00 |
| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Diesel Range Organics (DRO) by WDNR DRO
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Specific Method | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| S-2B | | | W005101-02 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.16 | ND | mg/kg dry | |
| S-3A | | | W005101-03 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 7.01 | ND | mg/kg dry | |
| S-6B | | | W005101-04 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.26 | 11.9 | mg/kg dry | T10,T15 T6 |
| S-8A | | | W005101-05 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.27 | ND | mg/kg dry | |
| S-9A | | | W005101-06 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 5.51 | 115 | mg/kg dry | T10,T11 T15 |
| S-10B | | | W005101-07 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.36 | ND | mg/kg dry | |
| S-12A | | | W005101-08 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 7.22 | ND | mg/kg dry | |
| S-14A | | | W005101-09 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.46 | 6.77 | mg/kg dry | T10,T15,T6 |
| S-16B | | | W005101-10 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.56 | 10.6 | mg/kg dry | T10,T15,T6 |
| S-19A | | | W005101-11 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/31/00 | WDNR DRO | 5.89 | 14.4 | mg/kg dry | T10,T15,T6 |
| S-22A | | | W005101-12 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.51 | 15.3 | mg/kg dry | T10,T15,T6 |
| S-23B | | | W005101-13 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.47 | 15.0 | mg/kg dry | T10,T15,T6 |
| S-26A | | | W005101-14 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.11 | 12.8 | mg/kg dry | T10,T15,T6 |

Great Lakes Analytical--Oak Creek

**Refer to end of report for text of notes and definitions.*

Satal Patel, Project Manager

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

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| Advent Environmental Services - Eau Claire | Project: | Ino Landspreading | Sampled: 5/19/00 |
| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Diesel Range Organics (DRO) by WDNR DRO
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Specific Method | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| S-28A | | | W005101-15 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.45 | 8.98 | mg/kg dry | T10,T15,T6 |
| S-29B | | | W005101-16 | | | | Soil (WI) | G4 |
| Diesel Range Organics (DRO) | 0050082 | 5/30/00 | 5/30/00 | WDNR DRO | 6.23 | 8.88 | mg/kg dry | T10,T15,T6 |

Great Lakes Analytical--Oak Creek

*Refer to end of report for text of notes and definitions.*

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| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Gasoline Range Organics (GRO) by WDNR GRO
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Specific Method | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **MeOH Blank #1** | | | W005101-01 | | | | MeOH Blank | |
| Gasoline Range Organics (GRO) | 0060002 | 6/1/00 | 6/1/00 | WDNR GRO | 5.00 | ND | mg/l | |
| **S-2B** | | | W005101-02 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/1/00 | WDNR GRO | 6.16 | ND | mg/kg dry | |
| **S-3A** | | | W005101-03 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/5/00 | WDNR GRO | 7.01 | ND | mg/kg dry | |
| **S-6B** | | | W005101-04 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.26 | ND | mg/kg dry | |
| **S-8A** | | | W005101-05 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.27 | ND | mg/kg dry | |
| **S-9A** | | | W005101-06 | | | | Soil (WI) | |
| **Gasoline Range Organics (GRO)** | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 5.51 | **6.07** | mg/kg dry | T1,T4 |
| **S-10B** | | | W005101-07 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.36 | ND | mg/kg dry | |
| **S-12A** | | | W005101-08 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 7.22 | ND | mg/kg dry | |
| **S-14A** | | | W005101-09 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.46 | ND | mg/kg dry | |
| **S-16B** | | | W005101-10 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.56 | ND | mg/kg dry | |
| **S-19A** | | | W005101-11 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 5.89 | ND | mg/kg dry | |
| **S-22A** | | | W005101-12 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.51 | ND | mg/kg dry | |
| **S-23B** | | | W005101-13 | | | | Soil (WI) | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.47 | ND | mg/kg dry | |

Great Lakes Analytical--Oak Creek

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| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Gasoline Range Organics (GRO) by WDNR GRO
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Specific Method | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **S-26A** | | | **W005101-14** | | | | **Soil (WI)** | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.11 | ND | mg/kg dry | |
| **S-28A** | | | **W005101-15** | | | | **Soil (WI)** | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.45 | ND | mg/kg dry | |
| **S-29B** | | | **W005101-16** | | | | **Soil (WI)** | |
| Gasoline Range Organics (GRO) | 0050087 | 5/30/00 | 6/2/00 | WDNR GRO | 6.23 | ND | mg/kg dry | |
| **MeOH Blank #2** | | | **W005101-17** | | | | **MeOH Blank** | |
| Gasoline Range Organics (GRO) | 0060002 | 6/1/00 | 6/1/00 | WDNR GRO | 5.00 | ND | mg/l | |

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| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Petroleum Volatile Organic Compounds (PVOC) by Method 8021B
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **MeOH Blank #1** | | | W005101-01 | | | | MeOH Blank | |
| Benzene | 0060002 | 6/1/00 | 6/1/00 | | 25.0 | ND | ug/l | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *104* | % | |
| **S-2B** | | | W005101-02 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/1/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *104* | % | |
| **S-3A** | | | W005101-03 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/5/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *86.5* | % | |
| **S-6B** | | | W005101-04 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *103* | % | |

Great Lakes Analytical--Oak Creek

**Refer to end of report for text of notes and definitions.*

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| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Petroleum Volatile Organic Compounds (PVOC) by Method 8021B
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| S-8A | | | W005101-05 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *87.6* | % | |
| S-9A | | | W005101-06 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | 106 | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | 71.6 | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | 296 | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | 143 | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | 89.0 | " | |
| Total Xylenes | " | " | " | | 25.0 | 427 | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *110* | % | |
| S-10B | | | W005101-07 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *95.3* | % | |
| S-12A | | | W005101-08 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *97.5* | % | |

Great Lakes Analytical--Oak Creek

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| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Petroleum Volatile Organic Compounds (PVOC) by Method 8021B
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **S-14A** | | | W005101-09 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *107* | % | |
| **S-16B** | | | W005101-10 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *98.3* | % | |
| **S-19A** | | | W005101-11 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *97.4* | % | |
| **S-22A** | | | W005101-12 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *92.4* | % | |

Great Lakes Analytical--Oak Creek

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## Petroleum Volatile Organic Compounds (PVOC) by Method 8021B
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **S-23B** | | | W005101-13 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | 40.8 | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *106* | % | |
| **S-26A** | | | W005101-14 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *102* | % | |
| **S-28A** | | | W005101-15 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *99.2* | % | |
| **S-29B** | | | W005101-16 | | | | Soil (WI) | |
| Benzene | 0050087 | 5/30/00 | 6/2/00 | | 25.0 | ND | ug/kg dry | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *104* | % | |

Great Lakes Analytical--Oak Creek

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## Petroleum Volatile Organic Compounds (PVOC) by Method 8021B
## Great Lakes Analytical--Oak Creek

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|---|---|---|---|---|---|---|---|---|
| **MeOH Blank #2** | | | **W005101-17** | | | | **MeOH Blank** | |
| Benzene | 0060002 | 6/1/00 | 6/1/00 | | 25.0 | ND | ug/l | |
| Ethylbenzene | " | " | " | | 25.0 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 25.0 | ND | " | |
| Toluene | " | " | " | | 25.0 | ND | " | |
| 1,2,4-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| 1,3,5-Trimethylbenzene | " | " | " | | 25.0 | ND | " | |
| Total Xylenes | " | " | " | | 25.0 | ND | " | |
| *Surrogate: 4-BFB* | " | " | " | *80.0-120* | | *104* | *%* | |

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| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Dry Weight Determination
## Great Lakes Analytical--Oak Creek

| Sample Name | Lab ID | Matrix | Result | Units |
|---|---|---|---|---|
| S-2B | W005101-02 | Soil (WI) | 81.1 | % |
| S-3A | W005101-03 | Soil (WI) | 71.4 | % |
| S-6B | W005101-04 | Soil (WI) | 79.8 | % |
| S-8A | W005101-05 | Soil (WI) | 79.7 | % |
| S-9A | W005101-06 | Soil (WI) | 90.8 | % |
| S-10B | W005101-07 | Soil (WI) | 78.6 | % |
| S-12A | W005101-08 | Soil (WI) | 69.2 | % |
| S-14A | W005101-09 | Soil (WI) | 77.4 | % |
| S-16B | W005101-10 | Soil (WI) | 76.2 | % |
| S-19A | W005101-11 | Soil (WI) | 84.9 | % |
| S-22A | W005101-12 | Soil (WI) | 76.9 | % |
| S-23B | W005101-13 | Soil (WI) | 77.2 | % |
| S-26A | W005101-14 | Soil (WI) | 81.9 | % |
| S-28A | W005101-15 | Soil (WI) | 77.6 | % |
| S-29B | W005101-16 | Soil (WI) | 80.2 | % |

Great Lakes Analytical--Oak Creek

Satal Patel, Project Manager

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

| | | | |
|---|---|---|---|
| Advent Environmental Services - Eau Claire | Project: | Ino Landspreading | Sampled: 5/19/00 |
| 5110 Fairview Dr., Suite A | Project Number: | 200044.01 | Received: 5/22/00 |
| Eau Claire, WI 54701 | Project Manager: | M. Neal | Reported: 6/7/00 10:15 |

## Notes and Definitions

| # | Note |
|---|---|
| G4 | The laboratory control spike recoveries associated with this sample were below the laboratory's established acceptance criteria. |
| T1 | Gas Pattern |
| T10 | Diesel Range |
| T11 | Motor Oil Range |
| T15 | Late Elevated Baseline |
| T4 | Gas Range |
| T6 | Early Peaks |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| Recov. | Recovery |
| RPD | Relative Percent Difference |

Great Lakes Analytical--Oak Creek

Batal Patel, Project Manager

GREAT LAKES ANALYTICAL

# CHAIN OF CUSTODY REPORT

1380 Busch Parkway
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

Client: Advent | Bill To: Advent | TAT: Standard (5 DAY / 4 DAY / 3 DAY / 2 DAY / 1 DAY / < 24 HRS.)

Address: Eau Claire, WI | Address: Eau Claire, WI | DATE RESULTS NEEDED:

TEMPERATURE UPON RECEIPT:

Report to: M. Neal | Phone #: 715 831 7530 | Fax #: ( ) | State & Program: | Phone #: ( ) | Fax #: ( ) | AIR BILL NO.

Project: Ino Landspreading

Sampler: Michael E. Neal

PO/Quote #: 200044.01

| | FIELD ID, LOCATION | DATE COLLECTED | TIME COLLECTED | SAMPLE MATRIX | PRESERVATIVES | NO. CONTAINERS | TYPE CONTAINERS | GRO/PVOC | DRO | DRO W/ SILICA GEL | SAMPLE CONTROL: CRACKED/BROKEN | SAMPLE CONTROL: IMPROPERLY SEALED | SAMPLE CONTROL: GOOD CONDITION | LABORATORY ID NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MeOH Blank #1 | 5-19-2000 | 7:30 | MeOH | MeOH #2 | 1 | | X | | | | | | 3005101-01 |
| 2 | S-2B | | 7:45 | Soil | MeOH + None | 3 | | X | X | X | | | | -02 |
| 3 | S-3A | | 8:00 | | | 3 | | X | X | X | | | | -03 |
| 4 | S-6B | | 9:00 | | | 3 | | X | X | X | | | | -04 |
| 5 | S-8A | | 9:30 | | | 3 | | X | X | X | | | | -05 |
| 6 | S-9A | | 9:45 | | | 3 | | X | X | X | | | | -06 |
| 7 | S-10B | | 10:00 | | | 3 | | X | X | X | | | | -07 |
| 8 | S-12A | | 10:30 | | | 3 | | X | X | X | | | | -08 |
| 9 | S-14A | | 11:00 | | | 3 | | X | X | X | | | | -09 |
| 10 | S-16B | | 11:30 | | | 3 | | X | X | X | | | | -10 |

| RELINQUISHED | DATE / TIME | RECEIVED | DATE / TIME | RELINQUISHED | DATE / TIME | RECEIVED | DATE / TIME |
|---|---|---|---|---|---|---|---|
| [signature] | 5-21-2000 3:00 | Dunham | | | | | |
| | | [signature] | 5-22-00 1430 | | | | |

COMMENTS: Do Not Fax!

PAGE 1 OF 2

GREAT LAKES ANALYTICAL

# CHAIN OF CUSTODY REPORT

1380 Busch Parkway
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

Standard

| | | | |
|---|---|---|---|
| Client: Advent | Bill To: Advent | TAT: 5 DAY 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS. | |
| Address: Eau Claire, WI | Address: Eau Claire, WI | DATE RESULTS NEEDED: | |
| | | TEMPERATURE UPON RECEIPT: | |
| Report to: M. Noel | Phone #: 715 831 5530<br>Fax #: ( ) | State & Program: | Phone #: ( )<br>Fax #: ( ) |
| | | AIR BILL NO. | |

Project: Ino Landspreading
Sampler: Michael K. Noel
PO/Quote #: 200044.01

| | FIELD ID, LOCATION | DATE COLLECTED | TIME COLLECTED | SAMPLE MATRIX | PRESERVATIVES | NO. CONTAINERS | TYPE CONTAINERS | GRO/PVOC | DRO | Dry Wt | SAMPLE CONTROL: CRACKED/BROKEN | SAMPLE CONTROL: IMPROPERLY SEALED | SAMPLE CONTROL: GOOD CONDITION | LABORATORY ID NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S-19A | 5-19-2000 | 1215 | Soil | MeOH + None | 3 | | X | X | X | | | | W005101-11 |
| 2 | S-22A | " | 100 | " | " | 3 | | X | X | X | | | | -12 |
| 3 | S-23B | " | 115 | " | " | 3 | | X | X | X | | | | -13 |
| 4 | S-26A | " | 200 | " | " | 3 | | X | X | X | | | | -14 |
| 5 | S-28A | " | 230 | " | " | 3 | | X | X | X | | | | -15 |
| 6 | S-29B | " | 245 | " | " | 3 | | X | X | X | | | | -16 |
| 7 | MeOH Blank #2 | " | 1200 | MeOH | MeOH | 1 | | X | | | | | | -1 |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |

| RELINQUISHED | DATE / TIME | RECEIVED | DATE / TIME | RELINQUISHED | DATE / TIME | RECEIVED | DATE / TIME |
|---|---|---|---|---|---|---|---|
| [signature] | 5-31-2000 3:00 PM | Durham | | | | | |
| | | [signature] | 5-22-00 1431 | | | | |

COMMENTS: DO Not Fax!