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# Phase II Environmental Site Assessment - 1401 Central Avenue in Minneapolis, MN

Hennepin County
Department of Environmental Services
Minneapolis, Minnesota

STS Project 98408-XB

THE INFRASTRUCTURE IMPERATIVE

STS CONSULTANTS

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July 1, 2002

Dr. Andrew Leith, Ph.D., P.G.
Hennepin County Department of Environmental Services
417 N. 5th Street
Minneapolis, MN 55401-1397

Re: Phase II Environmental Site Assessment - 1401 Central Avenue in Minneapolis, Minnesota; STS Project 98408-XB

Dear Mr. Leith:

The results of a Phase I Environmental Site Assessment (STS Project 98408-XA dated October 4, 2000) for 1401 Central Avenue in Minneapolis, Minnesota identified a recognized environmental condition in connection with the subject property. The recognized environmental condition (REC) was presented as follows in the Phase I ESA:

- The subject property was formerly occupied by a sheet metal factory. Potential exists that galvanizing occurred on-site. A gasoline underground storage tank was shown to exist in the west central part of the site. Potential exists that release of petroleum products and/or metals as well as solvents for metal working processes could have occurred. A Phase II Investigation with soil and groundwater sampling would be needed to determine whether impacts to the environment have occurred. The MPCA Voluntary Investigation and Cleanup Program file for this site should be re-activated and steps taken to obtain a VIC assurance letter.

STS prepared a "Work Plan for Phase II Investigation" (STS Project 98408-XB dated January 4, 2002). The Work Plan proposed soil and groundwater sampling to evaluate the environmental condition of the property. The objective of the Phase II Investigation proposed in the Work Plan was to obtain a "No Action" letter from the Minnesota Pollution Control Agency (MPCA) Voluntary Investigation and Cleanup (VIC) program. The MPCA VIC staff review indicated an insufficient amount of testing was proposed to obtain a No Action letter. In the interim during MPCA review, Hennepin County determined that, based upon proposed use of the property, a "No Association" letter would fulfill their needs.

Hennepin County obtained verbal approval from MPCA VIC staff to modify the Work Plan to obtain a No Association letter relevant to the proposed use for slab-on-grade structures and a parking lot. The scope of work and results of the Phase II ESA are discussed below.

## Project Site Location

The project site location of 1401 Central Avenue is in the northeast quadrant of the intersection of 14th Avenue NE and Central Avenue NE, see Figure 1, Appendix A. The property is in part of the NE 1/4 of the NE 1/2 of Section 3, Township 29 North, Range 24 West in Hennepin County, Minnesota. The UTM coordinates of the approximate center of the property are 15T 480558 4983252.

## Scope of Work

Five soil probes were performed using a Hurricane probe rig and Geoprobe® MacroCore® sampler. The sampler was hydraulically pushed, assisted with rapid percussive blows, to obtain soil cores approximately 1.5 inches in diameter and up to 45 inches in length. Soil samples from approximately 2 foot depth intervals were screened with a HNU photoionization detector (PID) with a 10.2 eV lamp. The PID meter readings, recorded in PID meter units, are presented on soil logs found in Appendix B. Soil samples were screened with the PID in general conformance with the MPCA "Polyethylene Bag Head Space Method" as described in MPCA Fact Sheet #3.22 dated April 1996.

The soil probes were performed at locations shown on Figure 1, Appendix A. Probe P-1 was performed in the center of a proposed parking lot. Probes P-2 and P-5 were performed in the approximate centers of proposed building locations. Soil probe P-3 was performed near the north end of the subject property. Soil probe P-4 was performed in the general location of a former gasoline underground storage tank (UST).

Soil samples for laboratory analysis of the eight RCRA metals plus antimony, copper, tin and zinc and volatile organic compounds (VOCs) were obtained. Soil samples for metals were obtained at the apparent soil interface between fill and natural soils. Soil samples for analysis of VOCs were obtained from the base of the probes.

## Results

### Soil Conditions

Sandy soils were generally encountered in the soil probes. Approximately 1 to 3 feet of fill soils over natural soils were observed at most probe locations. Apparent bedrock was encountered consistently at a depth of approximately 4 feet below grade, probe refusal depth. An engineering drawing obtained from the City of Minneapolis for the centerline of Central Avenue paralleling the project site indicated shallow depth to bedrock (ledge rock), see Appendix A.

Groundwater was not encountered in any of the soil probes.

PID Readings - No elevated PID meter readings were observed. Because no elevated PID meter readings indicative of impacts by VOCs were observed, samples for VOC analysis were obtained from the base of the probes.

Soil Analysis - Table A below summarizes the laboratory analysis results.

**TABLE A**
**Summary of Laboratory Analysis Results**
**1401 Central Avenue Phase II ESA**
**STS Project 98408-XB**

| Probe: | GP-1 | GP-2 | GP-3 | GP-4 | GP-5 | SRV** | SLV*** |
|---|---|---|---|---|---|---|---|
| Parameter | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| Antimony | ND (2.21)* | ND (2.38) | ND (2.23) | ND (2.38) | ND (2.21) | 14 | 2.7 |
| Arsenic | ND (2.21) | ND (2.38) | ND (2.23) | ND (2.38) | ND (2.21) | 10 | 15.1 |
| Barium | 49.6 | 49.0 | 56.6 | 49.5 | 62.3 | 1,200 | 842 |
| Cadmium | ND (0.221) | ND (0.238) | ND (0.223) | ND (0.238) | 0.279 | 35 | 4.4 |
| Chromium | 8.99 | 6.38 | 0.240 | 8.19 | 7.41 | 71 | 18 |
| Copper | 8.70 | 6.35 | 10.0 | 10.6 | 5.53 | 100 | 400 |
| Lead | 20.1 | 11.9 | 12.7 | 33.0 | 13.3 | 400 | 525 |
| Mercury | 0.0294 | 0.0210 | 0.359 | ND | 0.0220 | 0.7 | 1.6 |
| Selenium | ND (3.32) | ND (3.57) | ND (3.35) | ND (3.57) | ND (3.32) | 170 | 1.5 |
| Silver | ND (2.21) | ND (2.38) | ND (2.23) | ND (2.38) | ND (2.21) | 170 | 3.9 |
| Tin | ND (16.6) | ND (17.9) | 21.6 | ND (17.9) | ND (16.6) | 15,000 | 2,964 |
| Zinc | 83.8 | 43.8 | 127 | 60.5 | 74.1 | 8,700 | 1,500 |
| VOCs | ND | ND | ND | ND | ND | | |

* ND = not detected (reporting limit)
** SRV = Soil Reference Value, MPCA Risk-Based Guidance, 1999
*** SLV = Soil Leaching Value, MPCA Risk-Based Guidance, 1999

No metals exceeded their respective soil reference value (SRV) or soil leaching value (SLV). No VOCs were detected above reporting limits. The laboratory report is found in Appendix C.

The metals results are consistent with the concentrations reported for soil samples obtained from test pits associated with planting of trees on the subject property (Soil Screening and Laboratory Analysis, 1401 Central Avenue, Nova Environmental Services, Inc. (Nova) report dated June 26, 1996 included in STS Phase I ESA report). The Nova results were for six samples composited from thirty test pits, see Figure 1 in Nova report. The Nova report stated that reported metal concentrations were generally within ranges typically found in natural soils.

## Discussion and Conclusions

No apparent impacts to soils from metals (eight RCRA metals and antimony, copper, tin and zinc) or VOCs from historic property use appeared to have occurred. Proposed site use for slab-on-grade commercial retail buildings and a parking lot should not be affected by soil conditions reported herein. Concentrations of metals were well below risk based human exposure levels (SRV). Preparation of a contingency plan regarding excavation of soils, for instance for building foundations or utility installation, does not appear warranted.

## Recommendations

The MPCA VIC program should be requested to issue a No Association letter for this site to Hennepin County and 1401 Central Corporation. The proposed action for Hennepin County is to administrate the property as tax forfeit on behalf of the State of Minnesota. The proposed action for 1401 Central Corporation is to install two slab-on-grade buildings on footings 3 to 4 feet deep and construct an at-grade bituminous asphalt paved parking lot at locations shown on Figure 1 in this report.

## General Qualifications

The evaluations and recommendations presented in this report were developed from a consideration of the project characteristics and an interpretation of available geologic, hydrogeologic, and soil boring data. STS' description of the subsurface conditions is based on interpretation of the soil boring data using normally accepted geologic/hydrogeologic practices and reasonable engineering judgment. Although soil boring data are considered to be representative of the subsurface conditions at the precise locations on the dates shown, they are not necessarily indicative of the subsurface conditions at other locations.

Geologic/hydrogeologic representations are approximate. They were generalized from and interpolated between the sampling locations. Information about actual geologic/ hydrogeologic conditions and chemical concentrations exists only at the specific sampling locations, and it is possible that conditions between sampling locations may vary from those indicated. Variations in soil and groundwater conditions typically exist at most sites between sampling locations and at different times, the extent of which may not become evident without further exploration or excavation.

STS professional services have been performed, findings obtained, and recommendations prepared in accordance with generally accepted engineering and hydrogeologic principles and practices. This warranty is in lieu of all other warranties, either implied or expressed. STS assumes no responsibility for data or interpretations made by others. STS assumes responsibility for the accuracy of the report's contents subject to what is stated elsewhere in this section but recommends that the report be used only

for the purpose intended by the client and STS when the report was prepared. The report may be unsuitable for other uses, and reliance on its contents by anyone other than the client is done at the sole risk of the user. STS accepts no responsibility for application or interpretation of the results by anyone other than the client.

## Closure

It was a pleasure performing environmental services for you on this project. If you have any questions, please feel free to contact us at 763/315-6300.

Sincerely,

STS CONSULTANTS, LTD.

Gary J. Rathbun, PSS
Senior Soil Scientist

Robert L. DeGroot, PG PE
Principal Engineer

GJR/dn
Encs.
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# The Infrastructure Imperative

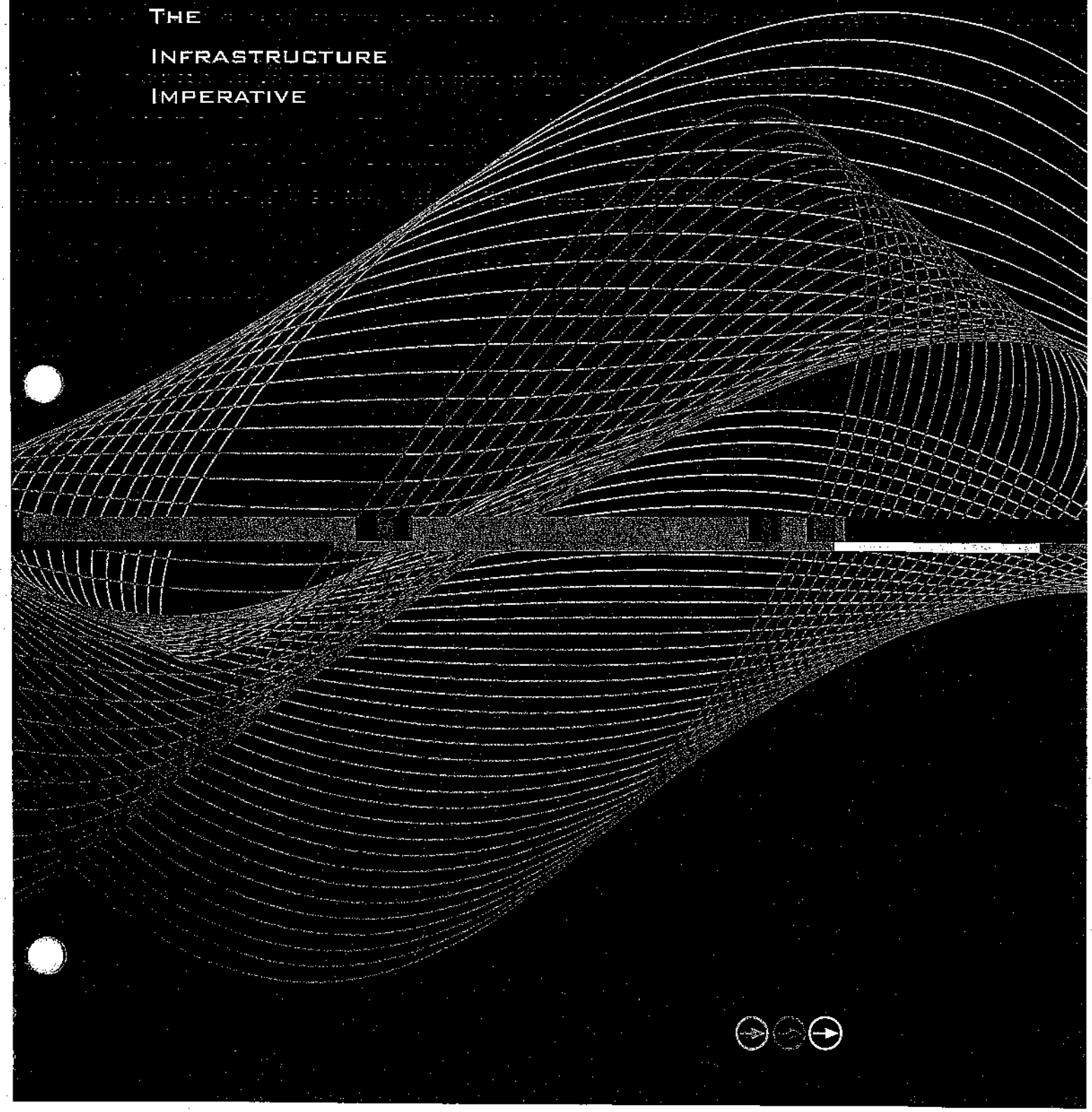
## APPENDIX

A - Figure 1 - Soil Probe Location Diagram
City of Minneapolis Sewer Profile Diagram

B - Soil Probe Logs

C - Laboratory Report

# The Infrastructure Imperative



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| | |
|---|---|
| OWNER: Hennepin County | LOG OF BORING NUMBER: P-1 |
| PROJECT NAME: Phase II ESA | ARCHITECT-ENGINEER: |
| SITE LOCATION: 1401 Central Ave. NE, Minneapolis, MN | |

| DEPTH(FT) | ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY | DESCRIPTION OF MATERIAL | UNIT DRY WT. LBS./FT.³ | PHOTO-IONIZATION DETECTOR READING (PPM) | UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5) / PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50) / STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | | |
| | | | | | | Fine sand, trace gravel - brown - (SP) - (fill) | | | |
| | | 1 | MC | | | | | 0 | |
| 1.0 | | | | | | | | | |
| | | | | | | 1.5 | | | |
| | | | | | | Silty fine sand, trace cinders - dark brown - (SM) | | | |
| 2.0 | | 2 | MC | | | | | 0 | |
| 3.0 | | | | | | 3.0 | | | |
| | | | | | | Clayey silt, trace gravel - black - (ML) | | | |
| | | 3 | MC | | | | | 0 | |
| 4.0 | | | | | | | | | |
| 4.3 | | | | | | 4.3 | | | |

MC = Geoprobe® MacroCore® sampler.

End of boring at 4.3 ft. - refusal.

Soil samples screened with HNU photoionization detector equipped with a 10.2 eV lamp calibrated to a benzene reference gas. Background HNU readings 0-1 HNU units.

The stratification lines represent the approximate boundary lines between soil types: In situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL: Dry | BORING STARTED: 5/29/01 | STS OFFICE: Minneapolis Area - 06 | |
| WL | BORING COMPLETED: 5/29/01 | ENTERED BY: DN | SHEET NO. 1 OF 1 |
| WL | RIG/FOREMAN: Geoprobe/DJ | APP'D BY: GJR | STS JOB NO. 98408-X B |

BORING_LOG 98408XB.GPJ STS.GDT 6/20/02

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| OWNER | LOG OF BORING NUMBER |
|---|---|
| Hennepin County | P-3 |
| PROJECT NAME | ARCHITECT-ENGINEER |
| Phase II ESA | |

SITE LOCATION
1401 Central Ave. NE, Minneapolis, MN

| DEPTH(FT) | ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY | DESCRIPTION OF MATERIAL | UNIT DRY WT. LBS./FT.³ | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | Organic silty sand, some gravel - black - moist - (SM) - Fill topsoil | | |
| | | | | | | 0.7 | | |
| 1.0 | | 1 | MC | | | Fine to coarse sand, trace silt fill, gravel - brown - moist - (SP) - possible fill | | 0 |
| 2.0 | | | | | | | | |
| | | 2 | MC | | | | | 0 |
| 3.0 | | | | | | 3.0 | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5)

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % (10, 20, 30, 40, 50)

STANDARD PENETRATION BLOWS/FT. (10, 20, 30, 40, 50)

MC = Geoprobe® MacroCore® sampler.

End of boring at 3 ft. - refusal.

Soil samples screened with HNU photoionization detector equipped with a 10.2 eV lamp calibrated to a benzene reference gas. Background HNU readings 0-1 HNU units.

The stratification lines represent the approximate boundary lines between soil types: In situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL Dry | BORING STARTED 5/29/01 | STS OFFICE Minneapolis Area - 06 | |
| WL | BORING COMPLETED 5/29/01 | ENTERED BY DN | SHEET NO. 1 OF 1 |
| WL | RIG/FOREMAN Geoprobe/DJ | APP'D BY GJR | STS JOB NO. 98408-X B |

BORING LOG 98408XB.GPJ STS.GDT 6/20/02

STS Consultants Ltd.

OWNER: Hennepin County

PROJECT NAME: Phase II ESA

LOG OF BORING NUMBER: P-2

ARCHITECT-ENGINEER:

SITE LOCATION: 1401 Central Ave. NE, Minneapolis, MN

| DEPTH(FT) | ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY | DESCRIPTION OF MATERIAL | UNIT DRY WT. LBS./FT.³ | PHOTO-IONIZATION DETECTOR READING (PPM) | UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5) / PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10, 20, 30, 40, 50) / STANDARD PENETRATION BLOWS/FT. (10, 20, 30, 40, 50) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | | |
| | | | | | | Fine to medium sand, trace gravel - black - dry - (SM) | | | |
| 1.0 | | | | | | | | | |
| | | 1 | MC | | | | | 0 | |
| 2.0 | | | | | | | | | |
| 3.0 | | | | | | 3.0 | | | |
| | | | | | | Fine to medium sand, trace gravel - brown - dry - bricks at 4 ft. - (SM) - fill | | | |
| | | 2 | MC | | | | | 0 | |
| 4.0 | | | | | | 4.0 | | | |

MC = Geoprobe® MacroCore® sampler.

End of boring at 4 ft. - refusal.

Soil samples screened with HNU photoionization detector equipped with a 10.2 eV lamp calibrated to a benzene reference gas. Background HNU readings 0-1 HNU units.

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL Dry | BORING STARTED 5/29/01 | STS OFFICE Minneapolis Area - 06 | |
| WL | BORING COMPLETED 5/29/01 | ENTERED BY DN | SHEET NO. 1 OF 1 |
| WL | RIG/FOREMAN Geoprobe/DJ | APP'D BY GJR | STS JOB NO. 98408-X B |

STS Consultants Ltd.

| OWNER | LOG OF BORING NUMBER |
|---|---|
| Hennepin County | P-5 |
| PROJECT NAME | ARCHITECT-ENGINEER |
| Phase II ESA | |

SITE LOCATION
1401 Central Ave. NE, Minneapolis, MN

| DEPTH(FT) | ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY | DESCRIPTION OF MATERIAL | UNIT DRY WT. LBS./FT.³ | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | 1 | MC | | | Fine to medium silty sand - black, brown - dry - (SM) - fill | | 0 |
| 1.0 | | | | | | 1.0 | | |
| 2.0 | | 2 | MC | | | Fine to medium silty sand, trace gravel - black, dark brown - dry - (SM) | | 0 |
| 3.0 | | | | | | | | |
| 4.0 | | | | | | | | |
| 4.3 | | | | | | 4.3 | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

10 20 30 40 50

STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50

MC = Geoprobe® MacroCore® sampler.

End of boring at 4.3 ft. - refusal on possible bedrock.

Soil samples screened with HNU photoionization detector equipped with a 10.2 eV lamp calibrated to a benzene reference gas. Background HNU readings 0-1 HNU units.

The stratification lines represent the approximate boundary lines between soil types: In situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL Dry | BORING STARTED 5/29/01 | STS OFFICE Minneapolis Area - 06 | |
| WL | BORING COMPLETED 5/29/01 | ENTERED BY DN | SHEET NO. 1 OF 1 |
| WL | RIG/FOREMAN Geoprobe/DJ | APP'D BY GJR | STS JOB NO. 98408-X B |

STS Consultants Ltd.

OWNER: Hennepin County

PROJECT NAME: Phase II ESA

LOG OF BORING NUMBER: P-4

ARCHITECT-ENGINEER:

SITE LOCATION: 1401 Central Ave. NE, Minneapolis, MN

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY | DESCRIPTION OF MATERIAL | UNIT DRY WT. LBS./FT.³ | PHOTO-IONIZATION DETECTOR READING (PPM) | UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5) / PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50) / STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50) |
|---|---|---|---|---|---|---|---|---|
| | | | | | SURFACE ELEVATION | | | |
| 1.0 | | | | | Fine to medium sand, trace gravel - black and brown - (SM) - fill | | | |
| 2.0 | 1 | MC | | | | | 0 | |
| 3.0 | | | | | | | | |
| | | | | | 3.5 | | | |
| | | | | | Fine to medium silty sand, trace gravel - dark brown and light brown - (SM) | | | |
| 4.0 | 2 | MC | | | | | 0 | |
| 4.3 | | | | | 4.3 | | | |

MC = Geoprobe® MacroCore® sampler.

End of boring at 4.3 ft. - refusal on possible bedrock.

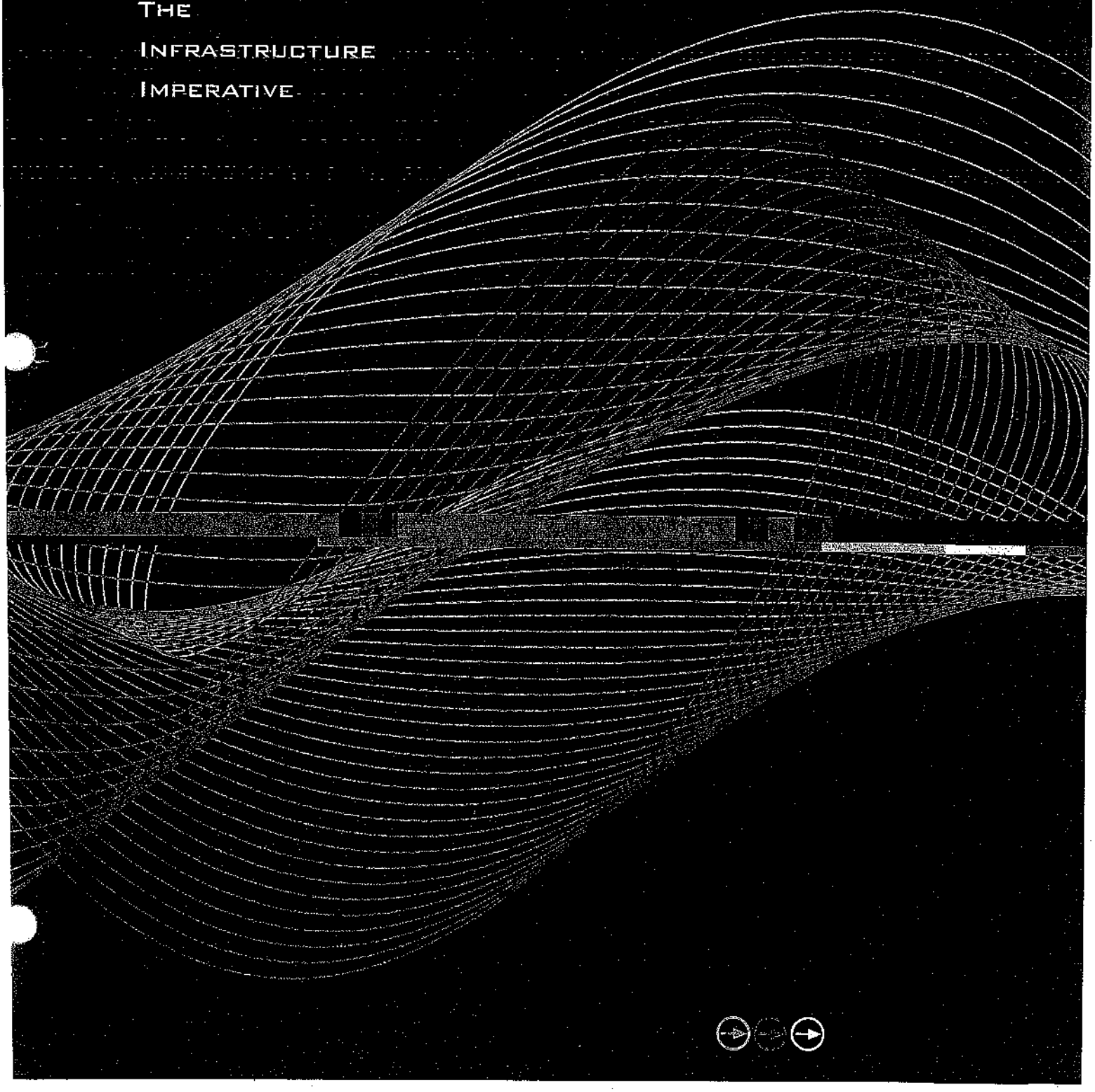
Soil samples screened with HNU photoionization detector equipped with a 10.2 eV lamp calibrated to a benzene reference gas. Background HNU readings 0-1 HNU units.

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL Dry | BORING STARTED 5/29/01 | STS OFFICE Minneapolis Area - 06 | |
| WL | BORING COMPLETED 5/29/01 | ENTERED BY DN | SHEET NO. 1 OF 1 |
| WL | RIG/FOREMAN Geoprobe/DJ | APP'D BY GJR | STS JOB NO. 98408-X B |

BORING_LOG 98408XB.GPJ STS.GDT 6/20/02

# The Infrastructure Imperative



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Phone: 612.607.1700
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June 12, 2002

Mr. Gary Rathbun
STS Consultants,Ltd.
10900 73rd Avenue North
Suite 150
Maple Grove, MN 55369

RE: Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Dear Mr. Rathbun:

Enclosed are the analytical results for sample(s) received by the laboratory on May 29, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Carol Day

for Diane J. Anderson
Diane.Anderson@pacelabs.com
Project Manager

State of Minnesota laboratory 027-053-137

Enclosures

**REPORT OF LABORATORY ANALYSIS**

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Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580783 Project Sample Number: 1058114-001 Date Collected: 05/29/02 10:00
Client Sample ID: GP1 4 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 630-20-6 | | |
| Ethylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 100-41-4 | | |
| Styrene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 100-42-5 | | |
| Bromoform | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 75-25-2 | | |
| Isopropylbenzene (Cumene) | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 98-82-8 | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 79-34-5 | | |
| Bromobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 108-86-1 | | |
| 1,2,3-Trichloropropane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 96-18-4 | | |
| n-Propylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 103-65-1 | | |
| 2-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 95-49-8 | | |
| 1,3,5-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 108-67-8 | | |
| 4-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 106-43-4 | | |
| tert-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 98-06-6 | | |
| 1,2,4-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 95-63-6 | | |
| sec-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 135-98-8 | | |
| p-Isopropyltoluene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 99-87-6 | | |
| 1,3-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 541-73-1 | | |
| 1,4-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 106-46-7 | | |
| n-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 104-51-8 | | |
| 1,2-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 95-50-1 | | |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 96-12-8 | | |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 120-82-1 | | |
| Hexachloro-1,3-butadiene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 87-68-3 | | |
| Naphthalene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 91-20-3 | | |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 87-61-6 | | |
| Acetone | ND | ug/kg | 1200 | 06/09/02 04:12 | RJS | 67-64-1 | | |
| 2-Butanone (MEK) | ND | ug/kg | 1200 | 06/09/02 04:12 | RJS | 78-93-3 | | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 1200 | 06/09/02 04:12 | RJS | 108-10-1 | | |
| Methyl-tert-butyl ether | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 1634-04-4 | | |
| Tetrahydrofuran | ND | ug/kg | 2500 | 06/09/02 04:12 | RJS | 109-99-9 | | |
| Allyl chloride | ND | ug/kg | 2500 | 06/09/02 04:12 | RJS | 107-05-1 | | |
| Dichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 75-43-4 | | |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 76-13-1 | | |
| m&p-Xylene | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | | | |
| o-Xylene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 95-47-6 | | |
| Dibromofluoromethane (S) | 88 | % | | 06/09/02 04:12 | RJS | | | |
| Toluene-d8 (S) | 113 | % | | 06/09/02 04:12 | RJS | 2037-26-5 | | |
| 4-Bromofluorobenzene (S) | 98 | % | | 06/09/02 04:12 | RJS | 460-00-4 | | |
| 1,2-Dichloroethane-d4 (S) | 111 | % | | 06/09/02 04:12 | RJS | 17060-07-0 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Solid results are reported on a wet weight basis

Lab Sample No: 103580783
Client Sample ID: GP1 4

Project Sample Number: 1058114-001
Matrix: Soil

Date Collected: 05/29/02 10:00
Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 13.1 | % | | 06/05/02 | HMJ | | | |
| **GC/MS Volatiles** | | | | | | | | |
| MDH by 8260 MEOH EXT. | Prep/Method: EPA 5030 Medium Soil / MDH 466A | | | | | | | |
| Dichlorodifluoromethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 75-71-8 | | |
| Chloromethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 74-87-3 | | |
| Vinyl chloride | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 75-01-4 | | |
| Bromomethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 74-83-9 | | |
| Chloroethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 75-00-3 | | |
| Trichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 04:12 | RJS | 75-69-4 | | |
| Methylene chloride | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 75-09-2 | | |
| 1,1-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 75-35-4 | | |
| trans-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 156-60-5 | | |
| 1,1-Dichloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 75-34-3 | | |
| 2,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 594-20-7 | | |
| cis-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 156-59-2 | | |
| Chloroform | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 67-66-3 | | |
| Bromochloromethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 74-97-5 | | |
| 1,1,1-Trichloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 71-55-6 | | |
| Carbon tetrachloride | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 56-23-5 | | |
| 1,1-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 563-58-6 | | |
| Benzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 71-43-2 | | |
| 1,2-Dichloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 107-06-2 | | |
| Trichloroethene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 79-01-6 | | |
| 1,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 78-87-5 | | |
| Bromodichloromethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 75-27-4 | | |
| Dibromomethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 74-95-3 | | |
| trans-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 10061-02-6 | | |
| Toluene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 108-88-3 | | |
| cis-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 10061-01-5 | | |
| 1,1,2-Trichloroethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 79-00-5 | | |
| Tetrachloroethene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 127-18-4 | | |
| 1,3-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 142-28-9 | | |
| Dibromochloromethane | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 124-48-1 | | |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 106-93-4 | | |
| Chlorobenzene | ND | ug/kg | 250 | 06/09/02 04:12 | RJS | 108-90-7 | | |

Date: 06/12/02



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Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580791 | Project Sample Number: 1058114-002 | Date Collected: 05/29/02 10:30
Client Sample ID: GP2 4 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 2.5 | % | | 06/06/02 | LSB | | | |
| **GC/MS Volatiles** | | | | | | | | |
| MDH by 8260 MEOH EXT. | Prep/Method: EPA 5030 Medium Soil / MDH 466A | | | | | | | |
| Dichlorodifluoromethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 75-71-8 | | |
| Chloromethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 74-87-3 | | |
| Vinyl chloride | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 75-01-4 | | |
| Bromomethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 74-83-9 | | |
| Chloroethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 75-00-3 | | |
| Trichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 75-69-4 | | |
| Methylene chloride | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 75-09-2 | | |
| 1,1-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 75-35-4 | | |
| trans-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 156-60-5 | | |
| 1,1-Dichloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 75-34-3 | | |
| 2,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 594-20-7 | | |
| cis-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 156-59-2 | | |
| Chloroform | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 67-66-3 | | |
| Bromochloromethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 74-97-5 | | |
| 1,1,1-Trichloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 71-55-6 | | |
| Carbon tetrachloride | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 56-23-5 | | |
| 1,1-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 563-58-6 | | |
| Benzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 71-43-2 | | |
| 1,2-Dichloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 107-06-2 | | |
| Trichloroethene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 79-01-6 | | |
| 1,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 78-87-5 | | |
| Bromodichloromethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 75-27-4 | | |
| Dibromomethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 74-95-3 | | |
| trans-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 10061-02-6 | | |
| Toluene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 108-88-3 | | |
| cis-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 10061-01-5 | | |
| 1,1,2-Trichloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 79-00-5 | | |
| Tetrachloroethene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 127-18-4 | | |
| 1,3-Dichloropropane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 142-28-9 | | |
| Dibromochloromethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 124-48-1 | | |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 106-93-4 | | |
| Chlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 108-90-7 | | |
| 1,1,1,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 630-20-6 | | |



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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580783 | Project Sample Number: 1058114-001 | Date Collected: 05/29/02 10:00
Client Sample ID: GP1 4 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| Date Prepared | | | | 06/02/02 | | | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580809 | Project Sample Number: 1058114-003 | Date Collected: 05/29/02 11:00
Client Sample ID: GP3 3 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 7.8 | % | | 06/06/02 | LSB | | | |
| **GC/MS Volatiles** | | | | | | | | |
| MDH by 8260 MEOH EXT. | Prep/Method: EPA 5030 Medium Soil / MDH 466A | | | | | | | |
| Dichlorodifluoromethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 75-71-8 | | |
| Chloromethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 74-87-3 | | |
| Vinyl chloride | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 75-01-4 | | |
| Bromomethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 74-83-9 | | |
| Chloroethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 75-00-3 | | |
| Trichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 75-69-4 | | |
| Methylene chloride | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 75-09-2 | | |
| 1,1-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 75-35-4 | | |
| trans-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 156-60-5 | | |
| 1,1-Dichloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 75-34-3 | | |
| 2,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 594-20-7 | | |
| cis-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 156-59-2 | | |
| Chloroform | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 67-66-3 | | |
| Bromochloromethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 74-97-5 | | |
| 1,1,1-Trichloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 71-55-6 | | |
| Carbon tetrachloride | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 56-23-5 | | |
| 1,1-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 563-58-6 | | |
| Benzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 71-43-2 | | |
| 1,2-Dichloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 107-06-2 | | |
| Trichloroethene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 79-01-6 | | |
| 1,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 78-87-5 | | |
| Bromodichloromethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 75-27-4 | | |
| Dibromomethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 74-95-3 | | |
| trans-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 10061-02-6 | | |
| Toluene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 108-88-3 | | |
| cis-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 10061-01-5 | | |
| 1,1,2-Trichloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 79-00-5 | | |
| Tetrachloroethene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 127-18-4 | | |
| 1,3-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 142-28-9 | | |
| Dibromochloromethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 124-48-1 | | |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 106-93-4 | | |
| Chlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 108-90-7 | | |
| 1,1,1,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 630-20-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580791 Project Sample Number: 1058114-002 Date Collected: 05/29/02 10:30
Client Sample ID: GP2 4 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 100-41-4 | | |
| Styrene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 100-42-5 | | |
| Bromoform | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 75-25-2 | | |
| Isopropylbenzene (Cumene) | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 98-82-8 | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 79-34-5 | | |
| Bromobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 108-86-1 | | |
| 1,2,3-Trichloropropane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 96-18-4 | | |
| n-Propylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 103-65-1 | | |
| 2-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 95-49-8 | | |
| 1,3,5-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 108-67-8 | | |
| 4-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 106-43-4 | | |
| tert-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 98-06-6 | | |
| 1,2,4-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 95-63-6 | | |
| sec-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 135-98-8 | | |
| p-Isopropyltoluene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 99-87-6 | | |
| 1,3-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 541-73-1 | | |
| 1,4-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 106-46-7 | | |
| n-Butylbenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 104-51-8 | | |
| 1,2-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 95-50-1 | | |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 96-12-8 | | |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 120-82-1 | | |
| Hexachloro-1,3-butadiene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 87-68-3 | | |
| Naphthalene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 91-20-3 | | |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 87-61-6 | | |
| Acetone | ND | ug/kg | 1200 | 06/09/02 04:41 | RJS | 67-64-1 | | |
| 2-Butanone (MEK) | ND | ug/kg | 1200 | 06/09/02 04:41 | RJS | 78-93-3 | | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 1200 | 06/09/02 04:41 | RJS | 108-10-1 | | |
| Methyl-tert-butyl ether | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 1634-04-4 | | |
| Tetrahydrofuran | ND | ug/kg | 2500 | 06/09/02 04:41 | RJS | 109-99-9 | | |
| Allyl chloride | ND | ug/kg | 2500 | 06/09/02 04:41 | RJS | 107-05-1 | | |
| Dichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | 75-43-4 | | |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 76-13-1 | | |
| m&p-Xylene | ND | ug/kg | 500 | 06/09/02 04:41 | RJS | | | |
| o-Xylene | ND | ug/kg | 250 | 06/09/02 04:41 | RJS | 95-47-6 | | |
| Dibromofluoromethane (S) | 106 | % | | 06/09/02 04:41 | RJS | | | |
| Toluene-d8 (S) | 117 | % | | 06/09/02 04:41 | RJS | 2037-26-5 | | |
| 4-Bromofluorobenzene (S) | 99 | % | | 06/09/02 04:41 | RJS | 460-00-4 | | |
| 1,2-Dichloroethane-d4 (S) | 115 | % | | 06/09/02 04:41 | RJS | 17060-07-0 | | |
| Date Prepared | | | | 06/02/02 | | | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580817
Client Sample ID: GP4 4

Project Sample Number: 1058114-004
Matrix: Soil

Date Collected: 05/29/02 11:40
Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 10.2 | % | | 06/06/02 | LSB | | | |
| **GC/MS Volatiles** | | | | | | | | |
| MDH by 8260 MEOH EXT. | Prep/Method: EPA 5030 Medium Soil / MDH 466A | | | | | | | |
| Dichlorodifluoromethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 75-71-8 | | |
| Chloromethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 74-87-3 | | |
| Vinyl chloride | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 75-01-4 | | |
| Bromomethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 74-83-9 | | |
| Chloroethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 75-00-3 | | |
| Trichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 75-69-4 | | |
| Methylene chloride | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 75-09-2 | | |
| 1,1-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 75-35-4 | | |
| trans-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 156-60-5 | | |
| 1,1-Dichloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 75-34-3 | | |
| 2,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 594-20-7 | | |
| cis-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 156-59-2 | | |
| Chloroform | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 67-66-3 | | |
| Bromochloromethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 74-97-5 | | |
| 1,1,1-Trichloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 71-55-6 | | |
| Carbon tetrachloride | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 56-23-5 | | |
| 1,1-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 563-58-6 | | |
| Benzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 71-43-2 | | |
| 1,2-Dichloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 107-06-2 | | |
| Trichloroethene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 79-01-6 | | |
| 1,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 78-87-5 | | |
| Bromodichloromethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 75-27-4 | | |
| Dibromomethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 74-95-3 | | |
| trans-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 10061-02-6 | | |
| Toluene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 108-88-3 | | |
| cis-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 10061-01-5 | | |
| 1,1,2-Trichloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 79-00-5 | | |
| Tetrachloroethene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 127-18-4 | | |
| 1,3-Dichloropropane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 142-28-9 | | |
| Dibromochloromethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 124-48-1 | | |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 106-93-4 | | |
| Chlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 108-90-7 | | |
| 1,1,1,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 630-20-6 | | |

Date: 06/12/02



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580809 Project Sample Number: 1058114-003 Date Collected: 05/29/02 11:00
Client Sample ID: GP3 3 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 100-41-4 | | |
| Styrene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 100-42-5 | | |
| Bromoform | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 75-25-2 | | |
| Isopropylbenzene (Cumene) | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 98-82-8 | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 79-34-5 | | |
| Bromobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 108-86-1 | | |
| 1,2,3-Trichloropropane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 96-18-4 | | |
| n-Propylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 103-65-1 | | |
| 2-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 95-49-8 | | |
| 1,3,5-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 108-67-8 | | |
| 4-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 106-43-4 | | |
| tert-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 98-06-6 | | |
| 1,2,4-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 95-63-6 | | |
| sec-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 135-98-8 | | |
| p-Isopropyltoluene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 99-87-6 | | |
| 1,3-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 541-73-1 | | |
| 1,4-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 106-46-7 | | |
| n-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 104-51-8 | | |
| 1,2-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 95-50-1 | | |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 96-12-8 | | |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 120-82-1 | | |
| Hexachloro-1,3-butadiene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 87-68-3 | | |
| Naphthalene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 91-20-3 | | |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 87-61-6 | | |
| Acetone | ND | ug/kg | 1200 | 06/09/02 05:10 | RJS | 67-64-1 | | |
| 2-Butanone (MEK) | ND | ug/kg | 1200 | 06/09/02 05:10 | RJS | 78-93-3 | | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 1200 | 06/09/02 05:10 | RJS | 108-10-1 | | |
| Methyl-tert-butyl ether | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 1634-04-4 | | |
| Tetrahydrofuran | ND | ug/kg | 2500 | 06/09/02 05:10 | RJS | 109-99-9 | | |
| Allyl chloride | ND | ug/kg | 2500 | 06/09/02 05:10 | RJS | 107-05-1 | | |
| Dichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | 75-43-4 | | |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 76-13-1 | | |
| m&p-Xylene | ND | ug/kg | 500 | 06/09/02 05:10 | RJS | | | |
| o-Xylene | ND | ug/kg | 250 | 06/09/02 05:10 | RJS | 95-47-6 | | |
| Dibromofluoromethane (S) | 96 | % | | 06/09/02 05:10 | RJS | | | |
| Toluene-d8 (S) | 108 | % | | 06/09/02 05:10 | RJS | 2037-26-5 | | |
| 4-Bromofluorobenzene (S) | 92 | % | | 06/09/02 05:10 | RJS | 460-00-4 | | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | | 06/09/02 05:10 | RJS | 17060-07-0 | | |
| Date Prepared | | | | 06/02/02 | | | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580825
Client Sample ID: GP5 4

Project Sample Number: 1058114-005
Matrix: Soil

Date Collected: 05/29/02 12:00
Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 7.0 | % | | 06/06/02 | LSB | | | |
| **GC/MS Volatiles** | | | | | | | | |
| MDH by 8260 MEOH EXT. | Prep/Method: EPA 5030 Medium Soil / MDH 466A | | | | | | | |
| Dichlorodifluoromethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 75-71-8 | | |
| Chloromethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 74-87-3 | | |
| Vinyl chloride | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 75-01-4 | | |
| Bromomethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 74-83-9 | | |
| Chloroethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 75-00-3 | | |
| Trichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 75-69-4 | | |
| Methylene chloride | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 75-09-2 | | |
| 1,1-Dichloroethene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 75-35-4 | | |
| trans-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 156-60-5 | | |
| 1,1-Dichloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 75-34-3 | | |
| 2,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 594-20-7 | | |
| cis-1,2-Dichloroethene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 156-59-2 | | |
| Chloroform | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 67-66-3 | | |
| Bromochloromethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 74-97-5 | | |
| 1,1,1-Trichloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 71-55-6 | | |
| Carbon tetrachloride | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 56-23-5 | | |
| 1,1-Dichloropropene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 563-58-6 | | |
| Benzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 71-43-2 | | |
| 1,2-Dichloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 107-06-2 | | |
| Trichloroethene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 79-01-6 | | |
| 1,2-Dichloropropane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 78-87-5 | | |
| Bromodichloromethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 75-27-4 | | |
| Dibromomethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 74-95-3 | | |
| trans-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 10061-02-6 | | |
| Toluene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 108-88-3 | | |
| cis-1,3-Dichloropropene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 10061-01-5 | | |
| 1,1,2-Trichloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 79-00-5 | | |
| Tetrachloroethene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 127-18-4 | | |
| 1,3-Dichloropropane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 142-28-9 | | |
| Dibromochloromethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 124-48-1 | | |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 106-93-4 | | |
| Chlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 108-90-7 | | |
| 1,1,1,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 630-20-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580817 Project Sample Number: 1058114-004 Date Collected: 05/29/02 11:40
Client Sample ID: GP4 4 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 100-41-4 | | |
| Styrene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 100-42-5 | | |
| Bromoform | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 75-25-2 | | |
| Isopropylbenzene (Cumene) | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 98-82-8 | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 79-34-5 | | |
| Bromobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 108-86-1 | | |
| 1,2,3-Trichloropropane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 96-18-4 | | |
| n-Propylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 103-65-1 | | |
| 2-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 95-49-8 | | |
| 1,3,5-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 108-67-8 | | |
| 4-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 106-43-4 | | |
| tert-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 98-06-6 | | |
| 1,2,4-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 95-63-6 | | |
| sec-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 135-98-8 | | |
| p-Isopropyltoluene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 99-87-6 | | |
| 1,3-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 541-73-1 | | |
| 1,4-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 106-46-7 | | |
| n-Butylbenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 104-51-8 | | |
| 1,2-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 95-50-1 | | |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 96-12-8 | | |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 120-82-1 | | |
| Hexachloro-1,3-butadiene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 87-68-3 | | |
| Naphthalene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 91-20-3 | | |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 87-61-6 | | |
| Acetone | ND | ug/kg | 1200 | 06/09/02 05:39 | RJS | 67-64-1 | | |
| 2-Butanone (MEK) | ND | ug/kg | 1200 | 06/09/02 05:39 | RJS | 78-93-3 | | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 1200 | 06/09/02 05:39 | RJS | 108-10-1 | | |
| Methyl-tert-butyl ether | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 1634-04-4 | | |
| Tetrahydrofuran | ND | ug/kg | 2500 | 06/09/02 05:39 | RJS | 109-99-9 | | |
| Allyl chloride | ND | ug/kg | 2500 | 06/09/02 05:39 | RJS | 107-05-1 | | |
| Dichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | 75-43-4 | | |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 76-13-1 | | |
| m&p-Xylene | ND | ug/kg | 500 | 06/09/02 05:39 | RJS | | | |
| o-Xylene | ND | ug/kg | 250 | 06/09/02 05:39 | RJS | 95-47-6 | | |
| Dibromofluoromethane (S) | 108 | % | | 06/09/02 05:39 | RJS | | | |
| Toluene-d8 (S) | 116 | % | | 06/09/02 05:39 | RJS | 2037-26-5 | | |
| 4-Bromofluorobenzene (S) | 102 | % | | 06/09/02 05:39 | RJS | 460-00-4 | | |
| 1,2-Dichloroethane-d4 (S) | 117 | % | | 06/09/02 05:39 | RJS | 17060-07-0 | | |
| Date Prepared | | | | 06/02/02 | | | | |

Date: 06/12/02



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580833
Client Sample ID: GP1 2

Project Sample Number: 1058114-006
Matrix: Soil

Date Collected: 05/29/02 10:00
Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 16.0 | % | | 06/06/02 | LSB | | | |
| Metals, Trace ICP | Prep/Method: EPA 3050 / EPA 6010 | | | | | | | |
| Antimony | ND | mg/kg | 2.21 | 06/10/02 19:41 | BDA | 7440-36-0 | | |
| Arsenic | ND | mg/kg | 2.21 | 06/10/02 19:41 | BDA | 7440-38-2 | | |
| Barium | 49.6 | mg/kg | 2.21 | 06/10/02 19:41 | BDA | 7440-39-3 | | |
| Cadmium | ND | mg/kg | 0.221 | 06/10/02 19:41 | BDA | 7440-43-9 | | |
| Chromium | 8.99 | mg/kg | 2.21 | 06/10/02 19:41 | BDA | 7440-47-3 | | |
| Copper | 8.70 | mg/kg | 1.11 | 06/10/02 19:41 | BDA | 7440-50-8 | | |
| Lead | 20.1 | mg/kg | 1.33 | 06/10/02 19:41 | BDA | 7439-92-1 | | |
| Selenium | ND | mg/kg | 3.32 | 06/10/02 19:41 | BDA | 7782-49-2 | | |
| Silver | ND | mg/kg | 2.21 | 06/10/02 19:41 | BDA | 7440-22-4 | | |
| Zinc | 83.8 | mg/kg | 4.42 | 06/10/02 19:41 | BDA | 7440-66-6 | | |
| Tin | ND | mg/kg | 16.6 | 06/10/02 19:41 | BDA | 7440-31-5 | | |
| Date Digested | | | | 06/07/02 | | | | |
| Mercury, CVAAS | Method: EPA 7471 | | | | | | | |
| Mercury | 0.0294 | mg/kg | 0.0188 | 06/11/02 | BDA | 7439-97-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580825 | Project Sample Number: 1058114-005 | Date Collected: 05/29/02 12:00
Client Sample ID: GP5 4 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 100-41-4 | | |
| Styrene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 100-42-5 | | |
| Bromoform | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 75-25-2 | | |
| Isopropylbenzene (Cumene) | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 98-82-8 | | |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 79-34-5 | | |
| Bromobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 108-86-1 | | |
| 1,2,3-Trichloropropane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 96-18-4 | | |
| n-Propylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 103-65-1 | | |
| 2-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 95-49-8 | | |
| 1,3,5-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 108-67-8 | | |
| 4-Chlorotoluene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 106-43-4 | | |
| tert-Butylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 98-06-6 | | |
| 1,2,4-Trimethylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 95-63-6 | | |
| sec-Butylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 135-98-8 | | |
| p-Isopropyltoluene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 99-87-6 | | |
| 1,3-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 541-73-1 | | |
| 1,4-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 106-46-7 | | |
| n-Butylbenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 104-51-8 | | |
| 1,2-Dichlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 95-50-1 | | |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 96-12-8 | | |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 120-82-1 | | |
| Hexachloro-1,3-butadiene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 87-68-3 | | |
| Naphthalene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 91-20-3 | | |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 87-61-6 | | |
| Acetone | ND | ug/kg | 1200 | 06/09/02 06:08 | RJS | 67-64-1 | | |
| 2-Butanone (MEK) | ND | ug/kg | 1200 | 06/09/02 06:08 | RJS | 78-93-3 | | |
| 4-Methyl-2-pentanone (MIBK) | ND | ug/kg | 1200 | 06/09/02 06:08 | RJS | 108-10-1 | | |
| Methyl-tert-butyl ether | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 1634-04-4 | | |
| Tetrahydrofuran | ND | ug/kg | 2500 | 06/09/02 06:08 | RJS | 109-99-9 | | |
| Allyl chloride | ND | ug/kg | 2500 | 06/09/02 06:08 | RJS | 107-05-1 | | |
| Dichlorofluoromethane | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | 75-43-4 | | |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 76-13-1 | | |
| m&p-Xylene | ND | ug/kg | 500 | 06/09/02 06:08 | RJS | | | |
| o-Xylene | ND | ug/kg | 250 | 06/09/02 06:08 | RJS | 95-47-6 | | |
| Dibromofluoromethane (S) | 121 | % | | 06/09/02 06:08 | RJS | | | |
| Toluene-d8 (S) | 129 | % | | 06/09/02 06:08 | RJS | 2037-26-5 | | |
| 4-Bromofluorobenzene (S) | 109 | % | | 06/09/02 06:08 | RJS | 460-00-4 | | |
| 1,2-Dichloroethane-d4 (S) | 132 | % | | 06/09/02 06:08 | RJS | 17060-07-0 | | |
| Date Prepared | | | | 06/02/02 | | | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580858 | Project Sample Number: 1058114-008 | Date Collected: 05/29/02 11:00
Client Sample ID: GP3 2 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 4.1 | % | | 06/06/02 | LSB | | | |
| Metals, Trace ICP | Prep/Method: EPA 3050 / EPA 6010 | | | | | | | |
| Antimony | ND | mg/kg | 2.23 | 06/10/02 19:52 | BDA | 7440-36-0 | | |
| Arsenic | ND | mg/kg | 2.23 | 06/10/02 19:52 | BDA | 7440-38-2 | | |
| Barium | 56.6 | mg/kg | 2.23 | 06/10/02 19:52 | BDA | 7440-39-3 | | |
| Cadmium | 0.240 | mg/kg | 0.223 | 06/10/02 19:52 | BDA | 7440-43-9 | | |
| Chromium | 10.0 | mg/kg | 2.23 | 06/10/02 19:52 | BDA | 7440-47-3 | | |
| Copper | 12.7 | mg/kg | 1.12 | 06/10/02 19:52 | BDA | 7440-50-8 | | |
| Lead | 50.8 | mg/kg | 1.34 | 06/10/02 19:52 | BDA | 7439-92-1 | | |
| Selenium | ND | mg/kg | 3.35 | 06/10/02 19:52 | BDA | 7782-49-2 | | |
| Silver | ND | mg/kg | 2.23 | 06/10/02 19:52 | BDA | 7440-22-4 | | |
| Zinc | 127. | mg/kg | 4.46 | 06/10/02 19:52 | BDA | 7440-66-6 | | |
| Tin | 21.6 | mg/kg | 16.7 | 06/10/02 19:52 | BDA | 7440-31-5 | | |
| Date Digested | | | | 06/07/02 | | | | |
| Mercury, CVAAS | Method: EPA 7471 | | | | | | | |
| Mercury | 0.0359 | mg/kg | 0.0194 | 06/11/02 | BDA | 7439-97-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580841 Project Sample Number: 1058114-007 Date Collected: 05/29/02 10:30
Client Sample ID: GP2 3 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 9.6 | % | | 06/06/02 | LSB | | | |
| Metals, Trace ICP | Prep/Method: EPA 3050 / EPA 6010 | | | | | | | |
| Antimony | ND | mg/kg | 2.38 | 06/10/02 19:47 | BDA | 7440-36-0 | | |
| Arsenic | ND | mg/kg | 2.38 | 06/10/02 19:47 | BDA | 7440-38-2 | | |
| Barium | 49.0 | mg/kg | 2.38 | 06/10/02 19:47 | BDA | 7440-39-3 | | |
| Cadmium | ND | mg/kg | 0.238 | 06/10/02 19:47 | BDA | 7440-43-9 | | |
| Chromium | 6.38 | mg/kg | 2.38 | 06/10/02 19:47 | BDA | 7440-47-3 | | |
| Copper | 6.35 | mg/kg | 1.19 | 06/10/02 19:47 | BDA | 7440-50-8 | | |
| Lead | 11.9 | mg/kg | 1.43 | 06/10/02 19:47 | BDA | 7439-92-1 | | |
| Selenium | ND | mg/kg | 3.57 | 06/10/02 19:47 | BDA | 7782-49-2 | | |
| Silver | ND | mg/kg | 2.38 | 06/10/02 19:47 | BDA | 7440-22-4 | | |
| Zinc | 43.8 | mg/kg | 4.76 | 06/10/02 19:47 | BDA | 7440-66-6 | | |
| Tin | ND | mg/kg | 17.9 | 06/10/02 19:47 | BDA | 7440-31-5 | | |
| Date Digested | | | | 06/07/02 | | | | |
| Mercury, CVAAS | Method: EPA 7471 | | | | | | | |
| Mercury | 0.0210 | mg/kg | 0.0188 | 06/11/02 | BDA | 7439-97-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580874 Project Sample Number: 1058114-010 Date Collected: 05/29/02 12:00
Client Sample ID: GP5 1 Matrix: Soil Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 7.7 | % | | 06/06/02 | LSB | | | |
| Metals, Trace ICP | Prep/Method: EPA 3050 / EPA 6010 | | | | | | | |
| Antimony | ND | mg/kg | 2.21 | 06/10/02 20:03 | BDA | 7440-36-0 | | |
| Arsenic | ND | mg/kg | 2.21 | 06/10/02 20:03 | BDA | 7440-38-2 | | |
| Barium | 62.3 | mg/kg | 2.21 | 06/10/02 20:03 | BDA | 7440-39-3 | | |
| Cadmium | 0.279 | mg/kg | 0.221 | 06/10/02 20:03 | BDA | 7440-43-9 | | |
| Chromium | 7.41 | mg/kg | 2.21 | 06/10/02 20:03 | BDA | 7440-47-3 | | |
| Copper | 5.53 | mg/kg | 1.11 | 06/10/02 20:03 | BDA | 7440-50-8 | | |
| Lead | 13.3 | mg/kg | 1.33 | 06/10/02 20:03 | BDA | 7439-92-1 | | |
| Selenium | ND | mg/kg | 3.32 | 06/10/02 20:03 | BDA | 7782-49-2 | | |
| Silver | ND | mg/kg | 2.21 | 06/10/02 20:03 | BDA | 7440-22-4 | | |
| Zinc | 74.1 | mg/kg | 4.42 | 06/10/02 20:03 | BDA | 7440-66-6 | | |
| Tin | ND | mg/kg | 16.6 | 06/10/02 20:03 | BDA | 7440-31-5 | | |
| Date Digested | | | | 06/07/02 | | | | |
| Mercury, CVAAS | Method: EPA 7471 | | | | | | | |
| Mercury | 0.0220 | mg/kg | 0.0188 | 06/11/02 | BDA | 7439-97-6 | | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

Lab Sample No: 103580866 | Project Sample Number: 1058114-009 | Date Collected: 05/29/02 11:40
Client Sample ID: GP4 3.5 | Matrix: Soil | Date Received: 05/29/02 13:30

| Parameters | Results | Units | Report Limit | Analyzed | By | CAS No. | Qual | RegLmt |
|---|---|---|---|---|---|---|---|---|
| **Metals** | | | | | | | | |
| Percent Moisture | Method: | | | | | | | |
| Percent Moisture | 7.0 | % | | 06/06/02 | LSB | | | |
| Metals, Trace ICP | Prep/Method: EPA 3050 / EPA 6010 | | | | | | | |
| Antimony | ND | mg/kg | 2.38 | 06/10/02 19:58 | LA1 | 7440-36-0 | | |
| Arsenic | ND | mg/kg | 2.38 | 06/10/02 19:58 | LA1 | 7440-38-2 | | |
| Barium | 49.5 | mg/kg | 2.38 | 06/10/02 19:58 | LA1 | 7440-39-3 | | |
| Cadmium | ND | mg/kg | 0.238 | 06/10/02 19:58 | LA1 | 7440-43-9 | | |
| Chromium | 8.19 | mg/kg | 2.38 | 06/10/02 19:58 | LA1 | 7440-47-3 | | |
| Copper | 10.6 | mg/kg | 1.19 | 06/10/02 19:58 | LA1 | 7440-50-8 | | |
| Lead | 33.0 | mg/kg | 1.43 | 06/10/02 19:58 | LA1 | 7439-92-1 | | |
| Selenium | ND | mg/kg | 3.57 | 06/10/02 19:58 | LA1 | 7782-49-2 | | |
| Silver | ND | mg/kg | 2.38 | 06/10/02 19:58 | LA1 | 7440-22-4 | | |
| Zinc | 60.5 | mg/kg | 4.76 | 06/10/02 19:58 | LA1 | 7440-66-6 | | |
| Tin | ND | mg/kg | 17.9 | 06/10/02 19:58 | LA1 | 7440-31-5 | | |
| Date Digested | | | | 06/07/02 | | | | |
| Mercury, CVAAS | Method: EPA 7471 | | | | | | | |
| Mercury | ND | mg/kg | 0.0188 | 06/11/02 | BDA | 7439-97-6 | | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74227 Analysis Method: MDH 466A
QC Batch Method: EPA 5030 Medium Soil Analysis Description: MDH by 8260 MEOH EXT.
Associated Lab Samples: 103580783 103580791 103580809 103580817 103580825

METHOD BLANK: 103590378
Associated Lab Samples: 103580783 103580791 103580809 103580817 103580825

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Dichlorodifluoromethane | ug/kg | ND | 500 | |
| Chloromethane | ug/kg | ND | 500 | |
| Vinyl chloride | ug/kg | ND | 500 | |
| Bromomethane | ug/kg | ND | 500 | |
| Chloroethane | ug/kg | ND | 500 | |
| Trichlorofluoromethane | ug/kg | ND | 500 | |
| Methylene chloride | ug/kg | ND | 250 | |
| 1,1-Dichloroethene | ug/kg | ND | 250 | |
| trans-1,2-Dichloroethene | ug/kg | ND | 250 | |
| 1,1-Dichloroethane | ug/kg | ND | 250 | |
| 2,2-Dichloropropane | ug/kg | ND | 250 | |
| cis-1,2-Dichloroethene | ug/kg | ND | 250 | |
| Chloroform | ug/kg | ND | 250 | |
| Bromochloromethane | ug/kg | ND | 250 | |
| 1,1,1-Trichloroethane | ug/kg | ND | 250 | |
| Carbon tetrachloride | ug/kg | ND | 250 | |
| 1,1-Dichloropropene | ug/kg | ND | 250 | |
| Benzene | ug/kg | ND | 250 | |
| 1,2-Dichloroethane | ug/kg | ND | 250 | |
| Trichloroethene | ug/kg | ND | 250 | |
| 1,2-Dichloropropane | ug/kg | ND | 250 | |
| Bromodichloromethane | ug/kg | ND | 250 | |
| Dibromomethane | ug/kg | ND | 250 | |
| trans-1,3-Dichloropropene | ug/kg | ND | 250 | |
| Toluene | ug/kg | ND | 250 | |
| cis-1,3-Dichloropropene | ug/kg | ND | 250 | |
| 1,1,2-Trichloroethane | ug/kg | ND | 250 | |
| Tetrachloroethene | ug/kg | ND | 250 | |
| 1,3-Dichloropropane | ug/kg | ND | 250 | |
| Dibromochloromethane | ug/kg | ND | 250 | |
| 1,2-Dibromoethane (EDB) | ug/kg | ND | 250 | |



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Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

## PARAMETER FOOTNOTES

| | |
|---|---|
| ND | Not detected at or above adjusted reporting limit |
| NC | Not Calculable |
| J | Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit |
| MDL | Adjusted Method Detection Limit |
| (S) | Surrogate |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

METHOD BLANK: 103590378
Associated Lab Samples: 103580783 103580791 103580809 103580817 103580825

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Dibromofluoromethane (S) | % | 86 | | |
| Toluene-d8 (S) | % | 94 | | |
| 4-Bromofluorobenzene (S) | % | 81 | | |
| 1,2-Dichloroethane-d4 (S) | % | 91 | | |

LABORATORY CONTROL SAMPLE & LCSD: 103590386 103590394

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | RPD | Footnotes |
|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 1000.00 | 996.4 | 900.6 | 100 | 90 | 10 | |
| Toluene | ug/kg | 1000.00 | 982.0 | 922.1 | 98 | 92 | 6 | |
| Ethylbenzene | ug/kg | 1000.00 | 1046 | 943.4 | 105 | 94 | 10 | |
| 1,3,5-Trimethylbenzene | ug/kg | 1000.00 | 1096 | 953.3 | 110 | 95 | 14 | |
| 1,2,4-Trimethylbenzene | ug/kg | 1000.00 | 1067 | 928.9 | 107 | 93 | 14 | |
| Naphthalene | ug/kg | 1000.00 | 952.6 | 827.6 | 95 | 83 | 14 | |
| Methyl-tert-butyl ether | ug/kg | 1000.00 | 928.2 | 834.0 | 93 | 83 | 11 | |
| Dibromofluoromethane (S) | | | | | 103 | 99 | | |
| Toluene-d8 (S) | | | | | 115 | 111 | | |
| 4-Bromofluorobenzene (S) | | | | | 105 | 100 | | |
| 1,2-Dichloroethane-d4 (S) | | | | | 105 | 100 | | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

METHOD BLANK: 103590378
Associated Lab Samples: 103580783 103580791 103580809 103580817 103580825

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Chlorobenzene | ug/kg | ND | 250 | |
| 1,1,1,2-Tetrachloroethane | ug/kg | ND | 250 | |
| Ethylbenzene | ug/kg | ND | 250 | |
| Styrene | ug/kg | ND | 250 | |
| Bromoform | ug/kg | ND | 250 | |
| Isopropylbenzene (Cumene) | ug/kg | ND | 250 | |
| 1,1,2,2-Tetrachloroethane | ug/kg | ND | 250 | |
| Bromobenzene | ug/kg | ND | 250 | |
| 1,2,3-Trichloropropane | ug/kg | ND | 250 | |
| n-Propylbenzene | ug/kg | ND | 250 | |
| 2-Chlorotoluene | ug/kg | ND | 250 | |
| 1,3,5-Trimethylbenzene | ug/kg | ND | 250 | |
| 4-Chlorotoluene | ug/kg | ND | 250 | |
| tert-Butylbenzene | ug/kg | ND | 250 | |
| 1,2,4-Trimethylbenzene | ug/kg | ND | 250 | |
| sec-Butylbenzene | ug/kg | ND | 250 | |
| p-Isopropyltoluene | ug/kg | ND | 250 | |
| 1,3-Dichlorobenzene | ug/kg | ND | 250 | |
| 1,4-Dichlorobenzene | ug/kg | ND | 250 | |
| n-Butylbenzene | ug/kg | ND | 250 | |
| 1,2-Dichlorobenzene | ug/kg | ND | 250 | |
| 1,2-Dibromo-3-chloropropane | ug/kg | ND | 500 | |
| 1,2,4-Trichlorobenzene | ug/kg | ND | 250 | |
| Hexachloro-1,3-butadiene | ug/kg | ND | 250 | |
| Naphthalene | ug/kg | ND | 250 | |
| 1,2,3-Trichlorobenzene | ug/kg | ND | 250 | |
| 2-Butanone (MEK) | ug/kg | ND | 250 | |
| 4-Methyl-2-pentanone (MIBK) | ug/kg | ND | 250 | |
| Methyl-tert-butyl ether | ug/kg | ND | 250 | |
| Tetrahydrofuran | ug/kg | ND | 2500 | |
| Allyl chloride | ug/kg | ND | 2500 | |
| Dichlorofluoromethane | ug/kg | ND | 250 | |
| 1,1,2-Trichlorotrifluoroethane | ug/kg | ND | 250 | |
| m&p-Xylene | ug/kg | ND | 500 | |
| o-Xylene | ug/kg | ND | 250 | |
| Acetone | ug/kg | ND | 250 | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74423 Analysis Method:
QC Batch Method: Analysis Description: Percent Moisture
Associated Lab Samples: 103580783

METHOD BLANK: 103597738
Associated Lab Samples: 103580783

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Percent Moisture | % | 0 | | |

SAMPLE DUPLICATE: 103597746

| Parameter | Units | 103583431 Result | DUP Result | RPD | Footnotes |
|---|---|---|---|---|---|
| Percent Moisture | % | 4.900 | 3.800 | 25 | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74636 Analysis Method: EPA 7471
QC Batch Method: EPA 7470 Analysis Description: Mercury, CVAAS
Associated Lab Samples: 103580833 103580841 103580858 103580866 103580874

METHOD BLANK: 103609566
Associated Lab Samples: 103580833 103580841 103580858 103580866 103580874

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Mercury | mg/kg | ND | 0.0200 | |

LABORATORY CONTROL SAMPLE: 103609608

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | Footnotes |
|---|---|---|---|---|---|
| Mercury | mg/kg | 0.0050 | 0.0054 | 108 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 103609574 103609582

| Parameter | Units | 103588596 Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | RPD | Footnotes |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | mg/kg | 0.03379 | 0.6148 | 0.7045 | 0.7343 | 109 | 110 | 4 | |

SAMPLE DUPLICATE: 103609590

| Parameter | Units | 103580833 Result | DUP Result | RPD | Footnotes |
|---|---|---|---|---|---|
| Mercury | mg/kg | 0.02940 | 0.02690 | 9 | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74480
QC Batch Method:
Analysis Method:
Analysis Description: Percent Moisture
Associated Lab Samples: 103580809 103580817 103580825 103580833 103580841 103580858 103580866 103580874

METHOD BLANK: 103601621
Associated Lab Samples: 103580809 103580817 103580825 103580833 103580841 103580858 103580866 103580874

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Percent Moisture | % | 0 | | |

SAMPLE DUPLICATE: 103601639

| Parameter | Units | 103580809 Result | DUP Result | RPD | Footnotes |
|---|---|---|---|---|---|
| Percent Moisture | % | 7.800 | 7.000 | 11 | |

Date: 06/12/02



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74479
QC Batch Method:
Associated Lab Samples: 103580791

Analysis Method:
Analysis Description: Percent Moisture

METHOD BLANK: 103601605
Associated Lab Samples: 103580791

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Percent Moisture | % | 0 | | |

SAMPLE DUPLICATE: 103601613

| Parameter | Units | 103564530 Result | DUP Result | RPD | Footnotes |
|---|---|---|---|---|---|
| Percent Moisture | % | 8.100 | 7.000 | 15 | |



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# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 103604252 103604260

| Parameter | Units | 103588596 Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | RPD | Footnotes |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | mg/kg | 0 | 61.28 | 32.89 | 32.22 | 54 | 52 | 2 | |
| Arsenic | mg/kg | 1.700 | 61.28 | 57.01 | 56.63 | 90 | 89 | 1 | |
| Barium | mg/kg | 159.5 | 61.28 | 221.8 | 222.9 | 102 | 103 | 1 | |
| Cadmium | mg/kg | 0.2136 | 61.28 | 57.85 | 58.32 | 94 | 94 | 1 | |
| Chromium | mg/kg | 24.71 | 61.28 | 84.21 | 83.59 | 97 | 95 | 1 | |
| Copper | mg/kg | 18.03 | 61.28 | 76.69 | 77.91 | 96 | 97 | 2 | |
| Lead | mg/kg | 10.84 | 61.28 | 71.51 | 82.45 | 99 | 116 | 14 | |
| Selenium | mg/kg | 0 | 61.28 | 55.33 | 46.11 | 90 | 74 | 18 | |
| Silver | mg/kg | 0 | 61.28 | 52.83 | 57.59 | 86 | 93 | 9 | |
| Zinc | mg/kg | 75.67 | 61.28 | 133.9 | 133.2 | 95 | 93 | 1 | |
| Tin | mg/kg | 0 | 61.28 | 52.78 | 56.91 | 86 | 92 | 8 | |

SAMPLE DUPLICATE: 103604286

| Parameter | Units | 103580981 Result | DUP Result | RPD | Footnotes |
|---|---|---|---|---|---|
| Antimony | mg/kg | 6.820 | 3.190 | 73 | |
| Arsenic | mg/kg | 13.20 | ND | NC | |
| Barium | mg/kg | 15.20 | 16.10 | 6 | |
| Cadmium | mg/kg | 0.2630 | ND | NC | |
| Chromium | mg/kg | 2.330 | 4.530 | 64 | |
| Copper | mg/kg | ND | 12.80 | 0 | |
| Lead | mg/kg | 3.380 | 4.320 | 24 | |
| Selenium | mg/kg | ND | ND | NC | |
| Silver | mg/kg | ND | ND | NC | |
| Zinc | mg/kg | 5.310 | 13.00 | 84 | |
| Tin | mg/kg | ND | ND | NC | |

Date: 06/12/02



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Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

# QUALITY CONTROL DATA

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

QC Batch: 74537 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: Metals, Trace ICP
Associated Lab Samples: 103580833 103580841 103580858 103580866 103580874

METHOD BLANK: 103604245
Associated Lab Samples: 103580833 103580841 103580858 103580866 103580874

| Parameter | Units | Blank Result | Reporting Limit | Footnotes |
|---|---|---|---|---|
| Antimony | mg/kg | ND | 0.500 | |
| Arsenic | mg/kg | ND | 0.500 | |
| Barium | mg/kg | ND | 0.500 | |
| Cadmium | mg/kg | ND | 0.0500 | |
| Chromium | mg/kg | ND | 0.500 | |
| Copper | mg/kg | 0.278 | 0.250 | 1.2 |
| Lead | mg/kg | ND | 0.300 | |
| Selenium | mg/kg | ND | 0.750 | |
| Silver | mg/kg | ND | 0.500 | |
| Zinc | mg/kg | ND | 1.00 | |
| Tin | mg/kg | ND | 3.75 | |

LABORATORY CONTROL SAMPLE: 103604278

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | Footnotes |
|---|---|---|---|---|---|
| Antimony | mg/kg | 1.000 | 0.9244 | 92 | |
| Arsenic | mg/kg | 1.000 | 0.8914 | 89 | |
| Barium | mg/kg | 1.000 | 0.8471 | 85 | |
| Cadmium | mg/kg | 1.000 | 0.9253 | 92 | |
| Chromium | mg/kg | 1.000 | 0.9721 | 97 | |
| Copper | mg/kg | 1.000 | 0.9819 | 98 | |
| Lead | mg/kg | 1.000 | 0.9225 | 92 | |
| Selenium | mg/kg | 1.000 | 0.8745 | 87 | |
| Silver | mg/kg | 1.000 | 0.8225 | 82 | |
| Zinc | mg/kg | 1.000 | 0.9174 | 92 | |
| Tin | mg/kg | 1.000 | 1.039 | 104 | |



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# CHAIN OF-CUSTODY / Analytical Request Document

*The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.*

Pace Analytical™
www.pacelabs.com

623536

**Page: 1 of 1**

**Required Client Information: Section A**

Company: STS Consultants, Ltd.
Address: 10900 73rd Ave N
Mpls, MN 55369
Phone: 763 315 6300 Fax: 763 315 1836

**Required Client Information: Section B**

Report To: STS (Gary Rathbun)
Copy To: —
Invoice To: STS
P.O.
Project Name: 1401 Central Ave.
Project Number: 98408XB

Client Information (Check quote/contract)
Requested Due Date: [illegible] weeks

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days:

**To Be Completed by Pace Analytical and Client: Section C**

Quote Reference:
Project Manager: DAI
Project #: 1058114
Profile #: 14013 Line # 1+2
Requested Analysis:

**Section D** Required Client Information:

Valid Matrix Codes

| MATRIX | CODE |
|---|---|
| WATER | WT |
| SOIL | SL |
| OIL | OL |
| WIPE | WP |
| AIR | AR |
| TISSUE | TS |
| OTHER | OT |

| ITEM # | SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE) | MATRIX CODE | DATE COLLECTED mm / dd / yy | TIME COLLECTED hh:mm a/p | # Containers | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | VOCs 465 | RCRA Metals | Antimony, copper, tin, zinc | Moisture | Remarks / Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GP1 (4) | SL | 5/29/02 | 1000a | | | | | | | | ✓ | | ✓ | | ✓ | 3580783 | Note 2 samples |
| 2 | GP1 (2) | SL | 5/29/02 | 1000a | | | | | | | | | ✓ | ✓ | | ✓ | 3580833 | — |
| 3 | GP2 (4) | SL | 5/29/02 | 1030a | | | | | | | | ✓ | | ✓ | | ✓ | 3580791 | Note 2 samples |
| 4 | GP2 (3) | SL | 5/29/02 | 1030a | | | | | | | | | ✓ | ✓ | | ✓ | 3580841 | — |
| 5 | GP3 (3) | SL | 5/29/02 | 1100a | | | | | | | | ✓ | | ✓ | | ✓ | 3580809 | Note 2 samples |
| 6 | GP3 (2) | SL | 5/29/02 | 1100a | | | | | | | | | ✓ | ✓ | | ✓ | 3580858 | — |
| 7 | GP4 (4) | SL | 5/29/02 | 1140a | | | | | | | | ✓ | | ✓ | | ✓ | 3580817 | Note 2 samples |
| 8 | GP4 (3.5) | SL | 5/29/02 | 1140a | | | | | | | | | ✓ | ✓ | | ✓ | 3580866 | — |
| 9 | GP5 (4) | SL | 5/29/02 | 1200p | | | | | | | | ✓ | | ✓ | | ✓ | 3580825 | Note 2 samples |
| 10 | GP5 (1) | SL | 5/29/02 | 1200p | | | | | | | | | ✓ | ✓ | | ✓ | 3580874 | — |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |

| SHIPMENT METHOD | AIRBILL NO. | SHIPPING DATE | NO. OF COOLERS |
|---|---|---|---|
| | | | |

| ITEM NUMBER | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|---|
| | Anthony J Coryell / STS | 5/29 | 1:30 | D.T.Z. / Pace | 5/29/02 | 13:30 |
| | | | | | | |
| | | | | | | |

**SAMPLE CONDITION**

| | |
|---|---|
| Temp in °C | 12 |
| Received on Ice | (Y)/N |
| Sealed Cooler | Y/(N) |
| Samples Intact | (Y)/N |

**SAMPLE NOTES**

Cooling

(Gary Rathbun)

**Additional Comments:**

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Anthony J. Coryell
SIGNATURE of SAMPLER: [signature]
DATE Signed: (MM / DD / YY) 05/29/02

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Lab Project Number: 1058114
Client Project ID: 98408-XB 1401 Central Ave.

## QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

| | |
|---|---|
| LCS(D) | Laboratory Control Sample (Duplicate) |
| MS(D) | Matrix Spike (Duplicate) |
| DUP | Sample Duplicate |
| ND | Not detected at or above adjusted reporting limit |
| NC | Not Calculable |
| J | Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit |
| MDL | Adjusted Method Detection Limit |
| RPD | Relative Percent Difference |
| (S) | Surrogate |
| [1] | Analyte is found in the associated blank as well as in the sample (CLP B-Flag). |
| [2] | The amount in all the samples is more than ten times this amount or nondetect, so it doesn't affect the results. |



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Nova
Environmental Services, Inc.

S.B. Cummings
President

J.E. Findley
Chief Executive Officer

June 26, 1996

Mr. Jeffrey Strand
Delinquent Tax & Forfeited Land
General Services Department
Hennepin County
300 So. Sixth Street, A-600 Govt. Center
Minneapolis, MN 55487-0060

RE: SOIL SCREENING AND
LABORATORY ANALYSIS
1401 CENTRAL AVENUE N.E.
MINNEAPOLIS, MINNESOTA
MPCA PROJECT #6780
NOVA PROJECT NO: M96-416

Dear Mr. Strand:

This letter serves to document recently completed work at the former General Metalware site located at 1401 Central Avenue N.E., Minneapolis, Minnesota. The work was being done as part of a tree-planting pilot project studying the physical and environmental benefits of urban reforestation, as well as discerning the effect soil contamination could have on certain tree species.

A representative of Nova was on site to oversee the excavation of thirty (30) test pits. Prior to planting the trees Nova personnel screened the soil from each test pit for organic vapors using an HNU photoionization detector (PID). The PID contained an 11.7 eV bulb and was calibrated to an isobutylene standard for direct readings of total volatile organic compounds from 0 to 2,000 parts per million (ppm). A figure showing the test pit locations is attached.

The headspace PID analysis was conducted in the field on the soil samples. The soil samples were collected from two locations in each test pit; at the native soil surface horizon (ranging from 2 to 12 inches below the surface fill material), and at the bottom of the test pit (approximately 32 inches below grade). The collected soil was placed in a ziplock plastic bag, sealed and allowed to develop for several minutes. After headspace development the PID probe was inserted through the bag to measure the concentration of volatile organic compounds in the headspace above the soil. Organic vapor readings ranging from 0.5 to 5.0 ppm were detected in soil samples collected from the test pits. A summary of soil descriptions and PID results are presented in Table 1.



an equal opportunity employer

Suite 400 Hazeltine Gates 1107 Hazeltine Boulevard Chaska, MN 55318
612/448-9393 FAX 612/448-9572

Laboratory analysis was performed on soil samples collected from the test pits. Six composite samples (CS-1 through CS-6) were collected from the native soil surface horizon (2 to 12 inches below grade) in each test pit. The soil samples were collected in laboratory supplied containers with teflon-lined lids. The samples were kept cool in the field and during shipment. A chain-of-custody form was completed and delivered with the samples. The soil samples were delivered to Legend Technical Services, Inc. for analysis of silver, arsenic, barium, cadmium, chromium, mercury, lead, selenium and zinc.

Laboratory analytical results of the composite soil samples collected from the test pits are shown on Table 2 and the laboratory report is attached. As shown on Table 2, all the composite samples which were analyzed to have metal concentrations above the laboratory detection limits were within the range commonly found in natural soils, with the exception of cadmium. Cadmium concentrations detected in composite samples CS-2, CS-3, CS-4, CS-5 and CS-6 fell slightly outside the range commonly found in natural soils.

If we can be of any additional assistance in this matter feel free to call myself or Rob Goltz (612) 448-9393.

Sincerely,

NOVA ENVIRONMENTAL SERVICES, INC.

Timothy G. Rogers
Environmental Scientist

Robert G. Goltz
Project Manager

TGR:cah
Attachments

TABLE 1
Summary of Organic Vapor Data
Test Pits

| Test Pit | Depth (inches) | Soil Description | PID (ppm) |
|---|---|---|---|
| TP-1 | 12 | Black silty SAND, no odor. | 0.5 |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-2 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-3 | 12 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-4 | 8 | Brown silty SAND, no odor. | 0.5 |
| | 36 | Orange/brown medium to coarse SAND, no odor. | ND |
| TP-5 | 5 | Red brick debris, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-6 | 12 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-8 | 12 | Black silty SAND, no odor. | 0.5 |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-9 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-10 | 2 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-11 | 2 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-12 | 3 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-13 | 6 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |

TABLE 1 (Continue)
Summary of Organic Vapor Data
Test Pits

| Test Pit | Depth (inches) | Soil Description | PID (ppm) |
|---|---|---|---|
| TP-14 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-15 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-16 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-17 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-18 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-19 | 10 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-20 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-21 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-22 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-23 | 8 | Black silty SAND, petro odor. | 4.0 |
| | 32 | Brown medium to coarse SAND, petro odor. | 2.0 |
| TP-24 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-25 | 3 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |

TABLE 1 (Continue)
Summary of Organic Vapor Data
Test Pits

| Test Pit | Depth (inches) | Soil Description | PID (ppm) |
|---|---|---|---|
| TP-26 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-27 | 8 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-28 | 8 | Black silty SAND, solvent odor. | 1.0 |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-29 | 5 | Black silty SAND, no odor. | 0.5 |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-30 | 5 | Black silty SAND, no odor. | ND |
| | 32 | Brown medium to coarse SAND, no odor. | ND |
| TP-31 | 5 | Black silty SAND, solvent odor. | 5.0 |
| | 32 | Brown medium to coarse SAND, no odor. | ND |

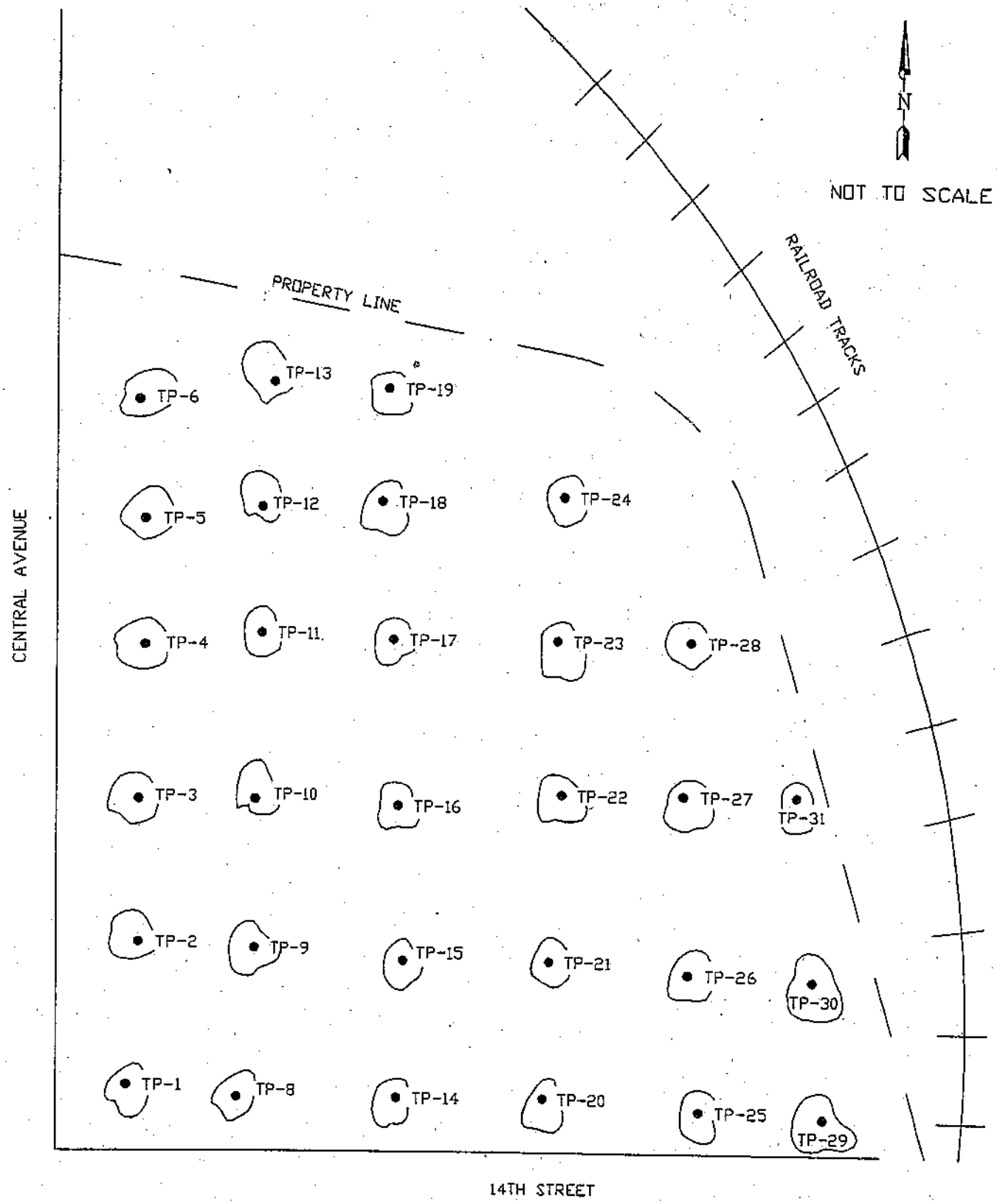
ND = Not Detected
ppm = Parts Per Million

TABLE 2
Laboratory Analytical Results - Soil
Test Pit Composite Samples
Results in Parts Per Million (ppm)

| Compound | CS-1 | CS-2 | CS-3 | CS-4 | CS-5 | CS-6 | Common Range in Natural Soils [1] |
|---|---|---|---|---|---|---|---|
| Silver | <0.5 | 0.75 | 0.8 | 0.75 | 0.88 | 0.53 | 0.01-5 |
| Arsenic | 2 | 2.9 | 3.3 | 3 | 2.6 | 1.8 | 1-50 |
| Barium | 42 | 58 | 58 | 47 | 48 | 42 | 100-3,000 |
| Cadmium | 0.63 | 0.9 | 1.1 | 1 | 1.3 | 0.95 | 0.01-0.7 |
| Chromium | 7.8 | 6.8 | 5.8 | 6 | 6.5 | 3.8 | 1-1,000 |
| Mercury | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | 0.01-0.3 |
| Lead | 30 | 45 | 81 | 18 | 37 | 19 | 2-200 |
| Selenium | <1 | <1 | <1 | <1 | <1 | <1 | 0.1-2 |
| Zinc | 45 | 64 | 200 | 55 | 160 | 110 | 10-300 |

CS-1 = Composite sample of soil from Test Pits TP-1, 4, 5, 11 and 14
CS-2 = Composite sample of soil from Test Pits TP-8, 10, 12, 13 and 29
CS-3 = Composite sample of soil from Test Pits TP-2, 6, 9, 22 and 24
CS-4 = Composite sample of soil from Test Pits TP-3, 15, 17, 18 and 20
CS-5 = Composite sample of soil from Test Pits TP-16, 21, 25, 27 and 31
CS-6 = Composite sample of soil from Test Pits TP-19, 23, 26, 28 and 30

(1) Shields, E.J., 1985 Pollution Control Engineer's Handbook, Pudvan Publishing Company, Northbrook, Illinois.




EST PIT LOCATION MAP
101 CENTRAL AVENUE N.E.
MINNEAPOLIS, MINNESOTA

M68/M96-416

Nova Environmental Services, Inc.

MAY - 96

1

LEGEND
TECHNICAL SERVICES, INC.

May 21, 1996

Mr. Tim Rogers
Nova Environmental Services, Inc,
1107 Hazeltine Blvd.
Suite 400
Chaska, MN 55318

SUBJECT: M96-416
LEGEND No. 96-1070

## 1.0 INTRODUCTION

LEGEND TECHNICAL SERVICES, INC. (LEGEND) received six soil samples from a representative of Nova Environmental Services, Inc. on May 2, 1996. The parameters and analytical results are listed in the attached table.

## 2.0 SAMPLE IDENTIFICATION

| LABORATORY NO. | CLIENT IDENTIFICATION |
|---|---|
| SN96-55326 | CS-1 (TP-1, 4, 5, 11 & 14) |
| SN96-55327 | CS-2 (TP-8, 10, 12, 13 & 29) |
| SN96-55328 | CS-3 (TP-2, 6, 9, 24 & 22) |
| SN96-55329 | CS-4 (TP-15, 17, 18, 20 & 3) |
| SN96-55330 | CS-5 (TP-21, 25, 27, 31 & 16) |
| SN96-55331 | CS-6 (TP-23, 26, 30, 19 & 28) |

## 3.0 METHODOLOGY

Metals

The samples were prepared and analyzed with methods based on EPA SW-846 methods.

## 4.0 CASE NARRATIVE

The samples were taken on May 2, 1996, and were received on ice in acceptable condition.

The method blank was free of target analytes at detectable levels, and the associated batch quality assurance/quality control criteria were met with satisfaction.

*LEGEND TECHNICAL SERVICES, INC.*

TABLE #1

LEGEND No. 96-1070

NOVA ENVIRONMENTAL SERVICES, INC.

METALS RESULTS - SOIL

| Analyte | CS-1 (mg/kg) | CS-2 (mg/kg) | CS-3 (mg/kg) | CS-4 (mg/kg) | CS-5 (mg/kg) | CS-6 (mg/kg) | Method Blank (mg/kg) | PQL (mg/kg) | Date Analyzed | Method Number |
|---|---|---|---|---|---|---|---|---|---|---|
| Silver | <0.50 | 0.75 | 0.80 | 0.75 | 0.88 | 0.53 | <0.50 | 0.50 | 05/06/96 | 7760 |
| Arsenic | 2.0 | 2.9 | 3.3 | 3.0 | 2.6 | 1.8 | <1.0 | 1.0 | 05/06/96 | 7060 |
| Barium | 42 | 58 | 58 | 47 | 48 | 42 | <5.0 | 5.0 | 05/06/96 | 6010 |
| Cadmium | 0.63 | 0.90 | 1.1 | 1.0 | 1.3 | 0.95 | <0.50 | 0.50 | 05/07/96 | 7130 |
| Chromium | 7.8 | 6.8 | 5.8 | 6.0 | 6.5 | 38 | <2.5 | 2.5 | 05/07/96 | 7190 |
| Mercury | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | <0.13 | 0.13 | 05/07/96 | 7471 |
| Lead | 30 | 45 | 81 | 18 | 37 | 19 | <2.5 | 2.5 | 05/07/96 | 7420 |
| Selenium | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 05/05/96 | 7740 |
| Zinc | 45 | 64 | 200 | 55 | 160 | 110 | <1.0 | 1.0 | 05/09/96 | 7950 |

< = Less than number shown

PQL = Practical quantitation limit

mg/kg is equal to parts-per-million

# LEGEND TECHNICAL SERVICES, INC.

775 Vandalia Street, St. Paul, MN 55114 - Telephone: 612/642-1150 Fax: 612/642-1239

## CHAIN-OF-CUSTODY RECORD

96-1070

Client Name:

Report To: NOVA Environmental Services

Attn: Tim Rogers

Sampled By:

Project No.: M96-416

Laboratory Project No.: /

Turnaround Time: 5 day Turnaround please.

☐ Normal Date Needed:

☐ Rush Date Needed:

Condition Received:

☑ Received on Ice

Analysis/# of Containers:

| FIELD FIELD | 8RCRA Metals (total) | Zinc | | | | | |
|---|---|---|---|---|---|---|---|

| Item No. | Field ID No. | Sample Description | Collection Date | Collection Time | Sample Matrix | Lab ID No. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | CS-1 (TP-1, 4, 5, 11 + 14) | 5/2/96 | AM | Soil | 96-55326 | | X | X | | | | | |
| 2 | | CS-2 (TP-8, 10, 12, 13 + 29) | " | AM | " | 55327 | | X | X | | | | | |
| 3 | | CS-3 (TP-2, 6, 9, 24 + 22) | " | AM | " | 55328 | | X | X | | | | | |
| 4 | | CS-4 (TP-15, 17, 18, 20 + 3) | " | AM | " | 55329 | | X | X | | | | | |
| 5 | | CS-5 (TP-21, 25, 27, 31 + 16) | " | PM | " | 55330 | | X | X | | | | | |
| 6 | | CS-6 (TP-23, 26, 30, 19 + 28) | " | PM | " | 55331 | | X | X | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | |

| Transfer No. | Item No. | Relinquished By | Accepted By | Date | Time | Comments |
|---|---|---|---|---|---|---|
| 1 | | T. Rogers (NOVA) | M. Lyons | 5/2/96 | 4:15 PM | received on ice |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |

FORM FLD-007 (1/96)

# Minnesota Pollution Control Agency

August 20, 2002

RECEIVED

AUG 2 3 2002

TAXPAYER SERVICES
HENNEPIN COUNTY

Mr. Andrew Leith
Hennepin County Department of Environmental Services
417 North Fifth Street
Minneapolis, MN 55401-1397

RE: General Metalware (Former), 1401 Central Avenue N.E., Minneapolis
MPCA Project Number VP6780
Technical Assistance Letter

Dear Mr. Leith:

The Minnesota Pollution Control Agency (MPCA) staff in the Voluntary Investigation and Cleanup (VIC) program has reviewed the Phase II Environmental Site Assessment Report dated July 1, 2002, and your letter dated July 15, 2002, for the former General Metalware facility, located at the address referenced above (the Site). The letter requests No Association Determinations for Hennepin County and for 1401 Central Corporation.

According to information submitted to the MPCA, a sheet metal factory formerly occupied the Site. An underground gasoline storage tank was shown to exist in the west central part of the Site. Five soil probes were advanced at the Site in May 2002. Soil samples were collected from each probe (sample depth was not indicated) and analyzed for volatile organic compounds (VOCs), Resource Conservation and Recovery Act (RCRA) metals, and antimony, copper, tin and zinc. VOCs were not detected in the soil samples. Metals that were detected were present at concentrations typical of background conditions. Ground water samples were not collected.

Since metal concentrations were detected at concentrations typical of background conditions, the VIC program does not consider this a release to the environment and is not able to issue No Association Determination letters.

Please be advised that the determination made in this letter is subject to the disclaimers found in Attachment A. If you have any questions about the contents of this letter, please contact me at (651) 296-7744 or Amy Hadiaris at (651) 296-8947.

Sincerely,

Patrice Jensen

Patrice Jensen, REA
Project Leader
Superfund Section
Majors and Remediation Division
Jjp

Enclosure

c: Gary Rathbun, STS Consultants, Ltd.

ATTACHMENT A
DISCLAIMERS
General Metalware
MPCA Project Number VP6780

1. Reservation of Authorities

The MPCA Commissioner reserves the authority to take any appropriate actions with respect to any release, threatened release, or other conditions at the Site. The MPCA Commissioner also reserves the authority to take such actions if the voluntary party does not proceed in the manner described in this letter or if actions taken or omitted by the voluntary party with respect to the Site contribute to any release or threatened release, or create an imminent and substantial danger to public health and welfare.

2. No MPCA Assumption of Liability

The MPCA, its Commissioner and staff do not assume any liability for any release, threatened release or other conditions at the Site or for any actions taken or omitted by the voluntary party with regard to the release, threatened release, or other conditions at the Site, whether the actions taken or omitted are in accordance with this letter or otherwise.

Letter Based on Current Information

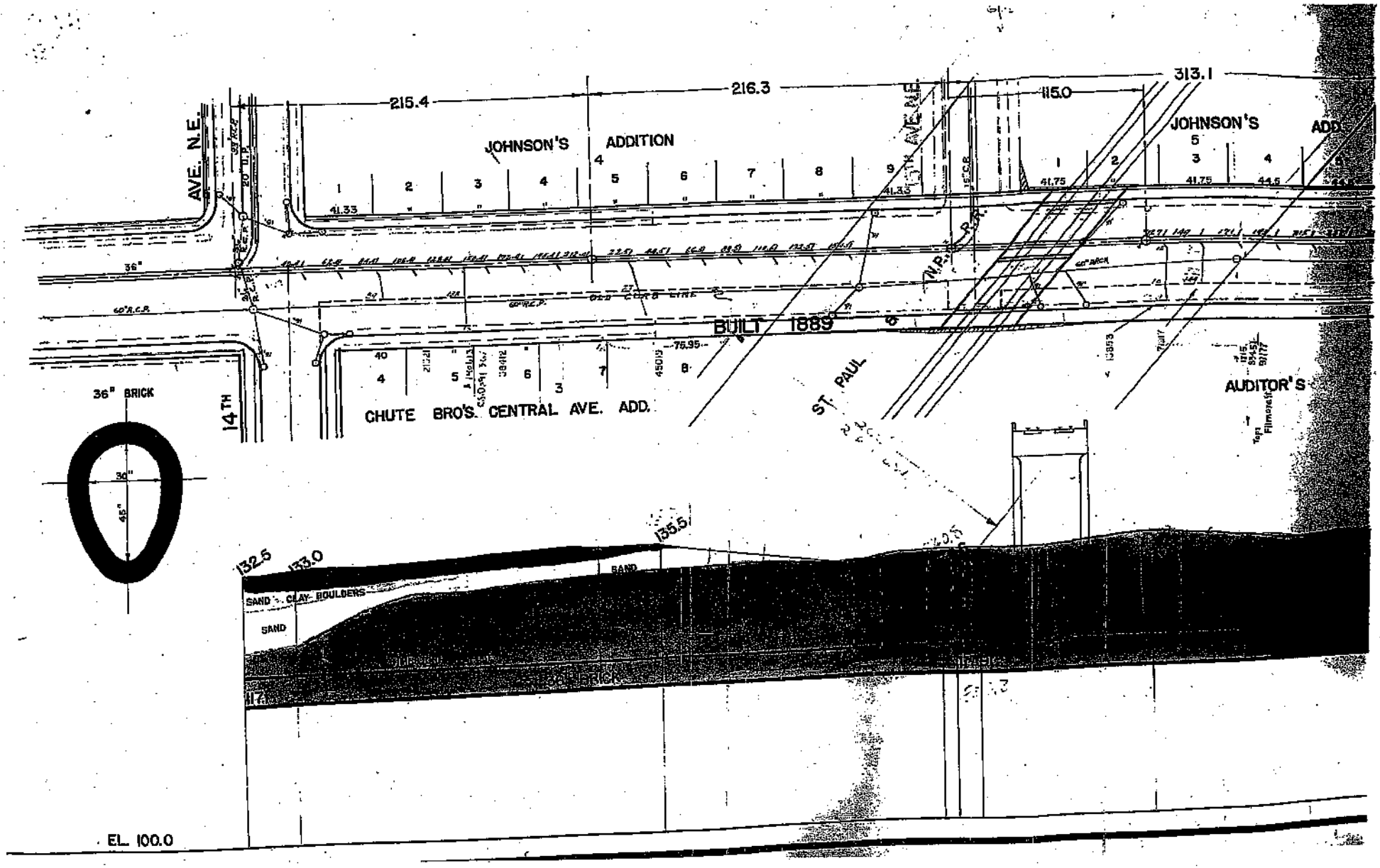
All statements, conclusions and representations in this letter are based upon information known to the MPCA Commissioner and staff at the time this letter was issued. The MPCA Commissioner and staff reserve the authority to modify or rescind any such statement, conclusion or representation and to take any appropriate action under his authority if the MPCA Commissioner or staff acquires information after issuance of this letter that provides a basis for such modification or action.

4. Disclaimer Regarding Use or Development of the Property

The MPCA, its Commissioner and staff do not warrant that the Site is suitable or appropriate for any particular use.

5. Disclaimer Regarding Investigative or Response Action at the Property

Nothing in this letter is intended to authorize any response action under Minn. Stat. § 115B.17, subd. 12.


215.4
216.3
313.1
115.0
JOHNSON'S ADDITION
JOHNSON'S
AVE. N.E.
14TH
CHUTE BRO'S. CENTRAL AVE. ADD.
BUILT 1889
ST. PAUL
N.P. R.R.
AUDITOR'S
36" BRICK
132.5
133.0
135.5
SAND
SAND, CLAY, BOULDERS
EL. 100.0